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*The Moving Frontier:  
The Changing Geography of Production  
in Labour Intensive Industries*

**MOVE**

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# **EU RESEARCH ON SOCIAL SCIENCES AND HUMANITIES**

## **The Moving Frontier: The Changing Geography of Production in Labour Intensive Industries**

### **MOVE**

#### **Final report**

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## **Preface**

Within the 6th Community RTD Framework Programme (2002-2006), research in Social Sciences and Humanities is addressed under Priority 7 “Citizens and Governance in a Knowledge-based Society”. The main objectives of this thematic area are to mobilise European research in economic, political, social sciences and humanities in order to develop an understanding of the issues related to the emergence of a knowledge-based society, as well as to address new forms of relationships, on the one hand between its citizens, and, on the other, between its citizens and its institutions.

In order to attain these objectives, researchers were invited to address issues related to the following 7 research areas, grouped into two major themes:

### **Knowledge based society and social cohesion**

1. Improving generation, distribution and use of knowledge
2. Options and choices for the development of a knowledge-based society
3. Variety of paths towards a knowledge society

### **Citizenship, democracy and new forms of governance**

4. Implications of European integration and enlargement
5. New forms of governance
6. Resolution of conflicts and restoration of peace
7. New forms of citizenship and cultural identities

and one additional research area of a horizontal nature:

8. Actions to promote the European Research Area in Social Sciences and Humanities and their contribution to the knowledge based society in Europe.

The implementation of this Priority was undertaken through the launching of calls for proposals in 2003 and 2004 and as a result, 140 projects were selected for funding.

Some of these projects started in 2004 and are now delivering their first results. They are usually presented in the format of a report which reflects the state of the art of the specific topic to be dealt by each individual project.

The present report was prepared in the context of the STREP “The Moving Frontier: The Changing Geography of Production in Labour Intensive Industries” – MOVE”, which was funded by the first call of proposals. It addresses research area 4 – The implications of European integration and enlargement for governance and the citizen. The main objectives of this project are:

- To examine the consequences that European enlargement has had and will have upon the enterprise strategies in labour intensive industries.
- To assess whether European enlargement will exacerbate inequality between, as well as, within regions heavily dependent upon labour-intensive industries.
- To identify instances of successful adjustment of enterprises and regions to the changing global environment.
- To assess the appropriateness of existing policy initiatives and governance structures, at the European, national and regional level.

The findings are expected to facilitate the decision-making process regarding policy-intervention both for existing and new Member States, as well as for those outside the EU.

I hope this report will make a contribution to further consolidating and structuring the state of the art in this particular field of research.

T.Lennon  
Director

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# **Part 1**

## **Thematic analysis**



# 1 Globalisation, delocalisation and labour intensive industries

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## 1.1 Introduction

The main object of this chapter is an analysis of the growing complexity of international business and more importantly, how it is affected by the profound changes taking place during the last two decades in both the business environment and business conduct.

Therefore, the first section of the paper will deal with the changes taking place around the world which are reshaping the way business is done both within and between countries. In light of these changes, the second section will critically analyse the theories of FDI and the MNE. More specifically, we argue that the very foundation on which most of these theories are based, i.e. the clear-cut distinction between markets and hierarchies is not only becoming more blurred, but also contested by a third type of organisation/governance, which is no other than networks.

The third section is an effort to sort out the most critical real-world issues that are relevant to the MOVE project<sup>1</sup>, while conclusions, analytical implications and further requirements are provided in the last section.

---

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<sup>1</sup> In fact, the chapters of this text closely correspond to the literature review of the 6<sup>th</sup> FP (Priority 7) STREP project 'The Moving Frontier: The Changing Geography of Production in Labour Intensive Industries', (MOVE- PL 001695). The project is coordinated by the RDPRU, University of Macedonia, Greece, while the other members of the consortium are: The Centre for Entrepreneurship and Small Enterprise Research, University College Northampton, UK, the Institute of Geography at Bulgarian Academy of Sciences, Bulgaria, The Department of Regional Development, Institute of Geography and Spatial Management, Jagiellonian University, Poland, the Tallinn Technical University, Estonia and the Teeside University, UK. More information about the project can be found at <http://afroditi.uom.gr/move/>.

The project has four main objectives. That is, first to examine the consequences that European enlargement have had and will have upon the enterprise strategies in labour intensive industries. Specifically, the proposed study will explore: The extent and nature of delocalization patterns in Europe; The multitude of entrepreneurial strategies developed by enterprises in EU and accession countries in order to confront the opportunities and threats emanating from the changing competitive environment; The ability of accession countries to tap into opportunities and confront threats that emanate from future entry into the EU; The mosaic of inter-organisational relationships at a European-wide level. A key consideration within this objective will be the examination of the impact of differential accession time upon early and late entrants. Moreover, particular emphasis will be placed in the identification of parallel, converging and often contradictory trends emanating from a variety of influences: namely globalisation; the forthcoming enlargement of the EU; attempts at international cooperation at the sub-Continental level; and industrial restructuring resulting from advances in technology.

The second objective is to study whether European enlargement exacerbates inequality between, as well as, within regions dependent heavily upon labour-intensive industries? This objective aspires to investigate the distributional effects of the two processes currently underway throughout Europe, i.e. the growing European integration and the enlargement process. Within this context, particular emphasis will be placed upon the employment implications of the restructuring reported in labour-intensive industries, which traditionally attracted people with modest skill endowments and limited alternative opportunities elsewhere. The key consideration revolves around the workforce and whether, women, very young workers and marginalised socio-economic strata and members of the ethnic communities - that account for the bulk of the workforce in the industry - are able to benefit from new employment and income generating opportunities. Another issue that will also be explored within this objective is whether Europeanisation offers solutions or intensifies considerations about job losses associated with global integration.

The third objective is to identify instances of successful adjustment of enterprises and regions to the changing global environment. It is widely acknowledged among academics and policy-makers that there is considerable disparity in the ability of firms and localities that are heavily dependent on labour-intensive industries to address change. Throughout Europe, celebrated success stories exist alongside instances of industrial demise and employment decline. However, successful adjustment at the regional level may be synonymous with the demise of the industries under investigation. Within this context, this project aims to develop a set of indicators of success at the sectoral and regional level and use them in order to evaluate adjustment. Our paramount objective is to study the enabling factors that facilitated these developments and explore their replicability elsewhere in Europe.

## 1.2 *A changing world*

The last quarter of the 20<sup>th</sup> century was characterised by the increasing incorporation of enterprises and geographical areas into a world-wide web of manufacturing and distribution. Indeed, recently, there has been a generalised trend of industry relocating from the Developed Countries (DCs) to the Under-Developed Countries (UDCs<sup>2</sup>) in pursuit of lower labour costs, even when corrected to allow for differences in labour productivity. An increasing part of the products we are using, as Sheppard and Barnes (2000: 3) point out, have been fabricated (and more recently conceived and designed) in countries an average person would have great difficulty spotting on a map. To make things a lot more complex, it is becoming increasingly difficult to discern where a product actually comes from (i.e. its 'nationality'), since inputs at all stages of its production may originate in other countries.<sup>3</sup>

This delocalisation trend, although inevitably affecting all countries, certainly hits more severely "intermediate" countries (such as Greece), that face double competition (i.e. from DCs for high quality products and UDCs for low price products) as well as the less developed ex socialist countries (such as the Balkan countries) that try to establish a new role in the New International Division of Labour (NIDL).

The defining feature of global and European integration in labour-intensive industries has been a rising integration of trade paralleled by growing dis-integration of the production process (Feenstra, 1998). Indeed, companies are now finding it profitable to outsource increasing amounts of the production process. A number of prominent researchers have referred to the importance of the idea that production occurs internationally: Bhagwati and Dehejia (1994) call this 'kaleidoscope comparative advantage', as firms shift location quickly; Krugman (1996) uses the phrase 'slicing the value chain'; others prefer 'delocalisation', and finally another group has introduced the term 'intra-mediate trade'. There is no single measure that captures the full range of these activities: the specificities of the processes at work vary considerably from industry to industry, depending on the characteristics and recent developments in technology and product markets.

To make things more complex, alongside delocalisation there is a contradictory trend of changes in the geography of production, namely localization of production. Prime examples of the second tendency are the "Third Italy", and more generally, the industrial clusters and high tech districts. Recent contributions towards understanding these phenomena, and to the regional competitiveness issue more specifically, include, the "Untraded Interdependencies" theory (Storper, 1997) and the "Intelligent Region" theory (Cook and Morgan, 1998). Despite their differences, both approaches underline the key role of space as an explanatory category, drawing upon major common theoretical themes: the institutional capacity of the regions, the

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The last objective is to assess the appropriateness of existing policy initiatives and governance structures, at the European, national and regional level. This will focus particularly upon: The comparison of existing governance structures in different national and regional settings, and the examination of their effectiveness within specific geographical and industrial contexts; The comparison of policy initiatives aiming towards labour intensive industries at the European, national and regional level. The underlying reasons behind the review of existing policy will be the identification of gaps or overlaps in the provision of policies; The identification of conflicting policies between nations or regions and the extent to which supranational policies might lead to more comprehensive measures; The evaluation of the effectiveness of policy and the reasons why policy intervention may be more successful in certain socio-economic milieus.

2 The term "Developing country," according to the UNCTC, refers to countries with market economies in Latin America, Africa (except South Africa), Oceania (except New Zealand and Australia), and Asia (except Japan). In a similar way one might use the term Third World Country or Newly Industrialised Economies. All the above terms imply that the process of development is linear, and it is coincidental that some firms are lagging behind at the moment. The use of the term UDCs is based on the conception that there are structural differences between DCs and UDCs, and that UDCs may not ultimately become developed. With this term we are not referring to low-income European countries such as Portugal, Spain and Greece; Israel or the centrally planned economies of the former USSR, of Eastern Europe and the People's Republic of China

3 The athletic footwear and apparel firm 'New Balance' is an example. Apparently, one of the firm's competitive advantages is their ability to use the 'Made in the USA' label. However, their ability to do that is being questioned by the US Federal Trade Commission, according to which 100% of a product must be produced domestically to be able to carry the label. According to the firm only 75% is produced domestically, while others argue that the actual share is less than 50% (Clean Clothes Campaign, 2004, p. 104). In the EU at least 50% of a product must be produced domestically in order to get the EU label.

“social embeddedness” and “social capital” (Putnam, 1993). Moreover, they use elements of evolutionary economics (Nelson and Winter, 1982) like “technological lock-in” and “path-dependency”, in order to explain regional disparities. These developments, although not establishing a robust theoretical framework, enrich the research agenda on regional competitiveness and policy implications issue, and could guide research, especially on the governance structures theme.

As Hudson (2002: 262, 264) argues, the changing geographies of production are a product of the interplay of corporate, state and trade union strategies; as companies pursue profitability, trade unions and workers seek new employment, and/or protect existing jobs, while states attempt to balance the pursuit of accumulation in their territory with the claims of equity and socio-spatial justice. While structurally loaded in the favour of capital (especially TNCs) and states, it by no means follows that the determinants of a given decision as to the how, what and where of production within Europe simply follows from this. In the last instance, *these changing geographies of production are contingent outcomes* of the co-evolution of the asymmetric power relationships between these individual and collective actors and institutions.

### 1.2.1 *The changing geography of production in a globalised world*

In the 60 years between the end of the 2<sup>nd</sup> WW and today, the global map of production of goods and services has changed significantly. Although three fourths of the global manufacturing still takes place in the DCs, the share of UDCs has risen considerably; from 5% in 1953 (Dicken, 1998) to almost 24% in 2001 (UNCTAD Globstat). Another significant feature of the world production map is that a very small number of countries produces a significant part of the global output. In 2000 the 15 most significant producers contributed 81.8% of the global manufacturing value-added. As Dicken (1998: 27) noted, *the ‘manufacturing tail’ of the world economy is very long indeed*, even though concentration at the top has slightly been reduced during the last few years (according to Dicken (1998: 27) the share of the 15 most important producers was 85.8% in 1994).

**Table 1.1 The 15 most significant manufacturers, 2000**

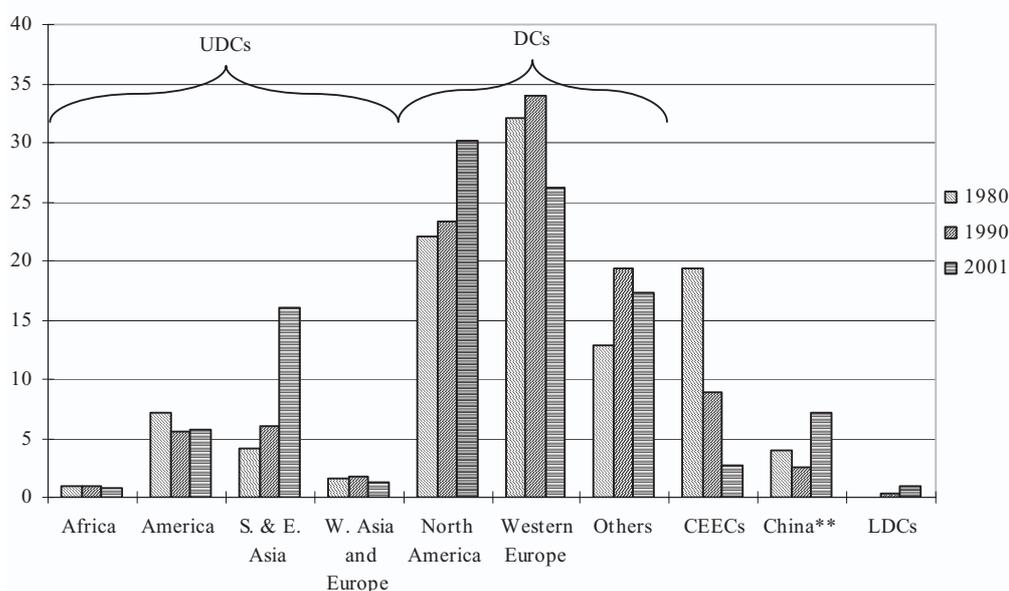
Country	Manufacturing Value-added (in US\$ m.)	Value-% of world total
United States	1.520.300	26,5%
Japan	1.040.351	18,1%
Germany	389.921	6,8%
China	375.455	6,5%
United Kingdom	232.518	4,1%
France	215.861	3,8%
Italy	203.247	3,5%
Korea, Rep.	133.800	2,3%
Canada	130.613	2,3%
Mexico	107.196	1,9%
Spain	95.160	1,7%
Brazil	80.280	1,4%
India	66.024	1,2%
Netherlands	54.796	1,0%
Sweden	47.373	0,8%
Total		81,8%

Source: World Bank, WDI database

A simple illustration of the extent of the inequalities is the fact that the manufacturing value-added of Sweden (the last country in our top-15 list) is more than the sum of the 93 countries at the bottom of the table!

The situation within the various groups of countries also changed significantly. Concerning the UDCs, almost all the change in the region's performance was due to the rapid increases in a relatively small number of countries in S.E. Asia. Led by the four Asian 'tiger' economies of S. Korea, Taiwan, Singapore and Hong-Kong, which were later followed by a number of other countries, the share of the region in world manufacturing value added more than tripled during the last two decades. Among the countries of the region, it was China that displayed the most spectacular performance, recently overtaking Germany as the third most significant manufacturing producer in the world.

**Figure 1.1 Distribution of world manufacturing value added, at current prices, by region**



\*\* The data shown for the year 1980 corresponds to 1981 data at constant 1980 prices.

Source: UNCTAD Globstat (<http://globstat.unctad.org/html/index.html>)

In contrast, the performance of the other subgroups of the UDC group was rather disappointing. Specifically, the UDCs of America lost ground, producing approximately one third of S. & E. Asia in 2001, while, only two decades ago the situation was reverse. On the other hand, Africa and the UDCs of W. Asia and Europe were and still are marginal in the global map of production.

Within the DCs there have also been considerable changes. North America emerged as the dominant region with more than 30% of the world manufacturing value-added in 2001, outperforming Western Europe during the last decade. The performance of the 'other' DCs seems to depict the slump of the Japanese economy during the 1990s.

However, the regions where the most impressive (although very different in direction) changes took place are the CEECs and China. The former appear to have experienced a dramatic crisis, currently accounting for less than 3% of the world manufacturing value added (down from almost 20% in 1980).

China, on the other hand, is currently the fastest growing economy. Goods "made in China" (i.e. from shoes and garments to toys and electronics) have entered in big numbers in the DCs. But this label obscures an important point: few of these products are made by indigenous Chinese companies. In fact, one would be hard-pressed to find a single home-grown Chinese firm that operates on a global scale and markets its own products abroad. That is because China's export-

led manufacturing boom is largely a creation of FDI, which effectively serves as a substitute for domestic entrepreneurship. China's success in attracting FDI is partly a historical accident – it has a large and wealthy diaspora that has long been eager to help the motherland, and its money has been warmly received. During the 1990s, more than half of China's FDI came from overseas Chinese sources (e.g. Hong Kong, Macao and Taiwan) (Huang and Khanna, 2003)

According to Yefen Li (2002: 4, 6), 10% of the Chinese economy is owned by foreigners. 400 out of the 500 world largest corporations have invested their money in China. Topping the list are companies from Taiwan Province of China, Hong Kong (China), Japan, Singapore, the US and Europe.

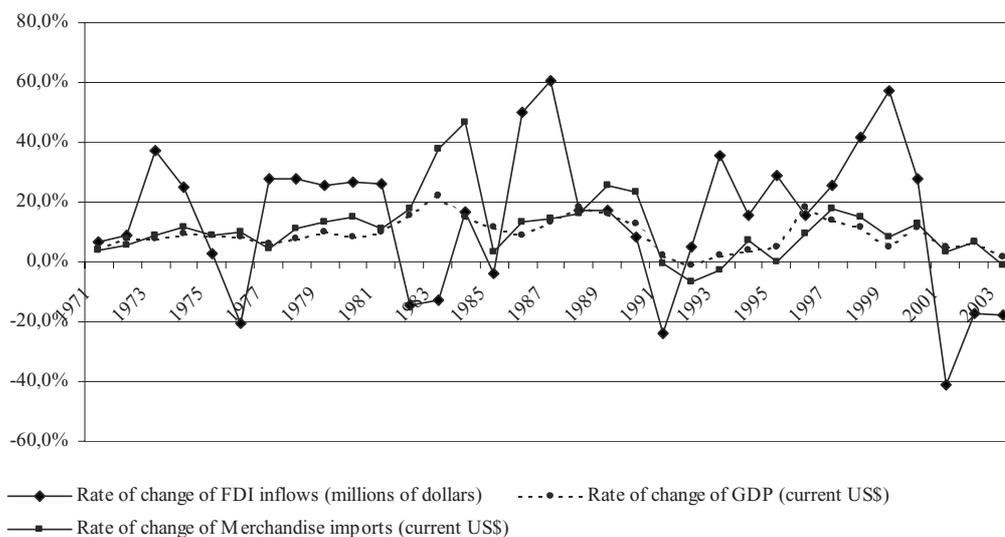
China's accession to the WTO on 2001 was a monumental event. China is the seventh largest trading power in the world (7th largest exporter and 8th largest importer<sup>4</sup>), ranking fourth in textile and first in clothing exports. China's international trade shows that because of the high import contents of China's exports and the fact that foreign-funded companies account for about half of China's international trade, future growth in China's international trade will benefit to various degrees China's trading partners as well as home countries of TNCs (Yefen Li, 2002).

### 1.2.2 Recent developments in FDI

#### 1.2.2.1 FDI growth

Although with significant fluctuations (Figure 1.2), FDI has grown enormously during the last 35 years, and especially, since 1985. More specifically, during the period 1970-2003 the average rate of change of FDI inflows was 14,7%, growing significantly faster than exports (11,2%), and even faster than output (9,3%).

**Figure 1.2 Rates of change of FDI, output (GDP) and exports**

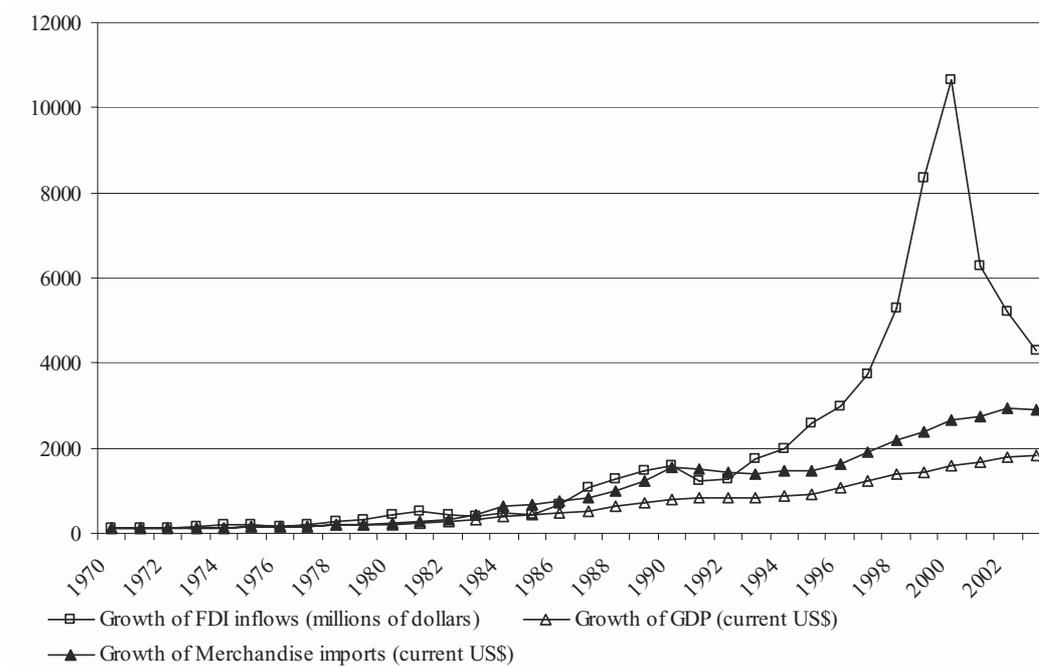


Source: UNCTAD FDI Database (<http://stats.unctad.org>)

Until 1982 world output and trade grew at about the same rate (Figure 1.3). Since then, trade started growing significantly faster than GDP. In 2003 trade was 29 times its 1970 level, while output had only grown 18 times.

<sup>4</sup> The dynamism of the Chinese economy is evident in the fact that even those figures referring to 2000 seem vastly outdated today. By 2004 China was the third largest trading power in the world (regarding both imports and exports), according to WTO (<http://stat.wto.org>).

**Figure 1.3 Growth of output (GDP) and merchandise imports and FDI inflows (1970=100)**



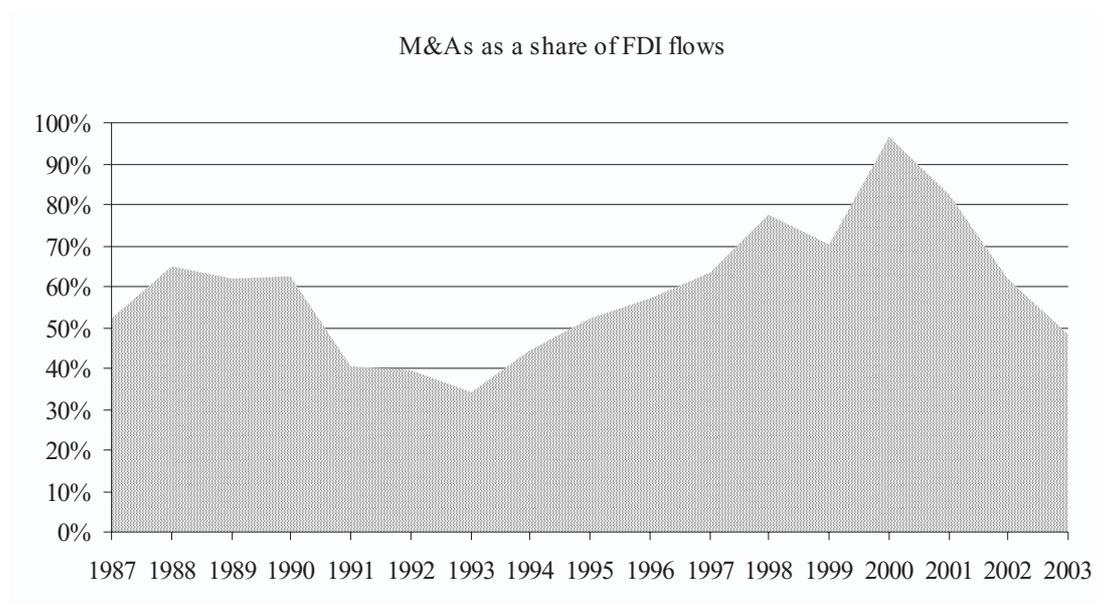
Sources: World Bank WDI database (<http://devdata.worldbank.org/dataonline/>) for imports and output, and UNCTAD FDI Database (<http://stats.unctad.org>) for FDI inflows.

More importantly, since 1993 (almost a decade after trade started growing faster than output), trade growth was in its turn superseded by FDI growth (Figure 1.3). FDI growth was in fact so spectacular, that after three decades of growth, in 2000 (its peak year) it was more than 100 times higher than its 1970 level, with more than 80% of that growth occurring during the last decade.

1.2.2.2 *The role of Mergers and Acquisitions (M&A).*

After a relative decline of the importance of M&A as a mode of entrance into foreign production during 1990-1993, M&As appear to be the most preferable mode of entry into foreign markets (Figure 1.4). Once again the peak year was 2000, and according to UNCTAD (2004) the end of the privatisation (and thus the M&A) boom was the most important factor behind the overall reduction of FDI flows. Moreover, for the next three years (until 2008) it is estimated that M&A, greenfield investments and other modes of entry (i.e. strategic alliances, networks) will occupy an almost equal share as the most preferable modes of entry.

**Figure 1.4 Cross-border Mergers and Acquisitions (M&A) as a share of FDI inflows**

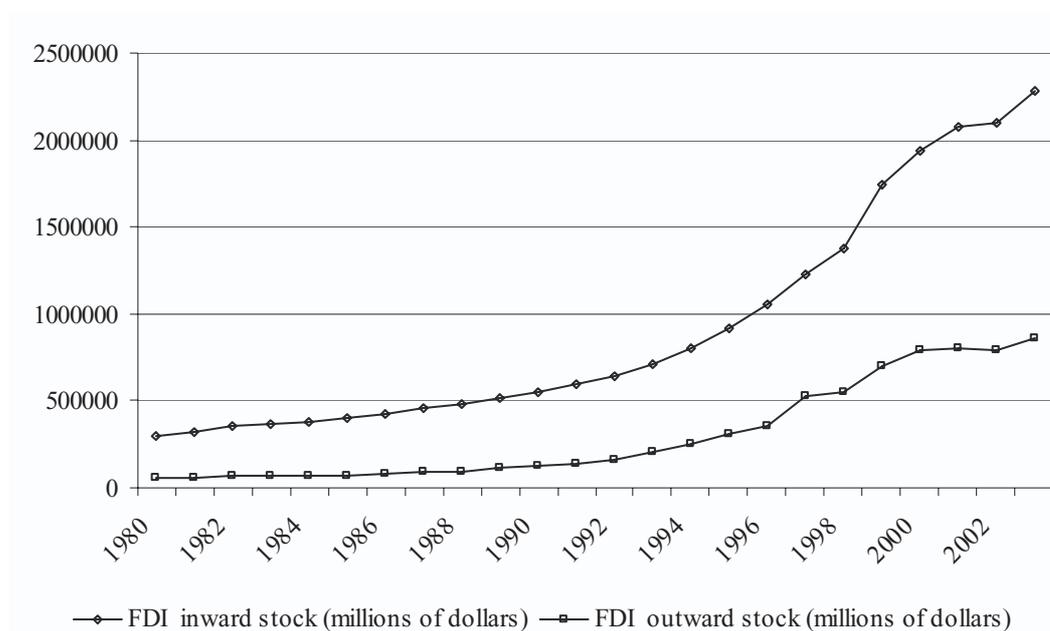


Source: UNCTAD FDI Database (<http://stats.unctad.org>)

1.2.2.3 *Distribution of FDI*

FDI from and into developing countries has been growing during the last 25 years (Figure 1.5). However, this general remark can be highly misleading, unless one looks at it more closely.

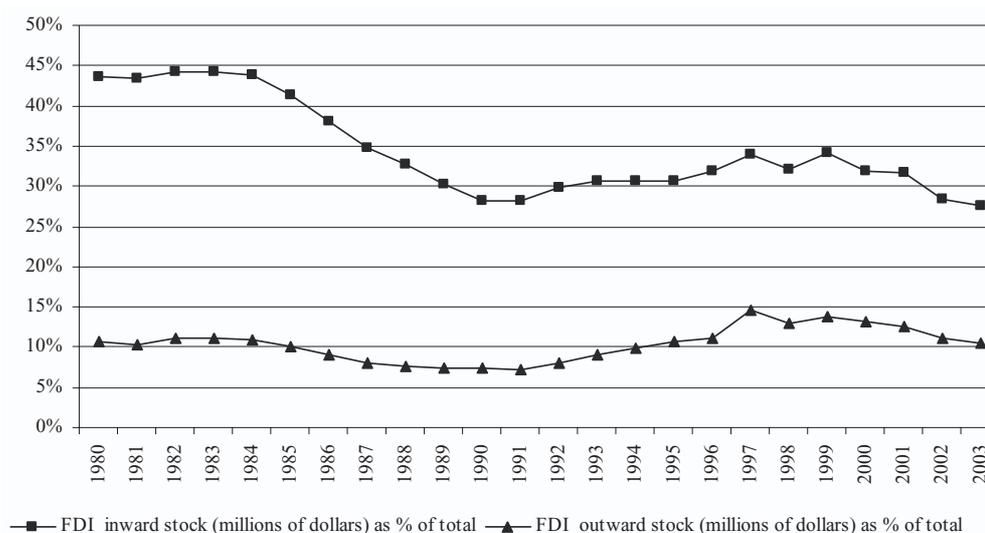
**Figure 1.5 Evolution of developing countries' FDI**



Source: UNCTAD FDI Database (<http://stats.unctad.org>)

In this context, the participation of developing countries in the distribution of FDI inward stocks appears to have been reduced during the last 2 decades, most notably during the period 1983-1990. Since then, it has remained more or less steady, fluctuating between 28% and 34%.

**Figure 1.6 Inward and Outward FDI stocks of UDCs as % of total**



Source: UNCTAD FDI Database (<http://stats.unctad.org>)

The developing countries participation in FDI outward stock followed a pattern very similar to that of inward stock. In other words, it was reduced during the 1984-1990 period, followed by an increase, which peaked in 1997 (when developing countries contributed 14,9% of the total outward stock), to be stabilised and slightly reduced in the following years (Figure 1.6).

Hence, TNCs are still concentrated in DCs. Low labour costs alone are not sufficient for a country to attract FDI. There are other more important factors, including for example physical and non-material infrastructure, socio-economic stability and human capital. In 2001, the inward FDI stock of DCs amounted to \$4,545 per capita, while the respective figure for UDCs was only \$436. Furthermore, the stock of outward FDI of DCs was \$5,951 per capita, while the equivalent figure for UDCs was only \$168. For the last 30 years, 10 countries have accounted for around 85% of the outward investment stocks; of course during this period there were major changes in the importance of individual countries, the most prominent being the decline in the importance of USA (Table 1.2)

**Table 1.2 Outward investment cumulative stocks by country: main players (%)**

		1967	1973	1980	1990	2000	2003
1.	USA	50.4	48.0	41.3	25.0	21.3	25.2
2.	Britain	14.1	7.5	15.4	13.3	14.8	13.8
3.	France	5.3	4.2	4.7	7.0	7.1	7.8
4.	Germany	2.7	5.6	8.3	8.6	7.7	7.6
5.	Netherlands	9.8	7.5	8.1	6.2	5.1	4.7
6.	Belgium/Luxemburg			1.2	2.4	6.3	4.1
7.	Switzerland	2.2	3.4	4.1	3.8	3.7	4.2
8.	Japan	1.3	4.9	3.8	11.7	4.6	4.1
9.	Canada	3.3	3.7	4.6	4.9	3.7	3.8
10.	Italy	1.9	1.5	1.4	3.3	3.0	2.9
	Subtotal	91.0	86.3	92.9	86.4	78.7	78.2

	Others	9.0	13.7	7.1	13.6	21.3	21.8
	Total	100.0	100.0	100.0	100.0	100.0	100.0

Source: Dunning (1993c: 17) years 1967, 1973 and UNCTAD FDI database years 1980 - 2003

**Table 1.3 Inward investment cumulative stocks by country: main players (%)**

		1967	1973	1980	1990	2000	2003
1.	United States	9.4	9.9	12.0	20.2	19.9	18.8
2.	United Kingdom	7.5	11.6	9.1	10.5	7.2	8.2
3.	Germany	3.4	6.3	5.3	6.1	7.7	6.6
4.	China			0.2	1.1	5.7	6.1
5.	France			3.7	4.5	4.3	5.3
6.	Hong Kong, China			25.7	10.3	7.5	4.5
7.	Belgium/Luxembourg			1.1	3.0	3.2	4.3
8.	Netherlands			2.8	3.5	4.0	4.1
9.	Canada			7.8	5.8	3.5	3.3
10.	Spain			0.7	3.4	2.4	2.8
	Subtotal			68.3	68.4	65.4	64.0
	Others			31.7	31.6	34.6	36.0
	Total			100.0	100.0	100.0	100.0

Source: Dunning (1993c: 17) years 1967, 1973 and UNCTAD FDI database years 1980 - 2003

Another important aspect regarding FDI is its distribution between developing countries. A very important, and often overlooked issue, which could be directly linked to the decline of the developing countries' participation in inward FDI stocks during the 80s is the dominant position of a single country (Hong Kong), which absorbed almost 60% of the total inward FDI stock (Table 1.4). Hong Kong continued to be the most significant FDI recipient throughout the 80s and the 90s and was only outranked by China in 2002.

Table 1.4 provides a number of quite interesting hints about the distribution of FDI within developing countries:

- The 10 most important FDI recipients absorb an extremely large share of the total inward FDI (70,6% in 2003),
- Although the concentration is very significant, it nevertheless is gradually being reduced. However, this does not imply that more countries are becoming significant players (in 1990 the countries receiving more than 1% of the total inward FDI stock were 18, while in 2003 they were 19). It rather appears as a consolidation of the place of established countries.
- The above is also confirmed by the fact that only four countries (those appearing in bold in Table 1.4) have not been among the 20 most important developing host countries throughout the whole period under study, while only two of those (India and the Cayman Islands) became significant very recently
- East and South-east Asian countries along with a small number of Latin American countries appear to have benefited the most. On the contrary, African countries are clearly underrepresented.

**Table 1.4 The 10 most significant developing FDI recipients**

Country	2003		1990		1980	
	Share	Rank	Share	Rank	Share	Rank
China	22,0%	1	3,8%	7	0,4%	13
Hong Kong, China	16,4%	2	36,8%	1	58,9%	1
Mexico	7,3%	3	4,1%	6	2,7%	6
Singapore	6,5%	4	5,6%	4	2,1%	7
Brazil	5,6%	5	6,8%	3	5,8%	2
Bermuda	3,6%	6	2,5%	8	1,7%	10
Malaysia	2,6%	7	1,9%	11	1,7%	9
Indonesia	2,5%	8	7,1%	2	3,4%	4
Korea, Republic of	2,1%	9	0,9%	19	0,4%	20
Chile	2,1%	10	1,8%	12	0,3%	18
Thailand	1,6%	11	1,5%	16	0,3%	15
<b>Cayman Islands</b>	1,6%	12	0,3%	30	0,1%	56
Argentina	1,5%	13	1,6%	15	1,8%	8
<b>Venezuela</b>	1,5%	14	0,4%	24	0,5%	19
Taiwan Province of China	1,5%	15	1,8%	13	0,8%	16
<b>India</b>	1,4%	16	0,3%	33	0,1%	44
South Africa	1,3%	17	1,7%	14	5,5%	3
<b>Saudi Arabia</b>	1,1%	18	4,1%	5	-2,0%	150
Nigeria	1,0%	19	1,5%	17	0,8%	15
Egypt	0,9%	20	2,0%	10	0,7%	17
Total	84,1%		86,5%		85,9%	

Source: UNCTAD FDI Database (<http://stats.unctad.org>)

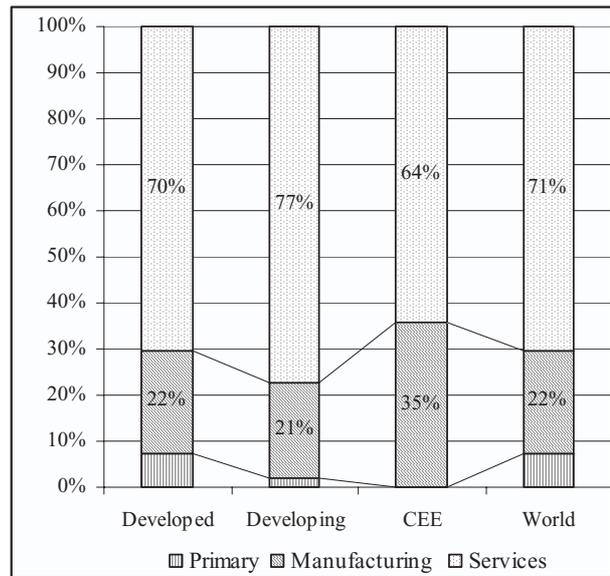
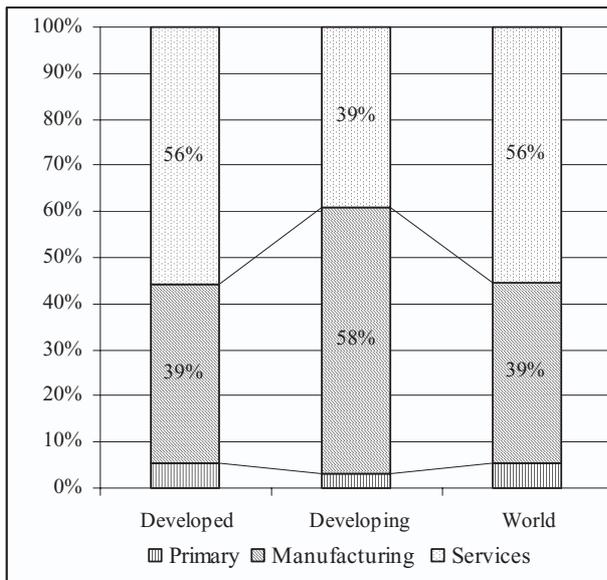
#### 1.2.2.4 Sectoral and industry issues

The most important fact regarding the sectoral distribution of FDI is the growing importance of services. Both outward (Figure 1.7) and inward (Figure 1.8) FDI in developed, as well as developing countries are dominated by services. This represents a significant shift, particularly for developing economies, away from manufacturing, which during 1989-1991 accounted for 58% of outward and 53% of inward FDI. Both figures have since then been reduced to 21% and 40%.

**Figure 1.7 Sectoral distribution of outward FDI, average annual flows.**

1989-1991 (average)

2001-2002 (average)

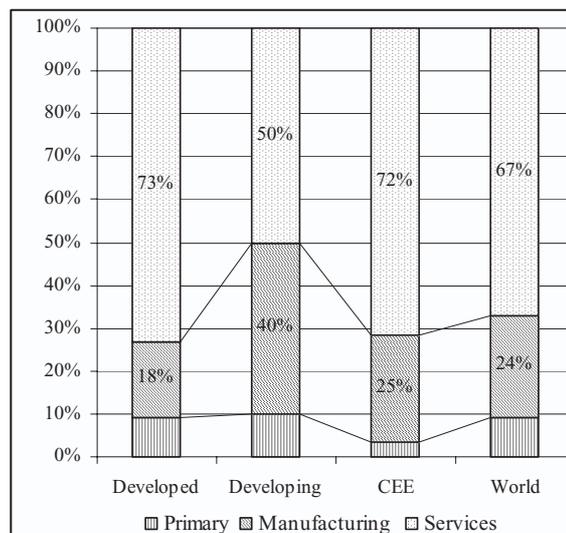
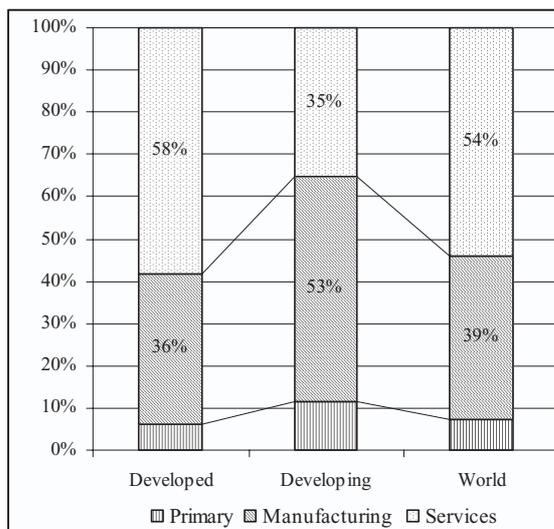


Source: UNCTAD (2004: 319)

**Figure 1.8 Sectoral distribution of inward FDI, average annual flows**

1989-1991 (average)

2001-2002 (average)



Source: UNCTAD (2004: 319)

Regarding the industry composition of sectors, the importance of labour intensive FDI in manufacturing has significantly declined. According to UNCTAD (2004) this can be attributed to two main factors:

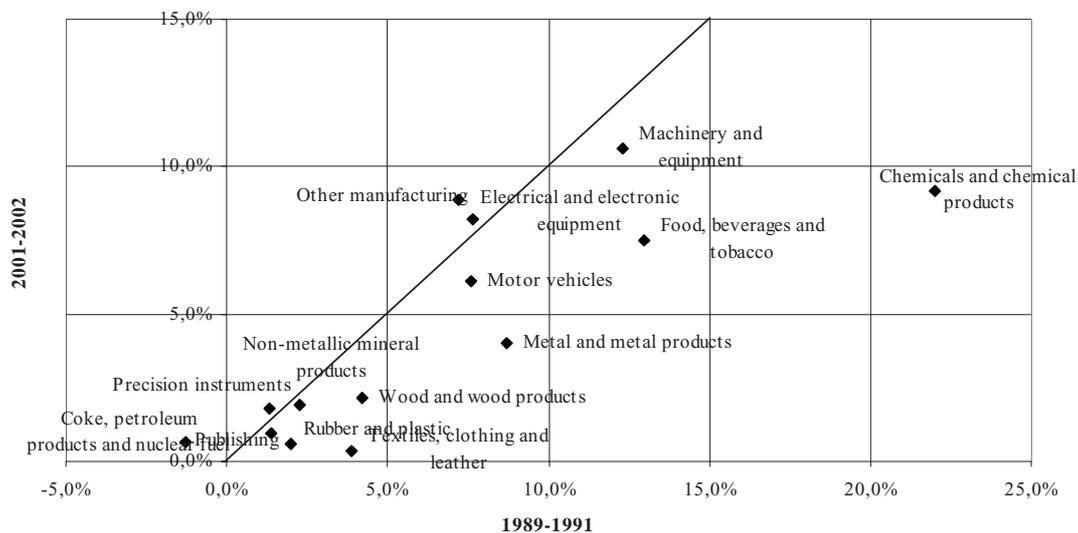
A general decline in labour intensive manufacturing, followed by a decline of traditional manufacturing employment. Labour appears to be increasingly replaced by capital and knowledge, both in developed and developing countries.

Firms in developing (although not exclusively) countries are increasingly developing their own ownership specific advantages based on different factor endowments, particularly low cost

labour, vis-à-vis developed countries. This allows certain labour rich developing countries to attract capital and knowledge intensive investments.

In this context, with the exception of wood and wood products, all the significant manufacturing industries are either capital or knowledge intensive (Figure 1.9 and Figure 1.10)

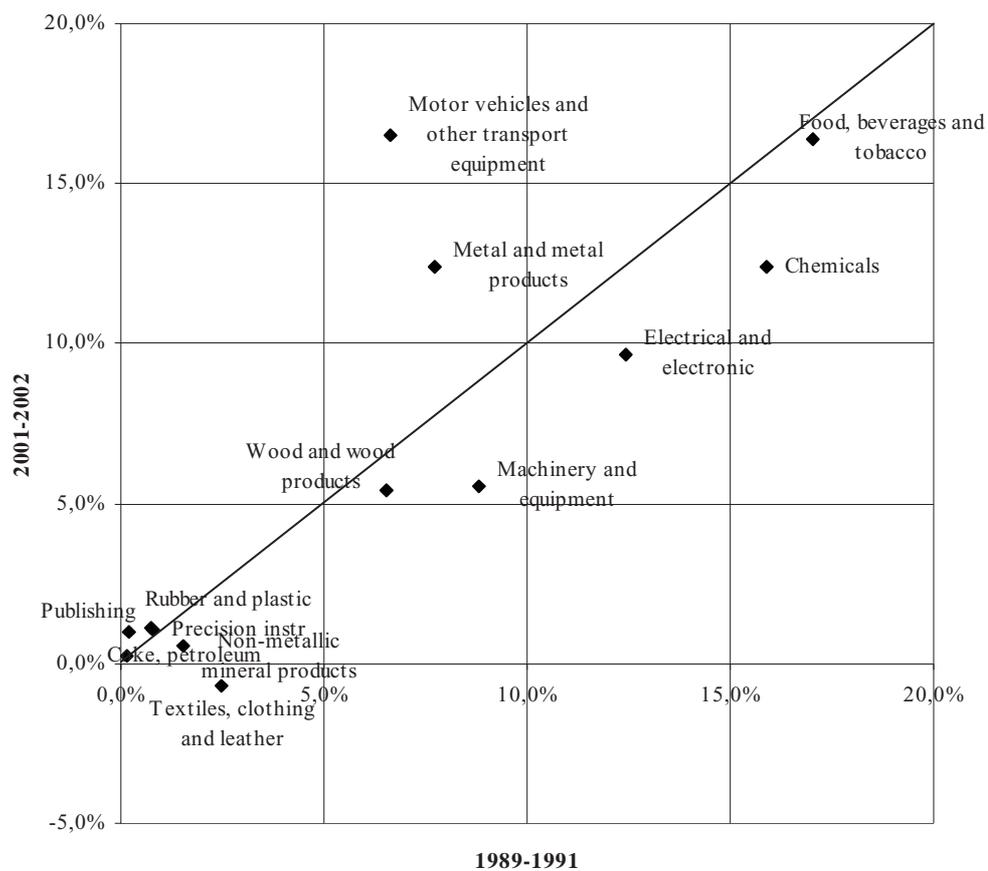
**Figure 1.9 Distribution of World inward FDI in manufacturing industries**



Source: UNCTAD (2004: 319) C:\Documents and Settings\kaloger\downloads\fdi7.xls

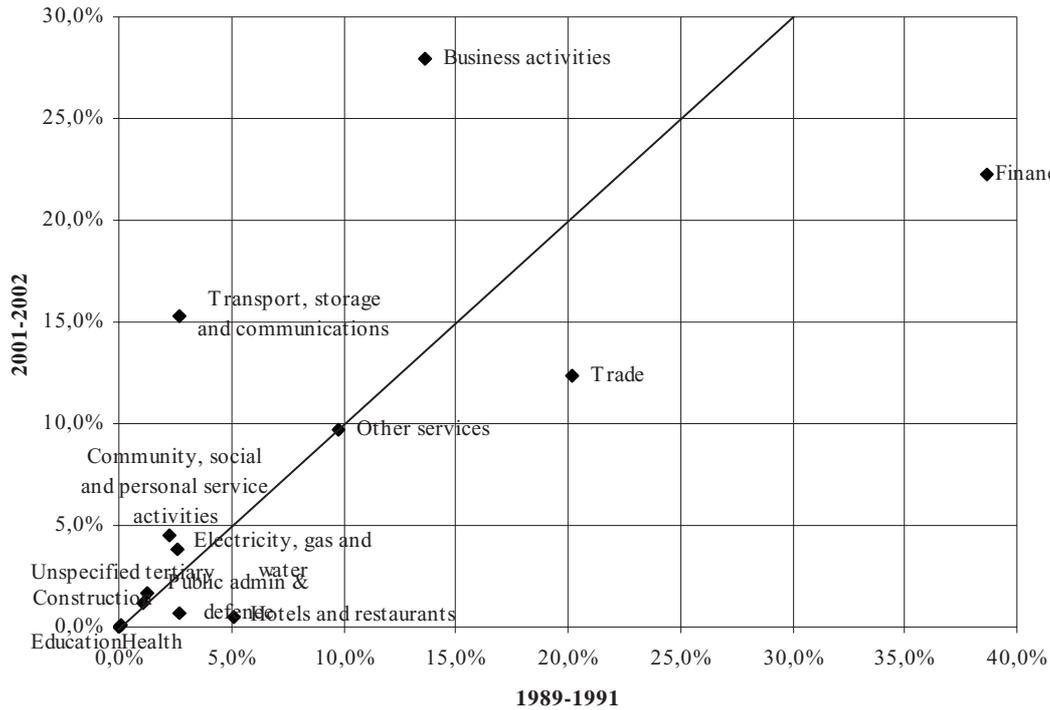
Note: industries above the 45° line have increased their share in the manufacturing sector

**Figure 1.10 Distribution of World outward FDI in manufacturing industries**

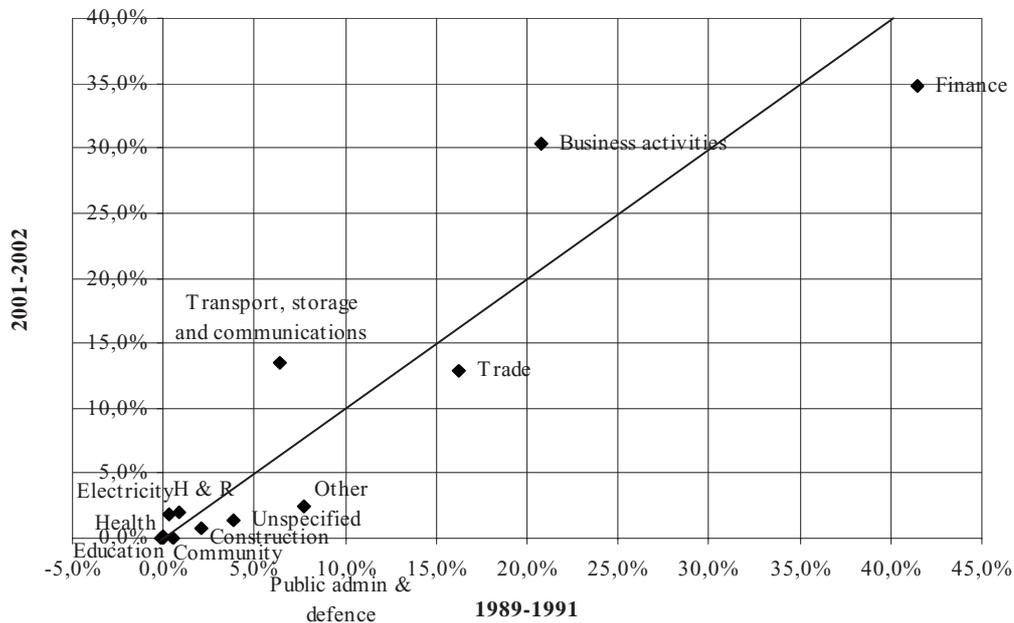


Source: UNCTAD (2004: 318) C:\Documents and Settings\kaloger\downloads\fdi7.xls

**Figure 1.11 Distribution of World inward FDI in service industries**



**Figure 1.12 Distribution of World inward FDI in service industries**



**1.2.3 The Globalisation of services**

As is pointed out in UNCTAD (2004: XXIV - XXV), while the fragmentation and globalisation processes in services and manufacturing are similar, there are important differences. First, although the services sector is much larger than the manufacturing sector, only some 10% of its output enters international trade, compared with over 50% for manufacturing. Second, the pace

of globalisation of services affected by the tradability revolution is faster than manufacturing. Third, whereas the relocation of goods production has involved, overwhelmingly, firms in manufacturing only, service functions are located abroad by companies in all sectors. Fourth, the skill intensity is generally higher for tradable services than for manufacturing located abroad, thus affecting white-collar jobs in particular. And finally, services located abroad may be more footloose than relocated manufacturing activities because of lower capital-intensity and sunk costs, especially services that do not require high skills.

The globalisation of services reflects nothing less than a revolution in the tradability of services. Traditionally, most services have been non-tradable in that they require buyers and sellers to be in the same place at the same time. Unlike physical products they could not be traded between parties located in different countries; a haircut, for instance, is impossible to deliver across a distance. Many services however, do not require physical proximity, but have usually taken place face-to-face because of technical constraints, habits or customs. These services centre on exchange, storage, processing and retrieval of information broadly defined (UNCTAD, 2004: 148).

New ICTs are, as UNCTAD (2004: 148) points out, dramatically changing the tradability of the information-centred set of services, in several ways. For example, all kinds of information can be stored by digitisation. And much cheaper and faster transportation allows the instantaneous exchange of digitised information and voice communication between people anywhere around the globe.

The use of ICT allows knowledge to be codified, standardized and digitised, which in turn allows the production of more services to be split up, or “fragmented”, into smaller components that can be located elsewhere to take advantage of cost, quality, economies of scale or other factors. This makes it possible to produce certain services in one location and consume them (or use them in further production) in another – either simultaneously (e.g. information provided via call centres) or at different time (e.g. data entry, software development - UNCTAD, 2004: 149)<sup>5</sup>.

#### *1.2.3.1 Types of services relocated and the extent of relocation*

Anything that can be sent down a wire is up to be relocated. That includes many of America’s most coveted jobs: stock market equities research; engineering and design; product research and development; and accounting, including the preparation of tax returns. Although most of the overseas software remains basic maintenance and applications development, vendors are moving up the value chain to software manufacture, strategy and systems design.

Typical features of services with a high probability for relocation include: no face to face servicing requirement; high information content; the work process is telecommutable and Internet-enabled; high wage differentials with similar occupations in destination country (Table 1.5); low set-up barriers; low social networking requirements. Services relocated can be either relatively simple low value data (e.g. numbers entered into a computer) or more sophisticated high-value data (e.g. architectural designs, results of sophisticated financial analyses, R&D, films, software programmes, and advertising clips. Radiologists in India analysing the X-rays, sent via the Internet, of American patients. Data processing for banks, ticketing for airlines, prepare tax returns (for P&C) around the world; virtually every sector of the financial industry (e.g. processing insurance claims, selling stocks, analysing companies, equity analysis, industry reports, summaries of financial disclosures); architectural work is going global too.

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<sup>5</sup> There is an implicit trade-off here, which should be considered. It is no other than the cost of retaining and managing personal data, and the potential judicial costs. Yet, there has not been any large offence internationally, so it is not estimated in the Offshore outsourcing cost.

**Table 1.5 Offshoring exploits the huge differences in wages between countries (In US\$/month)**

	offshore	US	US/ offshore
Aerospace engineer (MA in maths or aeronautics)	650 (1)	6,000	9.2
Chip designer (MA, 5 years experience)	1,000 (2)	7,000	7
Architects	250 (3)	3,000	12
Financial analyst	1,000 (1)	7,000	7
Accountant	300 (3)	5,000	16.7

Russia, (2). India (3) Philippines

Source: based on Engradio et al. (2003).

**Table 1.6 Definitions of export-oriented FDI projects related to relocated services**

Call/contact centre services	Shared service centres (back-office services)	IT services	Regional headquarters
Help desk	Claims processing	Software development	Headquarters
Technical support/advice	Accounts processing	Application testing	Coordination centre
After-sales	Transaction processing	Content development	
Employee enquiries	Query management processing	Engineering and design	
Claims enquiries	Customer administration processing	Product optimization	
Customer support/advice			
Market research	HR/payroll processing		
Answering services	Data processing		
Prospecting	IT outsourcing		
Information services	Logistics processing		
Customer relationship management	Quality assurance		
	Supplier invoices		

Source: UNCTAD (2004: 159)

Services relocation is not simply a North – South issue. *A significant share of relocation takes place among DCs* (i.e. Canada, Ireland and various W. European countries remain among the most attractive locations) Lower wages are not the only driver of services relocation. The phenomenon is essentially a manifestation of a shift in production in response to comparative advantage. It offers all the advantages and costs of such a shift. Services relocation, as it is pointed out in UNCTAD (2004: 176), is not a “zero sum game”, in which one party (the countries receiving service work) gains at the expense of the other party.

Interesting parallels can be drawn with the relocation of jobs in ICT-related manufacturing, when assembly operations shifted to East Asia. Together with technical progress, the globalisation of hardware, as it is argued in UNCTAD (2004: 177), cut the prices of ICT products, increased investment in ICT hardware and contributed to higher productivity and growth. Many new jobs emerged in the US to integrate ICT equipment into the workplace and such jobs grew twice as fast as overall employment.

#### 1.2.3.2 Advantages and disadvantages of services relocation for countries

Most relocated services today are concentrated in a relatively small number of countries. As it is pointed out in UNCTAD (2004: 159), Ireland, India, Canada and Israel (in that order) accounted for over 71% of the total market for relocated services in 2001, mostly in software development and other IT services.

Relocation has both advantages and disadvantages for host and home countries. In *host countries* in particular: FDI in export –oriented services offers a number of economic development benefits. Key benefits relate to increased export earnings and the impact on labour force: job creation, higher wages and upgrading of skills. Jobs in IT-enabled or IT services are typically better paid than, for example, assembly work or other manufacturing activities<sup>6</sup>. Given the short time needed to implement an FDI project in such services, attracting relocated services can offer fast-track job creation, especially in locations where the skills needed already exist. Obviously, this also means that investment projects won may easily be lost; sunk costs are typically low for simple operations, and the risk of footloose behaviour is high – although this risk diminishes the more skill-intensive operations are (UNCTAD, 2004: 169).

Concerns have been expressed that the growth of white-collar jobs in export oriented services in host countries (such as India, the Philippines and the Caribbean) signals employment losses in the home countries (i.e. DCs) and potential harm to their economies. However, somewhat paradoxically, the importing countries (i.e. developed economies of the home countries), will reap a considerable part of the gains from relocating. Benefits include lower prices to consumers, expanding markets for exports and higher corporate profits. As it is mentioned in UNCTAD (2004: 177), a study has found that for every dollar spent on services relocation to India, firms in the US reaped \$1.12- \$1.14 in benefits. Hence, there are good reasons for DCs to welcome the trend. This does not mean, as UNCTAD (2004: 212) points out, that this process will necessarily be smooth; there are bound to be short-term challenges for policy-makers, especially in terms of adjusting to the restructuring taking place in response to shifting comparative advantage. What is not clear here is who uses this money and for what purposes. As when production remains domestic then this money is passed to the employees and then in the domestic economy, whereas in the latter case the final recipient of this money may be the US company, but it is not at all clear where the money is spent, invested or taxed. So it is vital to distinguish between the micro- and the macroeconomic levels.

India benefited from the trend as it has a large pool of English speaking and technically qualified manpower. India's service industry took in IT functions in 1990s, and has since moved to back-office processes such as call centres and transaction processing, as well as high end jobs such as R&D, equity analysis, etc. Other locations are Philippines, Ireland and Eastern European countries.

The movement of white-collar jobs to India parallels the earlier movement of blue-collar factory work to places like Mexico and China (Gereffi and Mayer, 2004: 25). India will continue to lead the IT relocation market, but will face more and more competition from Russia and China. Newcomers to the market such as Malaysia, Poland, the Baltic States and the Czech Republic, would win a bigger share of the market. *Countries will also seek to offer different specialist services*: Companies in the Philippines may concentrate on call centres. North African countries and Mauritius might get into call centres to utilize their French language skills.

Is this trend of services relocation an optical illusion or not? *The feeling that "the world is coming to an end" as a result of this trend is certainly an optical illusion*. There is an over exaggeration of the number of jobs that have been lost by DCs. For example, in the US, as it is pointed out in UNCTAD (2004: 177), only 2.5% of all job losses during the first quarter of 2004 were the result of relocation. 850,000 jobs may move from US. But even though this number sounds alarming it represents a relatively small slice of the 131 million people employed in the US. Technical change is a far more important cause of job losses. Bank tellers, answering services and secretaries are replaced by ATMs, voice-answering technologies and word-processing software. Those are two parallel phenomena, both of vital importance for labour intensive industries. However, technological change has been around for several decades, whereas FDI in services is a current trend – at least in this form. Nonetheless, technological

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<sup>6</sup> Infosys in India had 1,000,000 applicants in 2003 for 9,000 jobs.

change does not affect pensions directly, whereas offshore outsourcing does. The impact of the latter can be viewed only in long term.

On the other hand, there is an over exaggeration again of the benefits in employment created in the countries hosting such activities. For example, India's high-tech boom, even with an estimated 700,000 computer software professionals, still involves less than one-tenth of 1% of the nation's more than 1 billion residents.

*What is most concerning about offshoring is that it's diverting the attention of business leaders from building successful, innovative companies to integrating the firm's specific assets that they control to simply finding cheaper inputs (see Labrianidis ... for the case of Greek companies to the Balkans). Of course there are innovators who are using offshoring and outsourcing to get cheaper inputs in a way that is really speeding up their innovation cycle as well.)*

Bright people in other countries no longer need to emigrate to the US or W. Europe to do intellectual work.

Research question 1: Relocation is not a "zero sum" game; new forms of activities may emerge in DCs that will replace the ones that left.

Research question 2: Is there an incessant move of relocating activities in search for lower production sites (countries and regions)?

Research question 3: Relocation might divert the attention of business people from building successful, innovative companies to an incessant search for cheaper labour inputs

Research question 4: Relocation enhances regional disparities within host (UDCs) countries

#### 1.2.3.3 *Social friction and the (im)moral basis for restricting the relocation of services*

If you live in a rich nation in the English-speaking world, and most of your work involves a computer or a telephone, don't expect to have a job in few years' time. Almost every large company, which relies upon remote transactions, is starting to dismiss its workers and hire a cheaper labour force overseas. Those in DCs concerned about economic justice and the distribution of wealth at home should despair while those concerned about global justice and the distribution of wealth around the world should rejoice.

*There is a profound historical irony here.* For example, Indian workers can outcompete British workers today because Britain smashed their ability to compete in the past. Having destroyed India's own industries, the East India Company and the colonial authorities obliged its people to speak English, adopt British working practices and surrender their labour to TNCs. Workers in call centres in Germany and Holland are less vulnerable than British, as Germany and Holland were less successful colonists, with the result that fewer people in UDCs now speak their languages. In a sense, the jobs that Britain took 300 years ago are returning to India (e.g. the HSBC bank, BT, British Airways, Lloyds TSB, Prudential, Standard Chartered, Norwich Union, BUPA, Reuters, Abbey National and Powergen) have already begun to move their call centres to India.

The impact on British – and American – workers might be devastating. Service jobs of the kind now being exported were supposed to make up for the loss of employment in the manufacturing industries which disappeared overseas in the 1980s and 1990s. The government handed out grants for call centres ("cybersweatshops") in places whose industrial workforce had been crushed by the closure of mines, shipyards and steelworks. But the companies running the call centres appear to have been testing their systems at government expense before relocating them in an even cheaper place outside Britain.

It is not hard to see why almost all of them have chosen India. The wages of workers in the service and technology industries there are roughly one tenth of those of workers in the same sectors in Britain. Standards of education are high, and almost all educated Indians speak English. While British workers will take call centre jobs only when they have no choice, Indian

workers see them as glamorous. British call centres moving to India can choose the most charming, patient, biddable, intelligent workers the labour market has to offer.

There is nothing new about TNCs leading workers in distant parts of the world to undercut each other. What is new is the extent to which *the labour forces of the poor nations are also beginning to threaten the security of the middle classes in the DCs*. Most of them will go to India, perhaps half of these are menial “back office” jobs (such as taking calls and typing up data), the rest belong to managers, accountants, underwriters, computer programmers, IT consultants, biotechnicians, architects, designers and corporate lawyers. For the first time in history, the professional classes of Britain and America find themselves in direct competition with the professional classes of another nation. Over the next few years, we can expect to encounter a lot less enthusiasm for free trade and globalisation in the parties and the newspapers which represent them. Free trade is fine, as long as it affects someone else’s job.

So an historical restitution appears to be taking place, as hundreds of thousands of jobs, many of them good ones, flee to the economies of the ex colonies (there are many pairs of source and destination countries: France – Mauritius; Spain – Argentina; Sweden – Estonia; UK – India). Low as the wages for these positions are by comparison to the ones in the DCs, they are generally much higher than those offered by domestic employers. A new middle class is developing in cities in some UDCs. Its spending will stimulate the economy, which in turn may lead to higher wages and improved conditions of employment.

On the other hand, the most vulnerable communities in the DCs are losing the jobs that were supposed to have rescued them. Almost two-thirds of call centre workers in Britain are women, so the disadvantaged sex will slip still further behind. As jobs become less secure, TNCs will be able to demand ever-harsher conditions of employment in an industry that is already one of the most exploitative in Britain. At the same time, at the other end Indian workers are led to mimic not only the British working methods, but also their accents, their tastes and their enthusiasms, in order to persuade customers in Britain that they are talking to someone down the road. Thus in a sense such workers are led to abandon their identity and slip into someone else’s.

In the US the loss of IT and other service jobs to offshore operations has become a major political issue on a par with the “rust belt” rhetoric of the 1990s. The offshoring of services has prompted intense debate on the issue of white-collar jobs lost. At the federal level, as is mentioned in UNCTAD (2004: 209), there is a bill (2004) prohibiting private companies that win government contracts in the federal transport and treasury departments from moving the work offshore. At the state level, more than 100 bills have been introduced in at least 36 states to restrict offshoring of services. Trade Unions in the US have also expressed concern about services offshoring.

People tend to believe that home country TNCs have a “moral obligation” to employ people from their country of origin. In a survey that was conducted asking Americans which of the following statements they agree with: American business should find the cheapest place to do its work to remain competitive and a strong company; or American business have a moral responsibility to hire Americans, 66% of the respondents preferred the second option (McKinsey & Company, 2005).

Policy makers have argued that high levels of education provide US workers with some insulation against the dislocations caused by globalization. Politicians have spent decades promoting the ICT sector as a safe haven from offshore competition. Today, politicians, with few exceptions, are latently protectionist, seeking to use the power of the state to provide special favors and protection from the “outside”.

When the market was booming. American ICT workers had nothing to fear from small and familiar Ireland. Indeed, they recognized the gains from offshoring, and supported trade liberalization. But now India, with its vast army of highly trained, compliant and cheap workers, is perceived as a real threat in, a tighter market, particularly as India’s workers are often paid a fifth of their US counterparts while meeting the same, or superior, levels of quality control.

*People in the developed world (e.g. Americans) love low prices made possible by overseas work, but not the low salaries that threaten their jobs.*

### **1.3 Current issues around globalisation and the global political economy**

#### **1.3.1 Introduction**

Over more or less the same period, three major structural developments have shaped the modern environment in which European economies are called to operate: a) globalisation, b) EU integration and enlargement and c) the growing importance of knowledge and innovation in economic processes.

*Globalisation* came to prominence over the past two decades following changes in the ‘real world’, namely improvements in information and communication technologies (ICT) that facilitated global exchange, as well as changes in the institutional framework governing world trade and production and the pursuit of a liberal economic policy agenda fostering integration of product and capital markets. Globalisation can be seen as a largely firm-based phenomenon that refers to the transborder operations of firms undertaken to organise their development, production, sourcing, marketing and financial activities (Vickery, 1998). Increasing market integration, liberalisation of trade promoted through the world trade organisation (WTO) and significant advances in ICT have effectively reduced the significance of national boundaries. The opening-up of international markets has resulted in intensified (and growing) international competition and forced enterprises to adopt an international perspective. Even businesses focussing primarily, or even exclusively, on their domestic markets must become internationally competitive to ensure long-term survival and growth<sup>7</sup> (Karagozoglu and Lindell, 1996). This need is not limited to individual firms, but encompasses also sectors, regions and countries. According to Dicken (2000: 287) states, like firms, engage in: *price competition* in their attempts to capture a share of the market for mobile investment; in *product differentiation* by creating particular images of themselves (i.e. the strategic nature of their location, the attractiveness of the business environment, the quality of the labour force etc). Nevertheless, it must be pointed out that globalisation has so far been an uneven and asymmetric process with differentiated results, both across sectors of the economy as well as across regions (Soete, 1999). Along the same lines, Lundvall et al (1997) mention that

‘It is important to remark that not all product markets and industrial sectors are equally globalised. Some, like the electronic industries, are truly operating in a world market, but others such as professional services are only marginally affected by these trends.,

Parallel to the trend towards globalisation and trade liberalisation, a somewhat paradox development (Lundvall et al, 1997) has been the formation of trading blocks and regional agreements, among which, *EU further integration and recent enlargement* holds a prominent position. During the 1980s and 1990s, the EU made unprecedented progress towards greater integration through the completion of the Single European Market, and the subsequent European Monetary Union (EMU). These, in turn, made economies of scale and agglomeration more relevant, thus altering the geography of production. Moreover, the larger size of the market and the dynamic effects this may create (in terms of productivity growth), could strengthen the degree of integration of the EU – or parts of it – into the global economy (Baldwin, 1992). Indeed, there is empirical evidence suggesting that changes in governance structures have spurred the re-organisation of operations of TNCs located in the EU to a much

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<sup>7</sup> Perhaps the most extreme case highlighting the degree of exposure of national firms to global competition is that of online auctions, whereby a buyer, having set the exact specifications, as well as the quantity of the products required asks potential contractors to submit bids on a particular day. One has only to think of the possibility of firms having to hold auctions on the Internet among their established contractors, where, having informed them of the particular type of product that they want, the quantity requires, the time of delivery etc. they ask them to submit bids on a particular day. Then producers throughout the world enter the Internet and send their bids. That means that a subcontractor in a DC has to compete with one in an UDC where costs of labour can be less than 1/20 (e.g. in 2001 hourly direct pay in US \$ for production workers was 20.23 in Denmark, 19.13 in Norway, 13.64 in Britain, 8.15 in Spain, 6.90 in Greece and 0.40 in Sri Lanka – US Dept. of Labour, 2002). This can be extremely important for a labour intensive industries and cannot be easily overcome through higher productivity.

greater extent than in the case of affiliates based outside the area (Dunning, 1996). Furthermore, the move of the European Union from Single Market to Monetary Union and the successful establishment of Euro, in addition to their economic importance, constitute a major political development marking a significant change in the political scene in Europe (Lundvall et al, 1997). The recent enlargement (to be completed in 2007 with Bulgaria and Romania) brings in significant quantitative and qualitative changes and poses new challenges and opportunities, both for the new members and for the EU as a whole. These two processes have already put in motion a, potentially much more drastic, series of changes in the structure and hierarchy of European economies. Based on rather different theoretical backgrounds and policy assumptions, two diverging scenarios seem to emerge, i.e. convergence of European countries and regions versus divergence. Nevertheless, the historical evolution of the EU has shown that both scenarios are possible, and in fact both have taken place (Fagerberg et al., 1997).

The third feature of modern economies is *the growing importance of knowledge and innovation* in practically all economic processes. In fact, wide-spread acknowledgement of the increased use of knowledge (facilitated among others by progress in science and in ICT) in economic activities, has resulted in the adoption of the term “knowledge-based economy” (OECD, 1996) in order to describe its relative importance for growth and competitiveness, at least in developed modern economies. Going beyond the accumulated “stock of knowledge” and stressing the increasing rate of creation of new and replacement of existing knowledge, Lundvall (1994,1997) introduced the term “learning economy” (as opposed to “knowledge-based”) thus emphasising the need for modern societies to develop their learning capabilities in order to thrive (or just survive) in an internationally competitive globalised economy. Other scholars (Coenen et al, 2004) add that while the term “knowledge-based economy” refers primarily to innovativeness in high-tech sectors, the term “learning economy” maintains that all branches can be innovative.

The emphasis put in knowledge, learning and innovation over the last two decades has revived the interest of academics and policy makers in a number of related areas, such as the processes and mechanisms of knowledge production and diffusion (e.g Cohendet, 1999, Brown and Duguid, 1996) different types of knowledge (e.g Laestadius, 1998, Asheim and Gertler, 2005), the interactive and systemic nature of innovation (e.g Freeman, 1987, Nelson, 1993, Lundvall, 1992, Cooke, 1992) the role of networks (e.g Dahl and Pedersen, 2003), the role of industrial agglomerations and clusters (e.g Porter 1990, Storper, 1996) and the relations between localised learning and globalisation (e.g Asheim and Herstad, 2003).

A common point of all these approaches is that the move away from the ‘linear model’ of innovation (which assumes a ‘linear’ transition from basic to applied research and then to economically useful outcomes in the form of new products or/and processes) and understand innovation as a complex phenomenon involving interactive learning processes between economic agents which are socially and territorially embedded and culturally and institutionally contextualised (Lundvall, 1992).

*At a political level*, the European Union acknowledged with a relative delay (at least compared to the USA or the OECD) the importance of these structural changes that shape what is often called “The New Economy” (Soete, 1999). It was only in March 2000, at the Lisbon European Council when the leaders of the EU explicitly acknowledged the need for European economy (-ies) to adapt to the new economic environment. The Presidency conclusions indicated that “the European Union faces a quantum shift resulting from globalisation and the challenges of a new knowledge-based economy.” In accordance with this observation, the EU Lisbon summit set a new strategic goal for the EU for the following decade: “*To become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion.*” (Lengrand, 2002).

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<sup>8</sup> Although the term “New Economy” is often associated more with globalisation and the rapid development and wide spread use of ICT technologies, than with knowledge and innovation.

This goal was to be achieved through policies boosting the use of ICT and R&D, stepping up structural reform for competitiveness and innovation, and completing the internal market, while modernising<sup>9</sup> the European social model and applying a macroeconomic policy mix that would favour growth. These objectives, and the policies accompanying them, have become known as the “*Lisbon strategy*” or the “*Lisbon agenda*”. The Gothenburg European Council of June 2001 added an environmental dimension to the original economic and social dimensions of the Lisbon strategy.

However, over the four-year period that has elapsed since Lisbon, the overall growth performance of the European economy has been rather disappointing. Although the poor economic performance has partly been the result of the cyclical slowdowns at both world and European level, the slow pace of policy reforms has also held back economic growth (EC, 2005 b). As a result, the European Council of March 2005 has just relaunched the Lisbon strategy by refocusing on growth and employment in Europe (EC, 2005 a). By taking this decision, member states wanted to deliver a re-newed message concerning the Union’s priorities over the next few years. The EU, at both European and national levels must continue focusing on Lisbon objectives and take the necessary actions to promote knowledge, attract more people into the labour market and create more jobs (EC, 2005 c).

In this context, two points seem to be of particular interest: first, the repeated recognition at the highest political level of the importance of knowledge (and innovation) as a major factor for growth and international competitiveness, and second, the explicit acceptance that innovation is a complex process, involving many different actors and requiring policy interventions at several levels and different areas<sup>10</sup>. In the words of the European Commission (EC,2005 c: 5-6):

“In this context, the EU and the individual Member States should put the emphasis on investment in knowledge to ensure the economic dynamism and the vigour of the whole European economy. **The realisation of a knowledge society, based upon human capital, education, research and innovation policies, is key to boost our growth potential and prepare the future.**”<sup>11</sup>,

and further down:

“Particular attention needs to be paid to the delivery of the Lisbon agenda. In order to achieve these objectives, the Union must do more to mobilise all the resources at national and Community levels — including the Structural Funds and rural development — so that their synergies can be put to more effective use. Furthermore, the involvement of relevant stakeholders can help to raise awareness of the need for structural reforms, improve the quality of implementation, and increase the sense of ownership of the Lisbon strategy. Member States and the Community should take every opportunity to involve regional and local governments, social partners and civil society in the implementation of the integrated guidelines”.

A third point of interest, although often not explicitly stated, refers to the characteristics of a knowledge-based economy. Knowledge itself being an intangible asset, a shift to a knowledge-based economy implies a relative shift of economic activities towards services and intangibles (Lengrand, 2002). As Andersen et al (2000) mention, the knowledge-based economy is also a service economy. This argument may have important implications both for innovation policy, as well as for regional development strategies across Europe.

In the following sections we will examine in more detail the consequences of the shift towards a globalising learning (or knowledge-based) economy for European regions, with more emphasis

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<sup>9</sup> “modernising” is the term used in EU jargon, which -as in many cases- is deliberately left open for different interpretations. Modernising can mean anything from “de-regulating” to “adjusting” although the overall trends in current political thinking at the EU level seem to lead towards the first of the above.

<sup>10</sup> Lisbon reforms are classified in five categories: product and capital market reforms; investment in the knowledge-based economy; labour market reforms; social policy reforms; and environmental reforms (EC, 2005b)

<sup>11</sup> Emphasis in the original text.

on those situated in the periphery and in the new member states, whose economies are usually based on traditional, labour intensive industries. We will try to identify innovation possibilities, explore the characteristics of regional innovation systems, the dynamics of local learning and the effects of globalisation on knowledge diffusion. We will also address issues related to learning and innovation in both low and high-tech sectors and to the shift towards services outside and within the manufacturing sector.

### 1.3.2 *Globalisation: squeezing the least developed or providing a “window of opportunity”?*

There are two predominant views of the globalisation process: the eulogistic and the sceptical. On the one hand there are those that have *a positive view of globalisation*. Authors like Levitt (1995) and Ohmae (1995) argue that the international economy is dominated by a small number of TNCs. The pervasive influence of such corporations leads to a degree of global economic integration absolutely and proportionately more important than ever before (Dunning, 1993). Biersteker (1998) argues, that globalisation is affecting not just the quantity of transactions in the global economy, but also their quality. Advocates of this approach do recognise that globalisation produces winners and losers in terms of countries, regions and people. However, declining wages and deteriorating working conditions will be combined with the opening-up of economies and the release of market forces (Biersteker, 1998). As a result, new opportunities will be afforded to those previously marginalized. Overall, this interpretation suggests that globalisation, while uneven, has the potential to spread production and wealth out to the margins, eliminating past inequalities. These changes occur alongside the emergence of a ‘globalised’ set of beliefs regarding economic policy (Williamson and Haggard, 1994). This is manifested in the significant transformation of the role of national governments in regulating the marketplace.

On the other hand there are those that have *a more sceptical view of globalisation*. As Hirst and Thomson (1996) argue, TNCs tend to concentrate on clustered sites. As a result, the ensuing patterns of international economic transactions result in multi-faceted outcomes, demonstrating advanced integration in some facets, and retarded in others. Similarly, others, maintain, that economic globalisation is far from becoming a worldwide reality. In fact, divergence (in terms of labour productivity and standards of living) is not the exception but the rule in many economies and regions. Another argument, developed within the confines of this approach suggests that a contrary process of fragmentation and localisation opposes the globalisation process. Resistance at the local, regional or national level may have significant implications upon the ensuing form of integration. The fragmentation of production the world over will result in greater equality in the price of factors of production since labour is not a homogeneous resource, then wages for unskilled labour in advanced industrialised countries will decline (Feenstra, 1998). In this sense, the decision of TNCs – and others – to spread production across countries has distributional consequences that cannot be ignored.

We lean towards the more sceptical. *Our world is characterised by massive inequalities between countries and this gap is becoming increasingly wider:* today, while countries such as Luxembourg, Japan, Norway, and the USA have incomes per capita exceeding \$35,000, there are numerous countries (such as Ethiopia, Eritrea, and Nigeria) with less than \$150 /capita. Indeed, over time, the ratio of income per capita in poor countries to that of rich countries has dramatically increased (from 1:3 in 1820, 1: 11 in 1913, 1: 35 in 1950, 1: 72 in 1992 and 1: 61 in 2002 - UNDP, 1999: 38 and UNDP, 2004: 187).

Research question 5: What types of competitive pressures are emanating from the increasingly globalising environment? What form do they take?

Given all these problems, how should we proceed? What should the role of international trade be? The prevailing answer given so far is what is known as the ‘Washington Consensus’, i.e. *the most certain way to help poor countries is to open the markets even more*. This is the direction less developed countries are being pushed in by developed countries through the institutions of the Washington Consensus. Although, as Taylor (1997) argues trade liberalisation is perhaps the most significant element of the current economic orthodoxy, the conclusive link between openness and growth is yet to be established. The majority of the theoretical approaches of the market liberalisation proponents, as outlined by Vamvakidis (2002) fails to establish a direct link between openness and growth. In turn, most of them turn on issues of R&D, increasing returns to scale and technological spillovers caused by trade. The way it presumably works is the following (Vamvakidis, 2002:60): The benefits from openness are mainly derived through scale effects, which are channelled through R&D, which generates innovation. Now, innovation is nothing more than the cumulative stock of existing knowledge and international trade, by increasing this stock through the flow of ideas and technological spillover, fosters innovation. According to some other, more recent views, investment is the link between trade and growth. However, even in these models (particularly the first strand), under certain circumstances openness may lead to divergence. For example, in Grossman and Helpman (1991) economic integration between two dissimilar countries might lead one of them to specialise in a slow growing sector (as numerous studies on the location of European industry appear to have confirmed), implying that protection of a fast-growing sector could lead to faster growth.

On the other hand, there is a long line of theoretical studies supporting the view that selective trade interventions may increase growth under certain circumstances. Theories influenced by the infant industry argument or the Mundell-Fleming model have been able to identify cases in which openness may in fact reduce growth. In a recent paper Redding (1999) develops a model in which UDCs may face a trade-off between specializing according to existing comparative advantage (in low-tech goods), and entering sectors, in which they currently lack a comparative advantage, but may acquire one in the future, as a result of the potential for productivity growth (in high-tech goods). In such a model specialisation according to current comparative advantage under free trade may be welfare reducing, while selective intervention may be welfare improving.

The empirical evidence of the growth-openness connection has been quite a different story. Specifically, the majority of the relevant literature, including *inter alia* Dollar (1992), Barro & Sala-i-Martin (1995) and Sachs & Werner (1995), has found a positive relationship between openness and growth. Nevertheless, more recently there appeared a stream of papers seriously questioning the universality of the relation. For instance, Rodrik (1997) argued that trade openness had little to do with the varying development trajectories of UDCs. In turn, he argued that import substitution industrialisation strategies worked quite well for a period of almost two decades for most countries that adopted them (including not only East Asian and Latin American countries, but also countries in the Middle East and Sub-Saharan Africa). Adhesion to such strategies had little to do with the downturn of many of these countries since the mid-1970s. In turn the most significant factors were the adoption of decisive macroeconomic policies along with deeper social determinants (e.g. the ability to cope with the social turbulence created by the oil crises). Rodriguez and Rodrik (1999) questioned the robustness of the openness-growth positive correlation, either because the openness measures used were inadequate, or because other important variables were omitted. In a similar vein Levine and Renelt (1992) argued that openness affects growth only indirectly, through higher investment, while, according to Wälde and Wood (2004), not only is the causality between openness and growth unclear, but also, the link between trade policy and growth is yet to be established.

As Shaikh (2003) argues, Japan, South Korea and Taiwan are typical cases of successful development with the help of very selective policies of trade liberalisation. On the other hand, Chile (1974-79) and Mexico (1985-1988), that followed policies of full liberalisation of their

trade for some time, not only saw the disappearance of their weaker sectors, but also of those having the potential to become stronger, often at a great social cost.

Therefore, the liberalisation of international trade is not a panacea. If the goal is to reduce poverty and improve living conditions in UDCs, greater openness appears to be one of a number of (usually complementary) policies, often including the *selective liberalisation of international trade*<sup>12</sup> as particular sectors become competitive. This, naturally, is not an argument in favour of protectionism. As Rodriguez and Rodrik (1999:39) argue, there is ‘no credible evidence, at least for the post-1945 period, that suggests that trade restrictions are systematically associated with higher growth rates’. *The critical choice for a country is not whether or not to be included in the international market, but under what conditions it will choose to be included.* Hence, in the remainder of this text we will try to focus upon those processes that might act as “windows of opportunity” allowing particular economic sectors, or even individual countries, to realise their great developmental leap forward. In fact this paper seeks to analyse how an intermediate country (i.e. Greece), and countries in transformation stages<sup>13</sup> (i.e. the Balkans) can and should proceed in the era of globalisation.

#### 1.3.2.2 *Free Trade yes, but only when we are developed! An alternative view of the economic history of DCs*

One of the popular explanations of the persistence, or even increase of inequality, despite the continuous liberalisation of international trade, is the lack of satisfactory institutions in UDCs. However, as Shaikh (2003) argues, DCs, at the beginning of their development, did not have the same level of institutions as today’s UDCs. Moreover, according to Shaikh (2003), DCs are today trying to make UDCs adopt free trade policies, forgetting that they themselves (e.g. Britain, USA, Netherlands, Germany, Sweden, Japan and South Korea) were extremely protectionist until they became dominant. Even today, powerful countries only support free trade when it is in their interest. For example, the EU protects agriculture and animal farming products, as well as labour intensive industrial sectors, while it is in favour of free trade in the sectors of industry and services, where it is internationally competitive.

The founding myth of the dominant nations is that they achieved their industrial and technological superiority through free trade. Nations which are poor today are told that if they want to follow the path to riches of DCs, they must open their economies to foreign competition. This is far from being true.

Almost every rich nation has industrialised with the help of one of two mechanisms now prohibited by the global trade rules. The first is infant industry protection, while the second is the theft of intellectual property. History suggests that technological development may be impossible without one or both.

Britain’s industrial revolution was founded upon the textile industry. This was nurtured and promoted by means of ruthless government intervention. As Ha Joon Chang (2002) has documented, from the 14th Century onwards, Britain systematically cut out its competitors, by taxing or banning the import of foreign manufactures and banning the export of the raw materials (wool and unfinished cloth) to countries with competing industries. The state extended similar protections to the new manufactures that began to develop in the early 18th Century. Only when Britain had established technological superiority in almost every aspect of manufacturing did it discover the virtues of free trade. It was not until the 1850s and 1860s that it opened most of its markets.

Britain’s industrialisation was secured by destroying the manufacturing capacity of India. In 1699, the British government banned the import of woollen cloth from Ireland, and in 1700 the

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12 Of course this can be highly problematic again, because one has to face the issue of who is doing the selection of the particular branches.

13 We choose not to use the term 'transition', which implies a teleological trajectory from a defined origin – communism - to a defined outcome – capitalist democracy, and use instead the less-certain and less normative term 'transformation'.

import of cotton cloth (or calico) from India (Ha-Joon Chang, 2002). Both products were forbidden because they were superior to the British ones. As the industrial revolution was built on the textiles industry, Britain could not have achieved its global economic dominance if it had let them in. Throughout the 18th and 19th centuries, India was forced to supply raw materials to Britain's manufacturers, but forbidden to produce competing finished products. In a sense British people are rich because the Indians are poor.

The United States, which now insists that no nation can develop without free trade, defended its markets just as aggressively during its key development phase. In 1816 the tax on almost all imported manufactures was 35%, rising to 40% in 1820 and, for some goods, 50% in 1832. Combined with the cost of transporting goods to the US, this gave domestic manufacturers a formidable advantage within their home market. Furthermore, protectionism can be argued to be a more immediate cause of the American civil war than the abolition of slavery. High tariffs helped the northern states, which were industrialising rapidly, but hurt the southern states, which remained heavily dependant on imports. The Republicans' victory was the victory of the protectionists over the free traders. The US remained the most heavily protected nation in the world until 1913. Throughout this period, it was also the fastest-growing.

The three nations which have developed most spectacularly over the past 60 years – Japan, Taiwan and South Korea – all did so not through free trade but through land reform, protectionism and support of key industries and the active promotion of exports by the state. All these nations imposed strict controls on foreign companies seeking to establish factories. Their governments invested massively in infrastructure, research and education. In South Korea and Taiwan, the state owned all the major commercial banks, which permitted it to make the major decisions about investment (Brohman, 1996). In Japan, the Ministry of International Trade and Industry (MITI) exercised the same control by legal means. They used tariffs and a number of other legal tricks to shut out foreign products that threatened the development of their new industries, they granted major subsidies for exports etc. They did, in other words, everything that the WTO, the World Bank and the IMF forbid or discourage today.

There are two striking exceptions to this route to development. Neither Switzerland nor the Netherlands used infant industry protection, they simply stole the technologies of other nations. During their key development phases (1850-1907 in Switzerland; 1869-1912 in the Netherlands), neither country recognised patents in most economic sectors. In particular, Switzerland's industrialisation took off in 1859, when a small company based in Basel "took" the aniline dyeing process that had been developed and patented in Britain two years before. The company was later named Ciba. In the Netherlands, in the early 1870s, two enterprising firms called Jurgens and Van Den Bergh "took" a patented French recipe and started producing something called margarine. They later merged to form a company named Unilever. In the 1890s, Gerard Philips "took" Thomas Edison's design for incandescent lamps, and founded Europe's most successful electronics company.

**The nations which are poor today are forbidden by the trade rules from following either route to development**, this can explain to a certain extent the widening development gap between DCs and UDCs. New industries are immediately exposed to full competition with established companies overseas, which have capital, experience, intellectual property rights, established marketing networks and economies of scale on their side. "Technology transfer" is encouraged in theory, but forbidden in practice by an ever-fiercer patents regime. Unable to develop competitive enterprises of their own, the poor nations are locked into their position as the suppliers of cheap labour and raw materials to the rich world's companies. They are, as a result, forbidden from advancing beyond a certain level of development. While there is no sound argument for permitting rich nations to protect their economies, there is a powerful case for permitting the poor ones to follow the only routes to development that appear to work.

## **1.4 Globalisation, European integration and the location of economic activity in Europe**

The development process by definition creates disparities. We have to analyse whether the disparities that are created within Europe are mainly due to the huge success of certain sectors and certain areas that operate as the locomotive of development or are due to the fact that certain sectors and areas are lacking behind.

Within the context of the globalisation debate, one of the most widely used examples of change is the clothing industry. Indeed, since the late 1960s, the world clothing industry has been experiencing profound structural changes. In DCs rising unit costs, especially labour, were proved difficult to contain and they began to spread their production to intermediate regimes through sub-contracting arrangements (Frobel *et al.*, 1981). However, during the 1990s, severe competition from both DCs (for high quality products) and UDCs (for low price products), as well as the new threat posed by competitors located in economies undergoing a process of post-socialist transformation that have to find a role in the 'Newer' International Division of Labour, hit "intermediate" countries (such as Greece) severely.

During the 1980s and 1990s, the EU made unprecedented progress towards greater integration through the completion of the Single European Market, and the subsequent European Monetary Union (EMU). These, in turn, made economies of scale and agglomeration more relevant, thus altering the geography of production. Moreover, the larger size of the market and the dynamic effects this may create (in terms of productivity growth), may strengthen the degree of integration of the EU – or parts of it – into the global economy (Baldwin, 1992). Indeed, there is empirical evidence suggesting that changes in governance structures have spurred the re-organisation of operations of TNCs located in the EU to a much greater extent than in the case of affiliates based outside the area (Dunning, 1996).

However, the process of 'deepening' European integration has – rather perversely -- accentuated the importance of location. While traditional factors of production are supposed to become increasingly mobile across member states, other location-specific factors remain highly concentrated in space, promoting further intra-area specialisation (Krugman, 1991). Thus, differences between European regions in terms of entrepreneurship, organisational capacity, skills, propensity for innovation and technological competence may actually be further boosted as a result of the integration process (Iammarino and Santangelo, 2000). This implies that weak regions may not be able to generate new jobs, whilst at the same time raising the threat of significant losses in traditional labour-intensive industries. As a result, there is an ongoing and self-sustaining process of the marginalisation of peripheral areas.

### *1.4.1 Specialisation in economic theory*

According to the traditional economic theory the specialisation of economies is (at least ideally) shaped according to their comparative advantage. In other words, under free trade – or alternatively integration – it is the technology (in the Ricardian framework) or the factor endowments (in the Heckscher-Ohlin framework) that dictate how countries will specialise.

Such a theoretical framework only allowed for trade in differentiated products. However, during the 1960's it was noted that the volumes of similar products simultaneously exported and imported (Intra-Industry Trade – IIT) were expanding at a very fast pace. Something like that could hardly be explained with the standard tools of the traditional trade theory, as it started becoming apparent that international specialisation did not necessarily imply that different countries should specialise in different industries. This gave rise to a vast literature dealing with the subject, which was initiated by Balassa (1966). In the three decades that have passed since the publication of that article significant research on the sources of Intra-industry specialisation and consequently IIT have taken place, a detailed description of which is provided by Greenaway and Torstensson (1997).

However, it was not until the emergence of the ‘new trade theories’, around 1980 that formal theories engaged in explaining the phenomenon. Until that time most of the literature was of empirical nature and rather limited. The theories of Krugman (1980), Dixit and Norman (1980), Helpman (1981), Brander and Krugman (1983), Shaked and Sutton (1984), and others, which started incorporating imperfect competition, economies of scale and factor endowments were largely the starting point of a renewed interest on the subject.

The differences of the two theoretical approaches and the more recent new economic geography theory can be outlined as following (Brühlhart, 2001):

In the neo-classical models location is determined exogenously, as the spread of economic activities closely follows the spread of factor endowments or technologies. Assuming zero transportation costs the spatial differences in demand will affect the pattern of trade, but not the location of production. At the other extreme, prohibitive trade costs will force production to follow demand, leading to perfect dispersion of production. Therefore, reduced trade costs will tend to increase specialisation.

The outcome in the new trade theory is similar, although for different reasons. In the setting of the new trade theory models, the only exogenous factor is market size, which is determined by the size of the (assumed immobile) labour force of a country. As already mentioned, the other main difference of these models is the introduction of activity-specific features such as imperfect competition, economies of scale and differentiated products. In such a context there emerge two types of specialisation: inter-industry (with sectors clustering in locations offering access to product markets) and intra-industry. Reduced trade costs will lead increasing returns activities to concentrate in the big markets (the ‘core’ of the theoretical models), leading to reduced IIT between the core and the periphery.

In the new economic geography models because production factors and firms are mobile even market size can be determined in the model, and thus location is entirely endogenous. Utilising the activity-specific features of the new trade theory models, the new economic geography allows for multiple equilibria shaped by centripetal (linkages, thick markets, knowledge spillovers and other pure external economies) and centrifugal (immobile factors, land rent/commuting, congestion and other pure diseconomies) forces (Fujita *et al*, 2000:346). In the majority of cases the centripetal forces will be dominant at intermediate trade costs. Therefore, in the typical model, starting from initially high transport costs, a reduction will first increase specialisation, while further reductions will tend to decrease it<sup>14</sup>.

#### 1.4.1.1 Empirical findings

The empirical findings, more or less verify the theoretical expectations. Forslid, Haaland, Midelfart-Knarvik and Mæstad (2002) using a large scale general equilibrium model simulated the impacts of the European transformation, as well as further global integration for a number of European regions<sup>15</sup>. According to their findings the successful transformation of Eastern Europe will most notably affect the transformation countries themselves. In this context, Eastern Europe and the Former Soviet Union countries appear to benefit by increased income and exports, while on the other hand Central Europe appears to be the regions that is most adversely affected by the successful transformation of Eastern Europe.

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<sup>14</sup> In the context of the international economy the first stage will lead to an international division of labour through a process of uneven development in which the North gains, while the South de-industrialises. Fujita *et al* (2000:253) call this ‘the core-periphery’ phase, which is followed by a globalisation phase as transport costs are further reduced.

<sup>15</sup> Specifically, Europe West (BeNeLux, France, Ireland and the UK), Europe Central (Austria, Denmark, Germany and Switzerland), Europe South (Greece, Italy, Portugal and Spain) Europe North (Finland, Iceland, Norway and Sweden) and Europe East (Bulgaria, Hungary, Czech Rep., Poland, Romania, Slovakia and Slovenia). Apart of these regions the world was further divided into the following groups of countries: Former Soviet Union, China and South Asia, South East Asia, USA and Canada and Rest of the World.

Using the same methodology Forslid, Haaland and Midelfart-Knarvik (2002) argue that in industries with significant returns to scale and intra-industry linkages the effect of diminishing trade costs is a bell-shaped concentration. Specifically, at initially high levels of trade costs these industries are dispersed, concentrating as trade costs decrease; after a certain point of trade costs reduction these industries start dispersing once again. However, in other industries, in which scale economies are less significant there appears to be a monotonic increase in concentration. These are industries for which comparative advantage (which usually takes the form of lower labour costs) is more important than the former group, but in which specialisation (according to their comparative advantage) has been prevented by the initial high trade costs. In other words, labour intensive sectors (such as textiles and leather) will tend to concentrate to the more (unskilled) labour abundant peripheral regions.

These predictions are, more or less, in line with a number of empirical investigations about the specialisation trends in Europe. Although none of these efforts spans a period longer than 15 years, they all seem to agree on a number of findings:

- European regions or countries are (although very slowly) becoming more dissimilar (Amiti, 1999; Midelfart-Knarvik *et al.*, 2000; Brühlhart 2001)
- It is the labour intensive sectors that appear to be the ones most heavily concentrated (Midelfart-Knarvik *et al.*, 2000; Brühlhart 2001) and in particular at the lower labour cost peripheral regions.
- A number of non-labour intensive sectors appears to be dispersing (Midelfart-Knarvik *et al.*, 2000; Brühlhart 2001), however, it is unclear whether these industries are expanding to all parts of Europe, or whether some European regions are excluded.

On the other hand, the main point that seems to be unresolved has to do with the impact of the Single Market Project. Brühlhart (2001) argues that specialization accelerated after 1986, while Midelfart-Knarvik *et al.*, (2000) support the Single Market program had no effect on concentration and specialization.

This last issue is of great importance, since it could provide significant insight regarding the effects of the CEECs' accession to the EU

CEECs are characterised by relatively lower labour cost. Proximity to European markets makes a high-quality, high value export strategy plausible. For example, as Appelbaum and Christerson (1997: 214) argue, for the apparel industry short turnaround times were found to be especially important for fashion-sensitive, higher value apparel. The labour-intensive nature of producing fashionable apparel often forces a trade-off between seeking to economise costs on the one hand, and maximizing turnaround on the other.

The processes of EU enlargement, and the gradual relocation of production from Western to Eastern Europe, have further reinforced regional diversity (CEC, 2001; Hudson, 2002). The widening of the EU, alongside processes of deepening integration (such as the creation of the Euro), constitute formative moments in re-drawing the map of European production networks (Martin, 2001).

Swain and Hardy (1998), argue that the degree of integration of post-socialist economies - that occupied a semi-detached position in the global marketplace for the best part of the post-war era - with the global economy has been highly uneven. Whilst some countries, namely Poland, Hungary and the Czech Republic, are deemed to have made sufficient progress to merit consideration for accession to the EU, others, such as Bulgaria, Romania and the Ukraine, have achieved only modest integration. Martin (1998) attributes the relatively slow inroads of globalisation in the latter group of countries partly to the tentative approach of TNCs to the regions, manifested in a preference for low commitment strategies, and partly to the fact that the relationship between incoming Western capital and national governments has often been problematic (Hausner, 1997; Swain and Hardy, 1998; Van Zon, 1998).

While there are tendencies towards the creation of Europeanised systems of production (e.g. automobiles, clothing and steel) linking diverse locations within the continent, there are important differences in their geographies. There is increasing qualitative differentiation in technical and social divisions of labour within and across these systems, with a general tendency for more sophisticated and higher value added activities to locate in core regions with routine production dispersed to peripheries, especially those of the East and South (Hudson, 2002: 275). A key element in the process of integration of Central and Eastern European Countries (CEECs) in the global networks of production and distribution has been the expansion of labour intensive industries.

Of course this is not a matter of conspiracy! There are very specific material forces driving in this direction. The question is: *can something be done to change the process by building in comparative advantages for CEECs, or any other country in a similar state?*

Moreover, within the CEECs, the Balkans are worse-off in terms of FDI attraction. This is due to a number of reasons including lower levels of economic prosperity (lower GDP/capita and higher levels of unemployment), difficult transition to a market economy and parliamentary democracy, and higher degrees of corruption. There are also Balkan countries under “special” political status: Kosovo; Bosnia and Herzegovina; Montenegro; FYROM. Of course, there are many historical reasons why the Balkans have faced such difficulties in their transition. On the one hand we have a long history of conflicts, with the bloody wars associated with the disintegration of former Yugoslavia, being only the most recent chapter. On the other hand, with the entire region being part of the Ottoman empire until (at least in some cases) the 1920’s, we are dealing with relatively newly formed nation states with as yet unsettled external boundaries. The structures of their economies has done little to help (e.g. Bulgaria’s heavy industry with exports to USSR) and there are no powerful countries to “protect” their interests, beneficially influencing things within the country as well as bringing in international agencies and FDIs and, finally, their transitions to market economies started later than in some of the CEECs (Hungary, Poland etc).

Research question 6: What are the implications of the location patterns of labour intensive industries upon the convergence/ divergence scenarios of EU?

Research question 7: Are new EU members to be turned into the “dustbins of Europe”

Research question 8: Are weak countries and regions in the EU becoming more vulnerable as the integration of EU becomes deeper?

1.4.1.2 Countries / Regions in competition

In a world with fewer investment and trade restrictions, shrinking economic distance and more mobile resources, only activities that are competitive survive and grow. Thus, competitive production has become essential for development UNCTAD (2004: 95).

Countries can be more or less attractive to TNCs according to the natural resources that they have, the degree of socio-economic and political stability that they have, the level of remuneration of employees, etc. On top of that as is pointed out in UNCTAD (2004: 196) many countries use various fiscal, financial and other incentives to attract foreign investors.

**Table 1.7 Gross monthly average salary, selected economies, adjusted to productivity, 1998-2002 (Euros and per cent)**

Country	Gross monthly average salary					Productivity <sup>a</sup>	Productivity/salary (EU-15=100%)
	1998	1999	2000	2001	2002	2000	2000
Average for the EU-15 <sup>b</sup>	1,845	1,923	2,127	2,191		42.5	100
Of which:							

Greece	1,101	1,160	1,227	1,286	1,357	19.4	79
Portugal			1,052	1,112		10	48
Spain		1,297	1,326	1,172	1,425	26.1	98
New EU members from CEE		381	410	460		11.7	117
Of which:							
Czech Republic		343	379	430	510	10.9	144
Estonia		282	303	328		8.3	137
Hungary	307	314	348	408	489	11.1	160
Latvia		257	277	280			
Lithuania	233	251	270	300			
Poland	346	442	471	526	598	9.3	99
Slovakia	274	260	299	320	382	9.2	154
Slovenia		895	935	988	1041	21.3	114
EU candidates		115	132	146	153		
Of which;							
Bulgaria	101	111	120	127	132		
Romania		120	144	165	174		

Source: UNCTAD (2004:77)

<sup>a</sup> Value added per € 1.000 labour costs, national average.

<sup>b</sup> EUROSTAT estimate. Data for Austria, Ireland and Italy are not available.

<sup>c</sup> Average productivity is based on data for the Czech Republic, Estonia, Hungary, Poland, Slovakia and Slovenia only.

**Table 1.8 Highest marginal corporate tax rate (EU25 and the two accession countries)**

Rank <sup>a</sup>	Country	1998	2002	2004
1	Guyana	45	45	45
11	Estonia	26	35	35
12	Greece	35	35	35
13	Malta	35	35	35
15	Spain	35	35	35
18	Netherlands	35	34,5	34,5
20	Austria	34	34	34
22	France	33	33,3	33,3
24	Belgium	39	39	33
25	Italy	37	36	33
37	Denmark	34	30	30
55	United Kingdom	31	30	30
56	Finland	28	29	29
57	Czech Republic	35	31	28
60	Sweden	28	28	28
66	Germany	30	25	25

70	Portugal	37	30	25
71	Romania	38	25	25
72	Slovak Republic	40	25	25
73	Slovenia	..	25	25
77	Luxembourg	20	22	22
84	Bulgaria	30	15	19,5
85	Poland	36	28	19
89	Hungary	18	18	16
92	Latvia	25	22	15
94	Lithuania	29	5	15
96	Ireland	32	16	12,5
98	Cyprus	20	25	10
99	Switzerland <sup>b</sup>	45	-	8,5

a: refers to a sample of 105 countries for which data was available

b: In our sample there were also 6 countries with a tax rate of zero: The Bahamas, Bahrain, Bermuda, Cayman Islands, Isle of Man and Saudi Arabia.

Source: World Bank WDI online.

According to Dicken (2000: 287) states, like firms, engage in: *price competition* in their attempts to capture a share of the market for mobile investment; in *product differentiation* by creating particular images of themselves (i.e. the strategic nature of their location, the attractiveness of the business environment, the quality of the labour force etc).

Does wage-cost competition dictate a development trajectory whereby production inevitably migrates to the lowest-cost countries/sites, thereby undermining local growth and serving to suppress wages? This seems to be the case with the labour intensive sectors (or to be more specific segments of sectors). For example, apparel manufacturing is perhaps the most globalised manufacturing sector. Apparel manufacturing has become increasingly globalised, as retailers and designer-manufacturers seek to lower labour costs through production in ever lower-cost countries. This, as Appelbaum and Christerson (1997) argue, has clearly happened, particularly in the production of less-expensive clothing that is especially sensitive to labour cost differentials.

Since the 1960s there is a huge increase in the importance of UDCs as exporters and decrease in the importance of DCs (e.g. USA from being the 6<sup>th</sup> most important exporter in 1963 in the 1990s it was the world's leading importer, while Hong Kong and China accounted for 30% of world apparel exports - Appelbaum and Christerson, 1997).

Globalisation and technology have put the world into a trading ring: in a sense everybody is playing to their strengths. We are moving into a world where the cost of transport and communication is minimised while of PCs, bandwidth and storage will be zero. On top of that while for the last 50 years, US, Europe, Japan, all basically competed with roughly the same size and same standard labour markets. Suddenly, the world gets open, and you bring into the game more than two billion people (India and China). They have a different capital/labour ratio approach, different environmental or human rights standards, and a different approach to saving and consumption, different standards about labour, rights, and the environment.

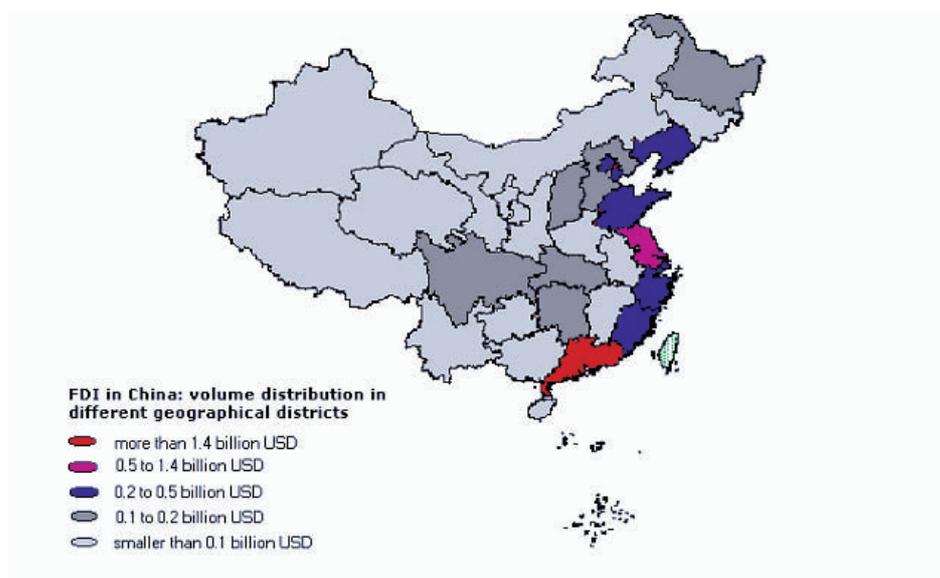
#### **1.4.1.2.1 FDI and regional disparities**

The fact that FDI is concentrated in a number of countries is only one facet of the locational inequalities created. The second is related to significant regional disparities in the distribution of

FDI, which in many cases are responsible for the increasing divergence observed in numerous developing and CEE countries.

In fact, the role of FDI in regional development has attracted considerable attention during the last few years. In this context, the regional disparities in Chinese inward FDI have been very well documented. More specifically, the majority of inward FDI in China is targeted to the Eastern coastal regions due to a number of variables including more R&D manpower, higher GDP growth rates, quicker improvement in infrastructure, more rapid advances in agglomeration, more preferential policies and closer ethnic links with overseas Chinese (Wei et al., 1999), as well as better access to information (He, 2002). Although FDI appears to have positively affected the growth rates of all Chinese regions (Sun and Parikh, 2001) the considerable variations in concentration imply that FDI will tend to reinforce the existing inequalities within China.

**Figure 1.13 Regional distribution of FDI in China (1999)**



Source: [web.cbs.dk/departments/ivs/link/seminars/chen.doc](http://web.cbs.dk/departments/ivs/link/seminars/chen.doc)

Moreover, according to Fujita and Hu (2001), the development gaps between Chinese provinces have been widening since the opening-up of the country. What is more important is that although exports and FDI have been growing very fast, Fujita and Hu (2001:31) their uneven distribution have caused regional disparities to increase greatly.

In the CEECs there appear to be two major forces affecting the regional structure. The first, which has been at work, although with widely differing intensities, since the early 1990s is no other than the impact of the market mechanisms. The second force is the recent accession of eight countries into the EU. Recent developments in the literature of the 'new economic geography' (Krugman and Venables, 1990, Krugman 1991) provide a theoretical basis for the possibility of worsening of the position of peripheral regions.

Petrakos (2001) studied the patterns of regional inequality in four CEE economies (two of the best performing ones in the area, i.e. Poland and Hungary, along with Bulgaria and Romania, which are considered to be average or below average performers). He found out that all countries (except Romania) were characterised by significant and increasing regional inequalities, with FDI standing out as one of the most unequally distributed factors. More specifically, it appears that MNCs tend to concentrate in or around the capital cities of all four countries. Moreover, in Poland, Hungary and Romania there is a further concentration at the western borders of the countries, reflecting the role of proximity or adjacency to the European

core. In the case of Bulgaria the concentration at the western part of country is mainly due to the location of Sofia, while the second concentration is at the Black Sea shore.

The role of proximity as well as the importance of agglomeration are also evident in the case of Greek FDI. According to Labrianidis (2001) with the exception of the countries bordering Greece (i.e. Bulgaria, FYROM and Albania), where there are significant concentrations of Greek affiliates in the border (Southern to the countries) regions, the majority of Greek FDI in CEE is concentrated in the capital cities of the respective countries.

In the case of Poland Domanski (2003) argues that the country has significantly benefited from the considerable inflows of FDI during the post-socialist period, while at the same time 'there are no indications of success resting on 'social devaluation'. TNCs reinforce rather than undermine regional strengths and potentials for development'. In fact, low labour costs do not appear to constitute a major determinant of FDI inflows. However, he acknowledges that location choices made by TNCs, which turn out to be beneficial for the most attractive regions result to widening gaps between those regions and the generally less endowed and remote northern and eastern regions.

An interesting point regarding the locational choices of TNCs is related to the interaction with and response to regional policies. As Domanski (2003) mentions, it appears that in the case of Poland fiscal incentives in favour of the least developed/accessible regions appear to have significantly less impact in attracting TNCs than the provision of superior infrastructure (i.e. motorways). This, to a significant extent is also true for Greece, since, according to Ioannides and Petrakos (2000) the bulk of FDI went to Athens and Thessaloniki, which are among the very few regions deprived of any fiscal (or other) incentives. At the other end of the spectrum, regions in incentive zone D (the most favourable one) have managed to attract very few investments. Furthermore, Labrianidis and Papamichos (1990) argue that regional incentives are not sufficient to render underdeveloped regions attractive. In order for incentives to be effective, the regions where they are applied have to have a minimum level of physical and social infrastructure. In fact, as they point out, although the most developed regions provide considerably fewer incentives, they have managed to attract more firms per inhabitant throughout the 1950s-1980s.

Pavlinek (2004) - based on the analysis the Czech Republic, Hungary, Poland and Slovakia - argues, that *the effects of FDI in the CEECs were very uneven geographically*. Specifically, first, more developed and more industrialised regions and existing economic clusters in particular, attracted higher volumes of FDI so as to benefit from external economies of scale. Needless to say, the destination of FDI is heavily dependent on sector, for example FDI in banking, finance and services tends to concentrate in the capital cities increasing their primacy; other big cities were also the target of FDI into the service-related activities while on the other hand manufacturing investment was deterred by the expensive urban areas. Second, the economic impact and spillovers of FDI to the region of their location is limited because of their weak linkages to the regional economy; moreover this makes it relatively easier to relocate such production to a lower-cost location if they find it necessary.

On the other hand, in case of neighbouring countries with significant differences in their level of development, there is a higher intensity in the relocation of economic activities in bordering regions (e.g. USA-Mexico, Germany-Poland, Greece-Bulgaria etc.)

Research question 9: Does wage-cost competition dictate a development trajectory whereby production inevitably migrates to the lowest-cost countries/sites, thereby undermining local growth and serving to suppress wages?

**Research question 10 Does the existence of clusters/ industrial districts in a DC make a country more enduring to relocating economic activities to UDCs**

**Research question 11 Does the provision of incentives for FDI constitute a significant attraction factor?**

*1.4.2 Globalisation, localised learning and regional innovation systems.*

Somewhat paradoxically, in a period of increased globalisation there has been a strong revival of academic (and policy makers') interest on the role of regions as loci of innovation and economic activities. Undoubtedly, success stories of industrial districts and regions across the globe (e.g 'Third Italy' in Europe, Silicon Valley in the USA) in the late '80s-early '90s have contributed significantly in this direction. As Coenen et al (2004) mention, researchers in economic geography and innovation (Porter, 1990, Saxenian, 1994, Asheim, 1996) argued that processes of localised learning played a crucial role in fostering innovation within territorial agglomerations.

At about the same time, Freeman (1987) and Lundvall (1988, 1992) used the term "innovation system" in order to describe the complex nature of innovation process involving intense and multiple interactions between various actors (firms, employees, research organisations, universities) within a –usually nationally defined- institutional framework. The National Innovation Systems (NIS) approach emphasised the importance of interactive learning and the role of nation-based institutions in explaining the difference in innovation performance and economic growth across various countries (Coenen et al, 2004). Building on both these approaches, Cooke (1992) developed the concept of Regional Innovation Systems (RIS), stressing the fact that regions are in several cases geographical (and administrative) units that play an important coordinating, economic and institutional role. The same author later (1998) provides us with a more detailed definition of a RIS. As cited in Coenen et al (2004: 2), in order to have in place a regional innovation system, two subsystems must be systematically engaged in interactive learning: **a)** the regional production structure (or knowledge exploitation subsystem) consisting primarily of firms, especially when there are cluster tendencies, and **b)** the regional supportive infrastructure (or knowledge generation subsystem), consisting of private and public research labs, universities, technology transfer agencies, etc. In addition, the role of informal institutions (trust, norms, routines) is emphasised as the main factor facilitating communication and interactive learning within a region. Much along the same lines, Lundvall et al (1997) also mention: 'the region is increasingly the level at which innovation is produced through regional networks of innovators, local clusters and the cross-fertilising effects of research institutions' (Lundvall et al, 1997: 39).

There are two underlying arguments that link regional innovation systems (or learning regions) with the spatial dimension of knowledge production and diffusion: **a)** that tacit knowledge is a key determinant of the geography of innovative activity and **b)** that as innovation is seen as the result of socially organised learning processes, interactions and knowledge flows between various actors (firms, universities, public organisations, etc) are facilitated by common culture, understanding and trust that are easier to develop within defined territories (Asheim and Gertler, 2005). As Asheim and Gertler mention in this respect, " When one combines these two features of the innovation process – the centrality of 'sticky', context-laden tacit knowledge and the growing importance of social interaction- it becomes apparent why geography now 'matters' so much" (2005: 293).

The increased use of ICT has greatly facilitated the diffusion of codified knowledge across borders. Yet, a growing number of authors argue that precisely because everybody can have easy (or at least easier than before) access to this type of knowledge, tacit knowledge has become more important in the innovation process. As Maskell and Malmberg (1999) mention (cited in Asheim and Gertler, 2005: 292), in a world where previously localised capabilities and production factors become ubiquities, the non-codified results of knowledge creation (tacit knowledge) remain locally embedded and practically non tradable, and their relative importance increases as the internationalisation of markets proceeds. A number of researchers (Lundvall

and Johnson 1994, Morgan, 1997, Asheim and Gertler, 2005) explain the importance of tacit knowledge on the grounds of its limited mobility and its social context. This type of knowledge is usually transmitted through face-to face contacts, informal meetings and every-day operations between actors that have a common ‘technical’ or professional background, common culture and language and share common behavioural codes grown in the same institutional environment. Repeated interactions of this type gradually create personal relations (often beyond the business environment), past history of collaborations and result in a necessary sense of mutual trust and reciprocity that facilitate knowledge creation and diffusion. It is worth noting that the acknowledgement of the role of tacit knowledge and informal contacts goes back to Marshall (1927). As Bathelt et al (2004: 37) mention, Marshall expressed this in the notion of ‘industrial atmosphere’, as being something ‘in the air’, limited to the people within a particular region or place. Other scholars however express doubts about the importance of localised learning processes in the modern globalising economy. Asheim and Herstad (2003), mention five different processes that challenge the role of localised learning and endogenous growth in regions:

- the fact that several parts of the value chain (especially the most labour intensive ones) are increasingly being spread across the world, outside the regions of origin.
- According to many studies of the regional innovation systems, linkages within the regions are not sufficient for firms to remain competitive. Due to growing specialisation, firms are in need of specialised external knowledge and must therefore gain access to national or even supranational innovation systems.
- Other organisational forms (i.e temporary organisations) challenge the spatial embeddedness of learning and knowledge creation<sup>16</sup>.
- Globalisation and improved codification processes (supported by ICT development) undermine the competitive advantage of high-cost regions and nations as tacit, locally embedded knowledge is ‘destroyed’ by the ubiquitous process<sup>17</sup>
- Inward FDI in innovative regions typically leads to the acquisition of the most dynamic middle-sized firms and in many cases alters (weakens) the links of these firms with the remaining innovation network, as a result of TNC policy.

Recent research in the area provides useful insights that may reconcile these views. While it confirms the importance of the regional level in innovation and economic growth (e.g Asheim and Gertler, 2005) it nevertheless stresses the need for establishing both local and distant networks in order to combine local and non local skills that go beyond the competences of a specific region (Todtling, cited in Asheim and Herstadt, 2003). Contacts and interactions with ‘distant’ innovation actors or systems can be very useful in that they add variety and ‘external’ knowledge and may prevent the path-dependency of local firms and the innovation system in negative ‘lock-in’ situations (Asheim and Herstadt, 2003). Moreover, it seems that the more firms within a system interact with external sources, the more pressure is put on others to follow. This will in turn enhance the innovativeness of both individual firms and the systems to which they belong (Fagerberg, 2005).

Bathelt et al (2004) have recently produced an interesting paper, in which they propose what they call the “local buzz – global pipelines” model. As they mention (2004: 38), work by Storper and Venables (2002), Owen-Smith and Powell (2002) and Grabher (2002) had already defined terms like “buzz”, “local broadcasting” and “noise”. All these terms refer much to the same thing, i.e the information and communication generated by informal face-to-face contacts, co-presence and co-location of people and firms within the industry, place and region. It includes intended and unintended dissemination of information in organised and accidental

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<sup>16</sup> The authors mention Asheim (2002), Grabher (2002) as relevant references.

<sup>17</sup> The authors mention Malmberg and Maskell, (1999) and Maskell (1999) as relevant references.

meetings, understanding of new knowledge and technologies, establishment of common interpretation norms and codes and building a common culture. The authors also point to two additional facts. First, that “participating in the buzz does not require particular investments. It is almost unavoidable to receive information rumours and news about other cluster firms and their actions as this occurs in the negotiations with local suppliers, in phone calls during office hours, while talking to neighbours in the garden or when having lunch with other employees and so on..” (2004: 38). Second, that buzz is a socially dependent notion. The amount or ‘quality’ of buzz generated in different clusters or regions depend on the level of development of social relations and the history of transactions between the members of the cluster (or region). Trust is a crucial parameter in allowing buzz to develop smoothly through personal meetings and communication, and given that trust usually takes time to be built, time and history of successful (and failed) contacts also become important parameters in this respect.

At the same time, Bathelt et al (2004) based on empirical work on regional linkage patterns, argue that even in highly innovative areas like San Francisco Bay and Baden-Wurtemberg, internal transactions are not dominant to external ones. As they also mention, Owen-Smith and Powell (2002) introduced the term ‘pipelines’ to describe exactly the links with distant partners, and studying the Boston biotech industry, have shown that access to new knowledge was often acquired through strategic partnerships outside the region or, indeed the country (Bathelt et al, 2004: 40). Similar results were also found in other studies (they mention, for example, Grabher’s study of Soho ‘advertisement village’ in London, 2002, and Scott’s study of the Hollywood motion picture, 2002) pointing to the importance of having access to ‘distant’ knowledge sources in order to ensure the flow of new knowledge into the cluster or region. A basic proposition of their model is that ‘pipelines’ do not benefit only the firms that established contacts outside their cluster. On the contrary, once knowledge developed outside a region or cluster gets inside through such a ‘pipeline’, it will to- a greater or lesser extent- enrich the local buzz and spread across other firms too, thus upgrading the collective knowledge base of the region or cluster as a whole. This is why a firm will learn more if its neighbouring firms in the cluster are globally well connected rather than being inward looking and insular in their orientation (Bathelt et al, 2004: 46).

In their model therefore, Bathelt et al attempt to reconcile in a globalising economy, the importance of localised learning with the need to tap into knowledge produced in different parts of the world. ‘Pipelines’ are seen as important links of a local system of knowledge production with advanced knowledge produced elsewhere, the benefits of which will result in the upgrade of the system as a whole. In a sense, this model offers an alternative to spatial analysis that excludes the global for the local or vice versa (Coenen et al, 2004). On the contrary, according to the logic of this approach, it is precisely these outward looking regions or clusters which have established a ‘network of pipelines’ that are expected to be dynamic and innovative, avoiding negative ‘lock-ins’.

#### *1.4.2.1 Forms of knowledge, types of regional innovation systems and varieties of capitalism.*

Knowledge bases used by most sectors in modern economy are complex and require expertise in different areas. As a result, innovations depend on knowledge inputs by different actors (firms, research organisations, etc) and there is growing interdependence and division of labour between them (Asheim and Gertler, 2005). Interactive learning (leading to new knowledge), involving both codified and tacit knowledge is therefore a key element in the innovation process (Lundvall and Borras, 1997). However, as Pavitt first mentioned (1984), the specific knowledge characteristics of a sector (knowledge intensive, or low-tech, etc) influence the creation of new knowledge and lead to differences in the respective innovation processes. Pavitt identified 4 categories of firms and sectors: a) supply-dominated sectors (e.g clothing, furniture), b) scale-intensive sectors (e.g cement), c) specialised suppliers (e.g engineering, software) and d) knowledge-based producers (e.g biotechnology, electronics) (Nielsen and Lundvall, 2003). In their paper, Asheim and Gertler (2005) follow Laestadius (1998) in distinguishing between ‘synthetic’ and ‘analytical’ knowledge bases, a distinction that can be very useful for our purposes.

*'Synthetic' knowledge bases* are found mainly in industries producing complex and specialised products, which though are 'medium' or even 'low' tech in terms of R&D spending. Such industries are for example industrial machinery, plant engineering or shipbuilding, where innovation takes place mainly through novel combinations of existing knowledge, often stimulated by needs to solve specific problems or following requests and suggestions by clients and users. As already mentioned, R&D is not a crucial function in these sectors, it usually takes the form of applied research, and it leads to problem solving, incremental innovations in products and/or processes. Given the strong interactions between users-suppliers, tacit knowledge has clearly a central role in the innovation process in these cases, since solutions to problems or product improvements are often based on past experience, learning by doing, learning by using and so forth (Asheim and Gertler, 2005). The 'learning economy' approach of Lundvall, which gives great importance in the 'learning through interacting' especially between suppliers and users, fits very well sectors and industries based on 'synthetic' knowledge bases. In fact, as Asheim and Gertler mention (2005:296), many of Lundvall's original examples referred precisely to mechanical engineering and industrial machinery industries, where iterative interaction between users and producers represents the primary mode of innovation.

*'Analytical' knowledge bases*, on the other hand, characterise sectors that depend heavily on advanced scientific knowledge, such as biotechnology, pharmaceuticals and information technology. Both in house and outsourced R&D are crucial for the development of new knowledge and products, and as a result there are strong links between firms, universities and research organisations. As Asheim and Gertler (2005) argue, in this type of knowledge base, new knowledge developments are communicated primarily through reports, papers and patent descriptions and thus, codified knowledge is the one that plays the central role. Tacit knowledge however still preserves an important position precisely because it is a 'necessary condition' for a firm to be able to understand, absorb and exploit such advanced scientific developments. Innovations in these sectors are likely to be more radical than those in traditional sectors, while new firms and spin-offs appear more often as results (and means for commercial exploitation) of the production of radical innovations and new products.

An important point that Asheim and Gertler (2005) make in their paper, is that despite the intuitive conclusion that, given the central position of codified knowledge, one should expect a wide (or wider) spatial distribution of innovation activities in the 'analytic' knowledge-base sectors, this is not the case. In fact, they show that, if anything, *innovation processes in these sectors appear to be even more concentrated than in 'synthetic knowledge' sectors*. They mention three factors leading to this finding:

- a) Despite the importance of codified knowledge, the circulation of new knowledge remains highly localised. This is supported by empirical studies and is attributed to the fact that spillovers occur first, and most readily within established local social networks of scientists, where in addition to the codified parts, more detailed knowledge becomes available.
- b) The advanced scientific knowledge required, increases dramatically the importance of highly educated personnel. These people will tend to go to areas where there are attractive employment opportunities, and it seems that there are few places in the world that can offer a variety of (and not just one or two) high-level employment posts in firms or research institutes. There seems to be a strong centripetal force, since locations that have already attracted a critical mass of high-level scientists are more likely to attract both new dynamic knowledge-intensive firms as well as additional high-level workers.
- c) In addition to the above point, locations that offer a better quality of life are more likely to attract high-level workers. As Florida (2002) mentions (cited in Asheim and Gertler, 2005:298) factors like the existence of critical mass in creative activity and workers, strong social (ethnic and/or national) diversity and tolerance, together with attractive neighborhoods and cultural amenities are crucial in attracting highly educated people.

These observations can be very useful for policy makers, particularly in cases where a "radical diversification" of the economic activities of a region is sought. Financial incentives are not

enough in order to attract first class, knowledge-intensive activities, and need to be complemented by measures aiming at institutional, cultural and social upgrading. A second conclusion that emerges is that the beginning of such an endeavour seems particularly difficult. There appear to be strong centripetal forces strengthening existing knowledge-intensive locations, and as a result, competition for newcomers will be very strong. Once in place though (probably through intense and continuous public efforts over a good period of time), such locations could develop an internal, self-reinforcing dynamic.

The distinction between synthetic and analytical knowledge bases has also served in further exploring differences between regional innovation systems. As mentioned in Asheim and Gertler (2005:303-304), Cooke in recent years (2001, 2003) began to explore the links between regional innovation systems and the institutional frameworks of national innovation systems, but in his work the distinction between synthetic and analytical knowledge came up as an important factor. Cooke distinguishes between ‘traditional regional systems of innovation’ (which he calls ‘*institutional regional innovation system*’ –IRIS) and the ‘*new economy innovation system*’ – NEIS (which he calls ‘*entrepreneurial regional innovation system*’ – ERIS).

In IRIS, ‘synthetic’ knowledge bases are dominant and innovation processes are characterised by strong systemic links between the production structure and the knowledge infrastructure, supporting regulatory frameworks, institutional settings and governance structures. In IRIS, innovation tends to be incremental and therefore path-dependent, presenting a risk for lock-in situations. At the same time however, IRIS favour long-term, stable relations and technological trajectories. Typical examples of IRIS according to Cooke, are regions like Baden-Württemberg in Germany, where there is a strong concentration of ‘synthetic’ knowledge-base sectors, and a strong regulatory and institutional framework.

NEIS, on the other hand, are more dynamic systems with strong presence of industries based on ‘analytical’ knowledge bases, found in more liberal economies like the UK or the USA. Such systems lack the regulatory framework and systemic interactions of IRIS, and are based instead on more ‘aggressive’ entrepreneurial attitudes and on a combination of venture capital, scientists, incubators and markets. Innovation in NEIS tends to be radical, and is often accompanied by ‘continuous creative destruction’ at the expense of path-dependent interactive learning (Asheim and Herstad, 2003: 8). Such systems are more flexible than IRIS, but they don’t favour the establishment of long-term relationships between their actors.

Of course the distinction between IRIS and NEIS goes beyond the differences between synthetic and analytical knowledge bases. It encompasses other important elements of an innovation system, such as the ability of participants to coordinate their actions, the existence of regulatory frameworks, institutional settings and social attitudes towards collective action. In this context, Cooke’s work provides a link to a complementary strand of literature on “*varieties of capitalism*” (Asheim and Gertler, 2005). As mentioned in Asheim and Herstad (2003), Soskice (1999) and other scholars<sup>18</sup> argue that different national institutional frameworks give support to different forms of economic activity. In other words, that market economies with strong coordinating tradition (such as the Nordic countries or Germany) have their competitive advantage in ‘diversified quality production’ referring to the production of ‘relatively complex products involving complex production processes and after sales service in well-established industries’. (e.g sectors with a synthetic knowledge base like the machine tool industry) (Soskice, 1999: 113-14, cited in Asheim and Gertler, 2005: 305). In contrast, liberal market economies like the UK or the USA, are more competitive in science-based industries characterised by ‘analytical’ knowledge bases (such as IT and defense technology). Competitive strength in these markets is based on radical innovations, and is supported by institutional freedom and financial incentives that allow continuous adjustment of production systems to new market opportunities. Linking these remarks to labour market characteristics, other scholars

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<sup>18</sup> They mention A. Lam (1998,2000), R. Whitley (1999), and B. Amable (2000).

(Lam 1998, 2000, and Christopherson, 2002, mentioned in Asheim and Gertler, 2005: 306-307) argue that different forms of national institutions governing capital and labour markets as well as corporate governance, will lead to very different kinds of social relationships between economic agents. Liberal economies (like the UK and the USA) will tend to have advantages in sectors depending on a high degree of mobility in labour markets, and on analytical knowledge bases. In such environments, the existence of world class universities and research institutions (often privately organised) and the strong links developed with local industries (including spin-offs and a strong scientific labour market), provide high quality R&D, knowledge creation and diffusion, inventions and radical innovations. In contrast, coordinated market economies (like Germany or the Nordic countries) base their strength on cooperative, long-term and consensus-based relations between private and public actors, and a dedicated rather than numerically flexible workforce.

*1.4.2.2 Is a shift to high-tech industries the only option in a globalising, knowledge-based (or learning) economy?*

By the discussion so far, it should be clear that we do not share the view that a shift to high-tech industries is the only way for regions (and countries) to survive in the new globalised economy. Innovation is something that does not concern high-tech sectors only, while learning can (and in fact should) occur in all economic sectors (Lundvall and Borras, 1997). Regional innovation systems can consist of high-tech, science-based industries as well as of clusters of more traditional, medium or even low-tech industries. In fact, a great number of regions in continental Europe depend on industries with synthetic knowledge bases (e.g Germany, Nordic countries) where learning through interacting is more important for innovation processes than intense R&D and scientific knowledge breakthroughs. What seems to be important however, is the ability of industries and regions to develop a strong learning capacity that will enable them to absorb and exploit new knowledge created both internally (within a given system) and externally.

Innovation in low-tech industries has attracted the interest of a number of scholars. This is – among others- due to the fact that in the OECD countries, high-tech industries, as defined by the OECD, account for only 3% of value added, rising to 8,5% if medium-high-tech industries like motor vehicles are included (OECD 2003 and Hirsch-Kreisen et al 2003, cited in Von Tunzelmann and Acha, 2005:407). Maskell (1996), claims that countries without specialisation in high technology industries are not left in the backwaters of economic development. On the contrary, evidence suggests that a number of developed countries of Europe (i.e. Austria, Belgium, Luxemburg, Denmark, Finland, the Netherlands, Norway, Sweden and Switzerland) specialize on medium and even low-tech industries (Maskell, 1996: 6). In fact, according to the author, it is primarily large countries (e.g USA, UK, Japan) that can afford to invest in leading edge technologies, given the risks and costs involved, as well as the fact that high-tech sectors are usually highly subsidised through government subventions or public procurement (e.g in the defense industry). Another point he makes is that the limited size of the national knowledge base influences the range of industries in which small countries might successfully specialise. Restrictions of size have gradually channeled the process of specialisation towards industries with rather stable demands and low – price elasticity. These industries are often medium or low-tech, but can, nevertheless, yield high profits. No small country can in the long run cope with committing a larger part of its resources to industries with huge ups and downs (e.g. the market price of the common memory chip dropped from US\$13 in 1995 to US\$9 in 1996 - Maskell, 1996: 8). Examining the case of Danish wooden furniture, Maskell shows that there is no apparent national advantage (85% of the wood is imported, 90% of the machinery used is imported, small size on average 35 employees). The revealed international competitiveness of the many small producers originates from their superior ability to create and accumulate knowledge primarily through day-to-day operations in product development, purchasing, production organisation, handling of labour relations, marketing, etc. Spatial agglomeration of related economic activities does promote firms' competitiveness, by condensing the effects of a common culture, a specific language, and a set of informal, but essential economic institutions.

In essence, Maskell describes the characteristics of a regional system based on ‘synthetic’ knowledge base, along the lines of Cooke (2001, 2003) and Asheim and Gertler (2005).

Another important example is that of apparel manufacturing, a typically labour intensive sector, that **continues to thrive in higher-cost industrial nations**. Between half and three-fifths of all clothing consumed in the US is still made in the US, while such high-wage European nations as Italy, France and Germany remain leading apparel exporters. Moreover, apparel production is enjoying resurgence in core country metropolitan areas (e.g. Los Angeles). There are several reasons for that such as (Appelbaum and Christerson, 1997: 205):

- in a fashion-sensitive industry, where market demand is volatile and frequent design change (to serve niche markets) is a central strategy, rapid response to market conditions can be crucial to survival. This favours the location of production facilities in or near the final market area
- equally importantly (and more intangibly), apparel industry presence for example in L. Angeles affords immediate access to design and image – an insider’s knowledge of what the market requires. California represents a particular lifestyle in the American (indeed, the global) mind. Local manufacturers in all design-sensitive industries capitalize on this image.
- the **“garment district”** offers a wide range of producer services and suppliers that have grown up around manufacturing and design. These provide a dense network of formal and informal relationships that permit a flexible accumulation in an industry that is highly disintegrated. Such services and suppliers range from: lawyers, bankers and other financial service providers, sewing schools. The district is home to: yarn and threads factories, sewing machine suppliers and repair services, fabric finishers, etc. It thus displays all of the characteristics of industrial districts that minimize transaction costs (Scott 1988; Scott and Storper, 1986; Storper and Christopherson, 1987; Storper and Walker, 1989) (206)
- the region has a seemingly limitless supply of relatively low-cost labour of immigrants from Mexico, Central America, Asia etc, many undocumented.
- the organizational structure of apparel manufacturing in Los Angeles is built around ethnicity, which in turn favours the fostering of social networks that structure informal economic relationships. The ability to have face-to-face, handshake connections is particularly important in a global industry based largely on trust and personal knowledge. When relationships between firms and individuals are embedded in pre-existing social relationships, there is greater confidence in the reliability of transactions. Such “networks of trust” - handshake agreements - are typically mediated by intense familial and ethnic ties.

Competition on quality and panache, rather than on labour costs, is clearly the key to longer-term global success. Since the profits in apparel production lie in the design, marketing and retailing phases of the commodity chain rather than in production itself, it would seem especially important for exporting countries to emphasize these high-end activities rather than cost competitive manufacturing. Yet Manila cannot easily become Milan; every country cannot become a design and production center for high fashion (Appelbaum and Christerson, 1997: 210).

Von Tunzelmann and Acha (2005) challenge conventional definitions of low-medium and high-tech sectors (based primarily on the technology content of their products, or R&D efforts), and claim that boundaries have blurred over historical time. They mention –among others- the example of food industry in Denmark, which though classified as a low-growth sector, involves production processes that lie at the ‘high-end of these low-growth sectors’ (like applying biotechnology to food processing) (2005: 410). Their principal conclusion is that in modern economy there are no true “low-tech” sectors, but a varying degree of permeation of high technologies into low-tech, medium –tech and high-tech sectors (2005: 429). Along the same lines, Mendonca and Von Tunzelmann (2004: 18) conclude that “national policies should not mistake ‘high technologies’ with ‘high technology industries’”. All industries contain segments that are related to high-tech activities or products. An important implication of this, is that

especially for intermediate economies depending on traditional industries (like Greece for example), policies should rather seek to develop this high-tech content of lower-tech sectors than overload in 'high-tech' industries.

Another interesting point they make (which relates to the points of Appelbaum and Christerson above) is the importance of demand side for innovation in low-tech sectors like textiles and clothing. High-income consumers are willing to pay more for fashionable brand names, and fashion is something that relies on design and styling rather than technological innovation. This, of course does not mean that new designs and models do not constitute innovations based on genuine creativity.

Demand-side innovations gain importance also due to an important structural change in sectors like textiles and clothing or food industry. This change refers to a shift of power in favour of giant retailers, at the expense of even large processors. As the authors mention (2005: 427) Usa's main food retailer Wal-Mart is the world's largest company, superseding medium and high-tech companies (like Microsoft). Such retailers (both in the US and Europe) engage in extensive use of ICT and other knowledge-intensive services in consolidating and expanding their network, and thus increase the high-tech segment of these sectors.

The shift towards 'intangible activities' is apparent in modern business organisations. As Mendonca and Von Tunzelmann (2004) mention, the main economic activities of contemporary businesses change from physical processes to information processing. Knowing what should be known and knowing how to increase and manage knowledge are essential assets for the success of companies involved in world markets (Mendonca and Von Tunzelmann, 2004: 16).

Research question 12: What are the reasons behind the survival of low cost production even in the most advanced parts of the most DCs (clusters/ industrial districts, social capital, trust etc.).

Research question 13: Is national specialisation towards high technology industries the only way DCs can sustain and augment their economic position?

### 1.4.3 *Labour intensive activities*

These developments of the external environment have significant implications for all activities. Labour intensive firms and industries in particular are finding it increasingly difficult to compete, since they tend to be more vulnerable because they have lower barriers of entry. The origin of pressures faced by labour intensive firms is extremely varied. It can be *national*, in the sense that in most European countries (certainly in western Europe), the majority of labour intensive sectors are already saturated in terms of competition, which leads to particularly small profit margins. It can be *European*, in the sense that both integration and – particularly – enlargement are exposing the national markets to European competition. At the same time, however, a significantly larger market is opening up, creating windows of opportunity, particularly for the more innovative firms. Finally, it can be *global*, in the sense that the intensified efforts to open up trade at a global level constitute a potentially much more significant threat, particularly to the lower (relatively unskilled) segments of labour intensive industries.

At the same time, labour intensive firms are presented with a host of options that were previously more or less unavailable. Below three tactical or strategic responses of labour intensive firms are presented. Although some, or many, of them are straightforward, and have always been available to firms, the combination of responses gives rise to novel behaviours that have to be further explored.

- *Technological upgrade*: In the case of labour intensive industries, such as those under investigation, such strategies may have significant implications on both unemployment and inequality. Although there is evidence that in the (continental) European context, in contrary to the US or British experience, the use of advanced technology has not led to increases in

inequality (Acemoglu, 2003), this does not necessarily hold for Greece (a medium development country), or the CEECs.

- *Use of cheaper labour (immigrant, black market etc)*: During the last decade Europe has been a recipient of massive immigration flows from almost all developing parts of the world. Southern Europe, in particular, has been significantly affected, since in many cases (Greece is perhaps the most pronounced) there was no anticipation of the phenomenon whatsoever. Immigrants (usually unregistered, thus operating outside the labour market institutions) are abruptly restructuring the labour markets, by providing a large pool of cheap and adaptable labour.

- *Externalisation of a number of activities*: Two questions evolve around this strategy. The former has to do with the specific institutional character of the firm's transactions. In other words, it is interesting to set the limits between the firm and the market, but in case the second has been chosen it is interesting to find out why a firm would prefer one mode from the other (i.e. direct ownership instead of subcontracting or licencing). The second question deals with the direction. When, and more importantly, why will a firm go abroad? In a rather different direction, moving outside the firm, the types of networks created (which may include a vast array of very diverse outcomes including, inter alia, strategic alliances and subcontracting networks) and the specific role of the firm in them may have very different implications.

Research question 14: Are labour intensive firms facing more competition due to globalisation?

Research question 15: What is the nature of the competitive pressures faced by labour intensive firms? Is cooperation made easier in such cases?

Research question 16: Which is the role of the wider institutional setting?

## **1.5 International production in the network age**

### **1.5.1 Why do firms go transnational?**

It has become, more or less, evident that firms can choose between three broad ways to access foreign markets. The first is through arm's length transactions, the second is through co-operation in a network and the third is through FDI. In a sense, there are two quite distinct questions here. The first regards how firms are organised and how they interact. In other words, what induces a firm to use the market, co-operate in a network, or internalise (i.e. substitute) the market, through merger, acquisition, or expansion to a new market segment. The second question deals with the decision to pursue its goals abroad. Given the, often significant, establishment and co-ordination costs a firm has to incur in order to establish some foreign activity, prefer this option instead of opting for the more familiar (and arguably) cheaper domestic market? These two questions are often interrelated, and very difficult to disentangle, since, at times, both may be affected by the same variables.

A second issue regarding all these decisions, which has attracted significantly less attention has to do with the source of the motives behind these decisions. According to the bulk of the literature (mainly that explaining FDI) it is supply side factors that are mainly shaping the decisions while demand side considerations, have been significantly underplayed.

According to Dicken (2000), globalisation zealots argue that we are moving towards a homogenized world in which geographical differentiation is being obliterated: "the death of distance", "end of geography". Technological developments have made capital and the firms controlling it "hypermobile", freed from the "tyranny of distance" and no longer tied to "place". For example, according to Castells (1989 and 1996) the traditional "space of places" has been superseded by a new "space of flows". Anything can be located anywhere and, if that does not work out, can be moved somewhere else with ease, economic activity has become de-territorialised.

According to Sally (1994: 162) the TNC may be considered as the nodal point of and the interface between two realms: that of internationalization in global structures, and that of embeddedness in the domestic structures of national/regional political economies

As Hu (1992: 122, 285) argues a TNC, apart from the binational companies (e.g. Nestlé), is a national corporation with international operations (i.e. foreign subsidiaries). The state remains fundamentally important as both a regulator of economic transactions and as a container of distinctive institutional practices.

FDI implies the existence of a “home” nation and “host” countries. However, one must not forget that TNCs have most of their operations at home (Hu, 1992).

**Table 1.9 The importance of home country to TNCs**

Corporation	Home economy	Foreign assets as % of total	Foreign sales as % of total	Foreign employment as % of total	TNI index <sup>a</sup>
10 largest TNCs					
General Electric	US	39,8	34,5	47,6	40,6
Vodafone Group Plce	UK	89,2	79,5	85,0	84,5
Ford Motor Company	US	55,9	33,3	53,8	47,7
British Petroleum Company Plc	UK	79,3	81,0	83,7	81,3
General Motors	US	29,1	25,7	28,9	27,9
Royal Dutch/Shell Group	UK/ Netherlands	64,9	63,7	58,6	62,4
Toyota Motor Corporation	Japan	47,5	57,3	32,2	45,7
Total Fina Elf	France	88,4	79,9	56,4	74,9
France Telecom	France	65,7	41,2	41,9	49,6
ExxonMobil Corporation	US	64,0	70,3	60,9	65,1
TNCs from small countries					
Roche Group	Switzerland	87,0	98,2	87,7	91
Nestle SA g	Switzerland	57,4	60,6	59,1	59
ABB	Switzerland	95,3	93,7	94,4	94,5
Philips Electronics	Netherlands	82,4	95,3	82,8	86,8
Novartis	Switzerland	56,8	98,5	55,3	70,2
Royal Ahold NV	Netherlands	79,4	78,2	69,2	75,6
Holcim AG	Switzerland	95,3	93,9	97,4	95,5
Volvo Group	Sweden	63,7	93,5	64,3	73,8
Singtel Ltd.	Singapore	82,7	56,0	45,5	61,4
Nokia	Finland	59,4	98,8	57,1	71,8

a: The TNI index is the average of the three other ratios

Source: UNCTAD (2004:276-278)

A TNC, is a national corporation with international operations (i.e. foreign subsidiaries). ICI is a typical case: the home nation (UK) is more important, in sheer quantitative terms, to the group than any single foreign country. There are of course some TNCs that have two nations as

centres of gravity and are coined “binational” companies (e.g. Shell in UK and Netherlands; Uniliver in UK and Netherlands; Asea Brown Boveri in Sweden and Switzerland), (Hu, 1992: 110, 122).

At the level of the parent company, ownership (shares) and control (top management and governance) remain national. The majority of total number of employees in a TNC is employed in the group’s home nation and are home citizens, this is even more pronounced as regards the positions in senior management or on the parent company’s board of directors (Hu, 1992: 111, 114).

The home nation is the center of a firm’s innovative efforts, and it is where strategic and integrated decisions are made. On the whole, **the primary source of a company’s international competitive advantage lies in its home nation.** For example, Nestlé’s competitive advantage is based partly on its national qualities, real or perceived (e.g. Swiss: quality, standards, thoroughness, meticulousness, management and the reputation of all things Swiss in the eyes of foreigners - Hu, 1992: 118-119).

Research question 17: Are TNCs truly “global” or “footloose”, or “borderless”?

Research question 18: Is it really true that “anything can be located anywhere”; or is that a mere exaggeration?

### 1.5.2 *Theories of FDI and the MNE*

This section analyses the theoretical background that has been developed since the 50s in an effort to interpret the phenomenon of FDI. Before analysing the theories, we feel that a short methodological explanation is essential. The theory of FDI concerns the effort of interpretation of the causes that lead the enterprises of some country to the undertaking of production to a certain other country. The above short and very general definition adopts, quite explicitly, a macroeconomic view, since the main factor affecting FDI, according to this logic, is the interest rate. It should, under this light, be quite clear that it is something rather different from the theory of the Multinational Enterprise (MNE)<sup>19</sup>, which attempts to interpret the reasons that are found behind the ownership by some enterprise of assets aiming at the production of certain goods in more than one countries. The differences between the two will appear in the next sections of this paper.

For reasons of economy, the analysis that follows will include the most important contributions and the main strands of thought concerning the object. More specifically, the section is distributed in two main sub-sections. The first includes the first efforts to analyse the phenomenon, beyond the framework of the conventional tools of international economics. Even though none of these early theories can be considered a complete theory, they nevertheless constituted the foundations of the most modern and (relatively) more complete theories. These are analysed in the second sub-section.

Immediately after the end of 2nd WW the volume of FDI worldwide began to increase at relatively fast rates. It was therefore expected that sooner or later the phenomenon would attract the attention of economists. The first, although insufficient, efforts of interpretation of the phenomenon sprang from the cognitive field of international economics. In fact, FDI was considered to be a part of the theory of international capital flows. More specifically, it was considered that the imperfections of the international capital markets are capable to explain the

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<sup>19</sup> Even though there is a continuing disagreement regarding the use of the terms: Transnational or Multinational, or global, or world wide, or inter-territorial corporations, the term Transnational Corporation (TNC) is applied here in a broad sense, following Dicken (1992, 47), Lall (1983, 1-2), UNCTC (1978, 158), Wells (1983, 7-9) and others so as to stress that overseas operations have some kind of ownership tie to the parent firm in the home country.

FDI under the simple logic that the enterprises invest in those regions in which the financial output is higher.

#### *1.5.2.1 Stephen Hymer's contribution*

Stephen Hymer was the economist who changed the way of perception and interpretation of the phenomenon of FDI. In his doctoral thesis (Hymer, 1976) he gave a substantially new impulse in the analysis of FDI and influenced drastically almost all later theories. Hymer's novelty lies in the fact that he did not try to interpret the phenomenon based on the theory of international economics, but mainly through the use of industrial economics theory. This allowed, for first time, to put the enterprise as explanatory tool in the centre of analysis, something that resulted in the shift of focus from international trade to international production. According to Hymer the weakness of the theory of capital flows lies in its inability to interpret the essential control of an enterprise located in a foreign country by a TNC. Trying to analyse the factors that lead to the expansion of activities of an enterprise abroad, he reported two main reasons (Hymer, 1993).

1. it is often profitable to control enterprises in more than one countries, in order to eliminate competition between them and
2. when an enterprise has a certain advantage in a specific activity, it may be in its interest to exploit this advantage via the creation of foreign subsidiaries.

Usually, the enterprises that function in some country will be enterprises of the same country. This is due to a number of barriers of entry in each national market that foreigner enterprises face. These obstacles may include discriminatory measures from the part of the government of the country, from the consumers or from the suppliers. In any case, domestic enterprises usually have a better perception of the domestic environment, which may include parameters as, inter alia, the legislation, cultural aspects, and consumer preferences. Based on the analysis of Bain (1956) regarding the barriers of entry in the market and extending those in order to include the barriers of entry in a foreign market, Hymer supported that an enterprise needs to possess certain competitive advantages that can possibly compensate for the disadvantages previously mentioned. More specifically, he recognized four categories of advantages (Graham, 2002: 37): a) 'preferential' access to cheaper factors of production compared to the competition, b) a production function of lower cost, c) access to better (cheaper or more extensive) networks of distribution and d) differentiation of product via the incorporation of certain characteristics differentiating it from competitive products. One of Hymer's innovations was that he considered that these advantages are first created in the home market of the enterprise and may subsequently turn out to be more profitable for the enterprise to exploit them abroad.

However, the fact that the creation of these advantages (which are created in the domestic market, but can also be exploited in foreign markets) is based on Bain's (1956) entry barriers, is perhaps the most important problem of Hymer's contribution, since in effect they create a circular argument which is described as follows (Graham, 2002: 37):

An enterprise has advantages vis-à-vis its opponents because it has achieved organisational economies of scale unattainable by its opponents. However, this scale has been achieved because the enterprise has certain advantages against the opponents

Despite this obvious insufficiency, since as Graham (2002) reports during the period that Hymer was writing his thesis the first efforts in search of the sources of innovation were already underway, the discovery of the importance of ownership advantages was an accomplishment that substantially changed the perception of the TNC.

Moreover, he tried to shed light on the decision to productively invest abroad as apposed to selling the rights to produce to a foreign manufacturer, already located in the country of interest. Once again, market imperfections appear to provide the answer to this question, since, the more significant the imperfections, the more likely is the TNC to try to exploit its own advantages abroad. In any case, the contribution of Hymer's work is really immense, as will become evident in the description of the more 'modern' theories, which it has very deeply influenced. For the first time the enterprise, along with market imperfections, enter the centre of analysis of

international production and, although not a complete theory, it has certainly profoundly influenced and approached the modern theories of FDI and operation of the TNC.

During the last decade, there has been a relatively renewed interest in the works of Hymer. The reason for this invigoration, despite the fact that the writer never ceased to be relevant (since, according to Pitelis [2002] the central argument of Hymer concerning the importance of control – that is to say market power – and of oligopolistic interaction for the interpretation of the TNC have been constitutive elements for the majority of later theories), was an article overlooked for more than 20 years.

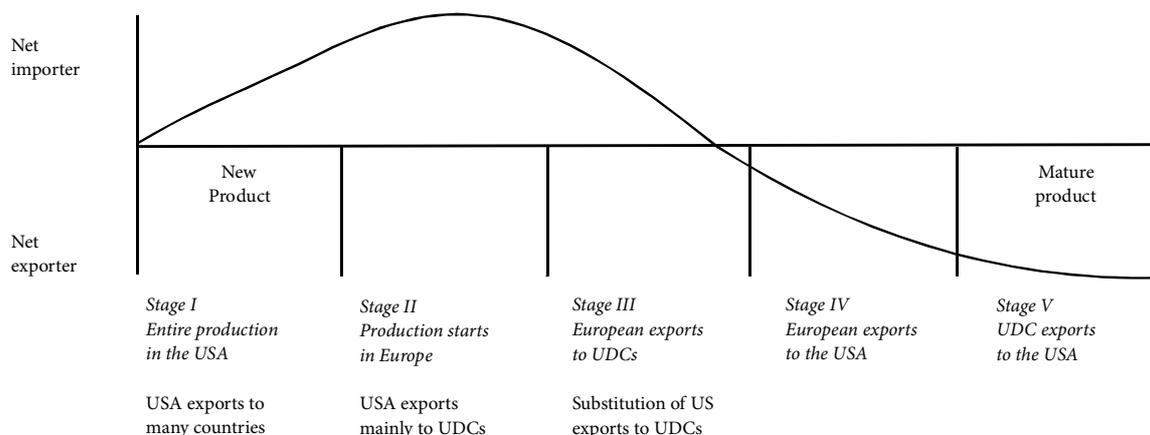
This article (Hymer, 1990) was published in 1968 in the French magazine *Revue Economique* and remained more or less unknown until its translation and publication in 1990. In that article Hymer supports that market failures are the causes of the growth of big enterprises. Based on the theory of Coase (1937), Hymer was in fact the first writer to speak about the advantages of market internalisation, several years before the growth of the relative autonomous theory. At the root of Hymer's analysis existed his conviction that market imperfections will at some point lead to the complete monopolisation of the world economy. Despite this obvious weakness, the contribution of Hymer in the theory of TNC, as it is thus shaped today, is of fundamental importance. On the one hand he was the economist who changed our understanding of the TNC, while, on the other hand, he was the founder of the modern analysis of the TNC. Even if we suppose that the evolution of the theory of internalisation was not affected by his relative contribution, the main point is that with the exception of the location factors that were imported later, the majority of the constitutive elements of the modern analysis of TNC were present in Hymer's analysis.

#### 1.5.2.2 *The theory of product life-cycle*

This theory is the main result of an important research project conducted at Harvard University aiming to investigate the impacts of American FDI, which was headed by Raymond Vernon. This theoretical approach was based to a large extent on the conventional theory of international trade, but also on location theory. Nevertheless, the theory was rather unconventional, depending less on the standard tool of international economics, that of comparative advantage, using novel tools such as the time of innovation, the implications of economies of scale, as well as the role of uncertainty in the configuration of trade (Vernon, 1966). Before the description of basic characteristics of the theory, it should be noted that the period during which the research was conducted, was the very period of economic primacy of the USA. The per capita income in that country was almost twice that of the average Western European country, while, at the same time the country was home to the most innovative enterprises of the period. It is rather clear that in the modern, exceptionally complex reality, the situation is totally different, however, in order to simplify it so that the arguments become more comprehensible, one can consider that instead of a single country (the USA) we now have more than one developed countries. The additional restrictive factors of theory are that it only concerns the innovation in certain products and specifically those substituting work with capital. However, even this does not significantly limit the generality of theory, since it appears to concern only the USA. As will be shown below, for other countries raw materials can possibly take the place of labour as the factor that should be substituted.

The main point of theory is that, although it assumes that there exist no specific technological or other advantages enjoyed by the enterprises of some country as opposed to those of other countries, the producers of each country are in a better place to know the needs, as well as the restrictions of their national market. Thus, the American producers (a country with high income and labour cost) were pioneers in the innovation of labour substituting products, such as the sewing machine, the typewriter and the tractors. The German enterprises on the other hand, introduced innovations in the production of plastic goods, perhaps in reaction to the relative lack of raw materials.

**Figure 1.14 Product life-cycle**



Source: Dicken (1998: 183)

The theory of product life cycle is outlined in Figure 1.14, where the five stages of a product are presented, according to this theory. . In the first phase of its life, the product is produced entirely in the home country of the innovative enterprise (e.g. the USA). The reasons that lead to this decision do not have to do only with the relative cost of factors of production and transport costs. Other reasons appear to be more important, such as the support available to producers for the perfection of characteristics of their products, a low elasticity of price of products, because of the intense differentiation and finally the better market organisation that allows the best possible information to producers regarding a number of factors such as the market size, the reactions of competitors, the final specifications of inputs and final product, etc. In this first phase, all foreign markets are served through exports.

After this first phase of product development the following ones are usually realised within the country, usually with the relocation of production to some lower cost region. When the demand for the product in the other developed markets is increased, the American enterprise proceeds to production in these countries. When it comes to the justification of this decision, although the reasoning goes beyond the traditional justification of lower cost, it can hardly be considered satisfactory using the criteria of modern theories. In this context, there is some reference to the specific advantages held by the enterprises, including patents, entry barriers and the threat of competition in the country of export, which, are nevertheless not satisfactorily analysed.

This new productive units exploiting mainly the lower labour costs, apart of serving their home country, soon begin to serve other countries signalling the substitution of American exports to these markets from the production and exports of third countries. In fact, during the final stages of a product's life cycle the subsidiary companies of the American enterprise will also serve the American market.

This last stage of the product life cycle is another important contribution of the theory, which contrasts the traditional (H-O) theory of international trade, according to which the UDCs are only capable of exporting labour intensive products. On the contrary, according to the product life cycle theory in the last stage of growth of product the USA imports the product not only from the other developed countries, but also from Least Developed Countries (LDCs).

As with Hymer's contribution, the product life cycle theory cannot be considered to be a complete theory of FDI or the TNC. However, it contains particularly important elements for the analysis of two phenomena. Thus, although the current reality is exceptionally more complex than the one described by the theory, and certainly cannot be described through a simple evolutionary process, the product life cycle theory contributed to the modern theory of FDI through the introduction of a dynamic element in the theory of international production (Dunning, 1993b), as well as a territorial one (Dicken, 1998). Not long after the writing of the

original article, Vernon himself disputed the universality of his theory (Vernon, 1979) recognizing the need for revision, considering it to be a theory, mainly capable of interpreting the beginning of international activity of new TNCs, not only from the USA. However, the importance of his contribution remains.

As it became already explicit in the previous section the basic difference of modern theories is that their objective is to create generalised approaches using, as it is expected, elements of incomplete theories, that will unify the theory of international capital markets, with the theory of the firm and the theory of international trade (Casson, 1982: 49). In the context of these efforts two main approaches were shaped; the first is mainly microeconomic, the basic representatives of which are the theory of internalisation and the eclectic approach. The second approach is macroeconomic. The best-known effort in this general direction is what has been coined the 'Japanese' school, which is based on the neoclassic theory of international trade. Another 'theory' that is macroeconomic in scope is the investment development path, (IDP), which is one of the most serious efforts of combination of the two approaches.

#### *1.5.2.3 The theory of internalisation*

The theory of internalisation is not something new, nor a theory that was shaped exclusively for the interpretation of FDI. What would characterize better the theory of internalisation is that it is part of the theory of the firm (Casson, 1991). The forefather of the internalisation theory is Coase (1937). In his effort to interpret the enterprise, he considered it to be a result of market imperfections (Coase, 1937: 5).

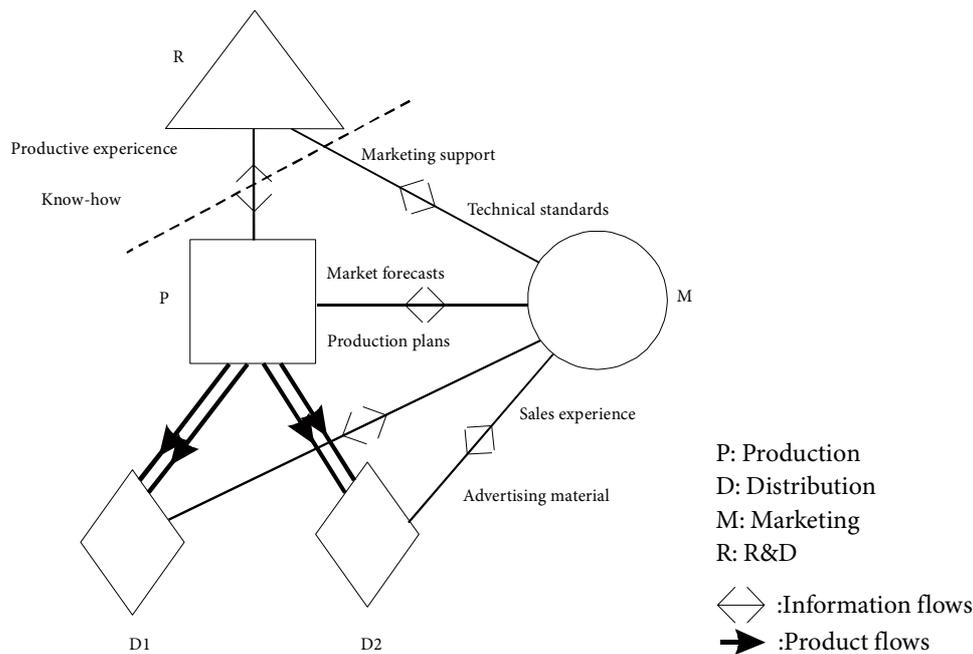
Outside the firm, price movements direct production, which is co-ordinated through a series of exchange transactions on the market. Within a firm, these market transactions are eliminated and in place of the complicated market structure with exchange transactions is substituted the entrepreneur-co-ordinator, who directs production. It is clear that these are alternative methods of co-ordinating production.

In other words, the firm internalises the operations of the market to the extent that the cost of this internalisation is smaller than the cost of usage of the market mechanisms. According to Coase, the size attainable by a firm (something that is directly related with the possibility of expanding abroad), by internalising foreign trade transactions is mainly related to the decreased effectiveness that big size involves. Apart of size, he realised that the cost of organisation and the losses due to errors would tend to increase with the territorial expansion of internalised transactions, appreciating on the other hand that technological advances, such as the telephone and the telegraph, would tend to increase the size of enterprise and accordingly its territorial expansion.

The work of Coase, which was largely ignored for almost 40 years and was only 'rediscovered' in 1975 through the work of Williamson (1975), was used for the interpretation of international economic activity. In this context, according to Casson (1991):

Internalisation concerns imperfections in the markets of intermediate products. Intermediate products move between activities in the framework of the productive sector. Market imperfections create transaction costs, which are often minimised for the whole sector through the unification of interdependent activities under common ownership and control. In this way internalisation provides answers as to 'Why' there exist enterprises with a lot of units – how they can cope with the competition of single unit firms. Under this viewpoint, TNCs are simply a special type of multi-unit firm.

**Figure 1.15 Internalisation strategies of a small innovative firm**



Πηγή: Casson (1991)

The generality of theory lies in the fact that the terms ‘intermediate product’ and ‘activity’ can be interpreted in several ways. Thus, the internalisation of physical flows of intermediate products between one unit that is found at a higher level in the productive process and another located at a lower one can interpret the vertical integration which substitutes the operation of the market between the primary sector and manufacturing. On the other hand the internalisation of flows of know-how can lead to a combination of vertical and horizontal integration (Casson, 1991). The basic aim of the internalisation theory is the interpretation of the ownership structure of the enterprise. The questions regarding the geography of production (that are of considerable importance in the case of FDI) cannot be interpreted by the theory without the use of location theory, that is to say with the use of tools such as the economies of scale, the transport costs and the differences in availability of raw materials. The basic characteristics of theory are quite clearly visible in Figure 1.15. Four different activities are portrayed there, which, with the suitable connections can give rise to five different ownership strategies. The extreme case is one of complete integration, in which the operations of the market are completely substituted by the firm between all activities. Between the complete integration and the complete independence we find choices such as licensing, the use of sales networks and subcontracting. Thus, if beginning from a vertically integrated enterprise we remove (as it appears with the dotted line) the R&D unit (E), licencing automatically becomes the strategy of organisation of the firm. If the unit of production (P) is further removed (sold) subcontracting becomes the strategy, while, finally, the removal of the marketing unit (M) turns the firm into a sales network.

Now, If any of these activities is located abroad, what the theory of internalisation supports is simply that certain additional parameters will enter regarding the decisions on internalisation, which will obviously differ between the different activities and sectors. Behind all these decisions and central in the internalisation theory is the theory of transaction costs. Thus, for example, lack of knowledge regarding a foreign market tends to increase the cost of transactions making internalisation an attractive strategy. The theory of internalisation alone does not constitute a pure theory of the international enterprise (Casson, 1991), while its basic strength appears to be the use of the transaction costs theory which can have applications in a wide spectrum of applications. However, the theory has several drawbacks. Perhaps the most important is that it is almost exclusively microeconomic. This practically means that it mainly examines the FDI through the prism of the operations of TNC, while questions as for example the implications of FDI on welfare remain unanswered. Also, as has already been mentioned,

the theory of internalisation can give answers that concern the strategy of internationalisation. What this means is that it is unable of clarifying a second question that is central in the analysis of the TNC, and concerns the reasons behind the growth of the firm (hence also the TNC). As it is analysed below (1.5.2.7) it is the resource-based theory of the firm that provides the most satisfactory answers to this question.

#### 1.5.2.4 *The eclectic approach*

As we saw, all the theories that were described until now, have been more or less partial. Even the theory of internalisation, which can be considered to concern all forms of TNC activity, is not more than a theory of the firm, and specifically the TNC. The first effort to devise a complete theory of foreign value adding activities was the eclectic approach of John H. Dunning. The approach is called 'eclectic' for three main reasons (Dunning, 1981b): firstly, it makes use of three distinct theoretical approaches that emerged since the 1960s (i.e. industrial organisation, theory of location and market failures), secondly, it concerns all types FDI and lastly, it is capable of interpreting all the ways of involvement in foreign transactions (that is to say FDI, exports or licensing), but also to estimate which one of them will be preferred. The basic argument of the eclectic approach is that an enterprise will be involved in international activities of value addition if the three following conditions are satisfied:

1. If the enterprise has clear ownership advantages (O) in servicing specific markets over the firms from other countries. Ownership advantages mainly concern exclusive possession of intangible assets or economies of common governance.
2. In case the above condition is satisfied, then is in the interest of the firm to exploit these advantages itself, rather than selling or renting them to some other firm. That is to say it is in the firm's interest to internalise the processes that make use of these advantages. These are internalisation (I) advantages.
3. Finally, provided that the two first conditions are satisfied, there should also exist certain location (L) advantages, so that it is profitable for the firm to exploit its advantages abroad, rather than at its home country. In opposite case it will be preferable to service the foreign markets through some other way, e.g. through exports.

The description of the three main axes of the eclectic approach allows us to easily identify the existing theories from which it draws and is composed of. With regards to the ownership advantages we already saw that Hymer was first to support that the enterprise should have certain particular advantages which give her a competitive advantage in order to it is involved in international production. As it appears from the simple description these advantages can take a large number of forms, from material flows (work, capital, natural resources) to intangible flows that concern technology, information, entrepreneurial and organisational capabilities.

However, the possession of such advantages from an enterprise can only interpret its competitive advantage vis-à-vis its competitors at home or abroad. The ownership advantages alone cannot be considered as the reasons that will lead a firm to produce abroad, since it can very easily export its products or sale or rent some of these advantages. In many (perhaps most) cases this choices are indeed preferable to FDI. However, we saw that the real world is not characterized by perfectly competitive situations, in which the markets are the most effective way of transactions. As has been shown earlier, most answers in the question of internalisation have already been provided by the relative theory. That is to say, very often, because of market imperfections firms prefer to internalise their operations and exploit their ownership advantages themselves. In fact, internalisation may be more relevant in foreign markets, where apart from financial, other types of barriers may exist, such as political ones, or lack of information regarding the operation of foreign markets, consumer preferences etc. Finally, if the firm has ownership advantages, which it considers advantageous to internalise, it is the location advantages (L) that will lead the decision regarding to where it will produce. The location advantages characterising a specific country or region, mean that a firm should always compare between the location advantages of two or more regions, since these are generally immobile. Thus, advantages of location include (Dunning, 1993 p. 81): the territorial distribution of natural

resources and markets, the prices and the quality of inflows and the productivity, the investment incentives, or disincentives, the particular social characteristics of the receiving region, the economies of concentration of R&D etc. Table 3.1 portray the way of combination of the three advantages. It is explicit that for the internalisation of the value added chain, the existence of all three advantages is essential.

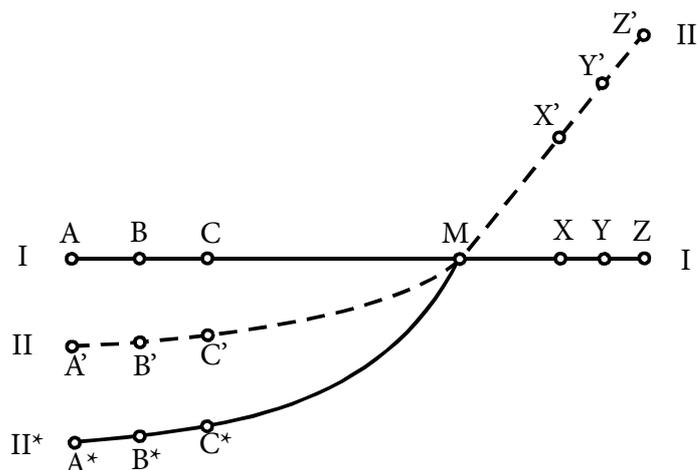
From the preceding concise analysis it becomes explicit that the eclectic approach is neither a theory of the TNC nor of FDI. However, it appears that it constitutes the most reliable analytical framework of the TNC activities.

#### 1.5.2.5 *The Japanese approach*

As was already mentioned in the introduction the Japanese approach is the most important effort of interpretation of FDI under a conventional macroeconomic viewpoint. This, to a large extent determines the theory's basic strengths and weaknesses. The former concern the possibility of integrating FDI in the framework of the wider economic system, answering questions which cannot be approached by the micro-economic theories. Thus, questions as the implications on unemployment, the balance of payments and the productivity at the country level constitute central points of the theory. On the other hand, the dependence of the approach on the theory of comparative advantage reveals automatically also its weaknesses, since the assumptions of the theory are quite unrealistic. The above indicate another significant difference between the Japanese approach and all those that were analysed until now; the former tries to determine 'what should be happening' (normative approach) while the others try to interpret 'what is happening' (positive approach). The theory is summarised in a basic theorem, five conclusions and four policy proposals, which are concisely presented below (Kojima, 1982). According to the basic theorem of theory, FDI is supposed to emanate from the comparatively disadvantaged sector of the investing country, which can be the sector in which the host country has a comparative advantage. That is to say FDI is supposed to exploit and simultaneously strengthen the comparative advantage of the host country. The logic and the implications of the theorem are portrayed in Figure 1.16. Line II portrays the cost of production of a line of products in Japan, where the unit of each product is considered to be the quantity of this product that is produced with 100 Yen. The dotted line II-II shows the cost of production of the corresponding products in Greece. Thus, at point m, the cost of production (if we consider the exchange rate of € / Yen to be one) of product m is 100 Yen in Japan and 100 € in Greece. As we move to the left the cost of production in Greece it is decreased. At points A and A' the same quantity of product a is produced in Japan with 100 Yen and in Greece with 30 €. On the contrary at points w and w' the same quantity of product is produced in Japan for 100 Yen and in Greece for 250 €. This means that Greece has comparative advantage in the production of products that are found to the left of point M, while on the other hand, the comparative advantage of Japan is found in the production of products that are found to the right of M. According to the above, it is obvious that in conditions of non-existence of FDI Japan will import products A, B and C from Greece and export products X, Y and Z.

According to the theorem Japan will be expected to invest in Greece in the sectors that are found to the left of M (that is to say in the sectors in which it has a comparative disadvantage). This type of investment will result to the transfer of more advanced technology in the sectors that produce products A', B' and C' in Greece, which will lead to the reduction of production costs to points A\*, B\* and C\*, in the curve II\*-II. This means that the imports of Japan from Greece will become cheaper and perhaps increase in quantity.

**Figure 1.16 Impacts of FDI according to the Japanese approach**



Πηγή: Kojima (1982)

If on the contrary the investments are realised by the sectors that are found to the right of  $m$ , perhaps the result will once again be a cost reduction of sectors  $X'$ ,  $Y'$  and  $Z'$  in Greece, increasing however simultaneously the cost of production in the corresponding sectors of Japan. In this case exports should be the preferable solution, since in the case where the choice of FDI in the production of any of the above products is preferred, in the best case scenario (where the cost of production of  $X$ ,  $Y$  and  $Z$  remains unchanged) the consumer welfare gains will be zero, since product  $X$  will still be cheaper than the  $X^*$ . In the worst case (the one at which the production costs of  $X$ ,  $Y$  and  $Z$  are increased), the consumer welfare will deteriorate. The conclusions derived from the theorem are the following:

1. The approach allows the creation of a theory that will deal with both the international trade, and FDI.
2. The FDI of the type that is described by the theorem, supplements rather than substitutes international trade, since the FDI of Japan in the sectors in which it has a comparative disadvantage result to increased imports from Greece.
3. The transfer of technology from the most advanced country is easier and more effective for both countries in the sectors in which the advanced country has comparative disadvantage, because of the smaller technological gap between the two countries.
4. The Japanese approach based on the theory of comparative advantage is a theory of general equilibrium, while both the internalisation theory, as well as the eclectic approach, are theories of partial equilibrium.
5. Undertaking of FDI is profitable in the sectors whose growth of comparative advantage is possible, since this type of FDI is capable of transferring superior technology, which will enable exports from these sectors.

The applications of theory are numerous and can be summarised as follows: The growth of Japanese outward FDI followed a very different course from that of the USA and countries of W. Europe, especially regarding access to essential natural resources. The western countries achieved the access to resources via FDI (vertical integration). On the other hand, the Japanese firms showed preference in establishing a number of long-lasting collaborations that promote trade. What this usually implies is that there is some trade related investment, whose main objective is to secure a constant flow of raw material.

The choice afforded to host countries regarding the sector as well as level of technology that FDI will incorporate is particularly important. According to the theory, it is inadvisable to bypass certain technological stages. In other words a country of low growth should first accept labour intensive FDI and progressively increase the technological content of incoming

investments. This means that inward FDI can act as a ‘tutor’ through the transfer of all those factors that may lead the country to a higher production function. Because of this role of FDI the creation of joint-ventures involving local businessmen is preferable for the widest possible diffusion of the impacts of FDI. When it is considered that FDI has succeeded in this educating role, they should withdraw, making way for indigenous firms and move to other LDCs to play their role.

Because the dependence of the approach to the theory of comparative advantage, FDI between DCs can only be considered as efforts to avoid trade barriers. They usually take place in sectors where the host country has a comparative advantage, failing to create additional welfare. Naturally, the investing firms (usually big TNCs) are making enormous profits, through the monopolisation of the sectors they operate.

From the preceding concise description of the theory, its differences with the previous two (most dominant) approaches are obvious. The criticism to the theory is multifaceted.

Firstly, it appears that it can interpret more effectively the Japanese FDI. In Japan the general commercial enterprises (shogo sosha), the international banks, but mainly the horizontal forms of collaboration (keiretsu), which are better suited to estimate the differences in international comparative advantage play a decisive role in the decision-making regarding FDI. On the contrary in the case of western countries, an overall perception of comparative advantage is almost completely absent.

Secondly, and this constitutes a much more essential criticism, countries with a low and declining international competitiveness are very likely they attract TNCs that are focused in simple assembly and other activities of low added value. However, because these enterprises are usually dependent on the total technological capabilities of their parent firms, which are much more advanced than those of their local competitors, they may be capable of pushing them out of the market. In this way they decrease the technological capabilities of their local competitors and very probably the overall ability of the economy to absorb the technological spillovers of FDI (something that to some extent had been foreseen by the Japanese approach, without however considering it particularly important, and in any case not possibly created by Japanese enterprises – Kojima, 1982). This result was coined ‘Trojan Horse’ in order to characterise certain Japanese FDI in the USA and G. Britain in the beginning of the 1990s (Cantwell and Dunning, 1991).

At the basis of all criticisms regarding the Japanese approach is the fact that it is attached to the neoclassic theory of international trade (Dunning, 1993). This practically means that it ignores the existence of market failures, but also of transaction costs in the configuration of international economic relations.

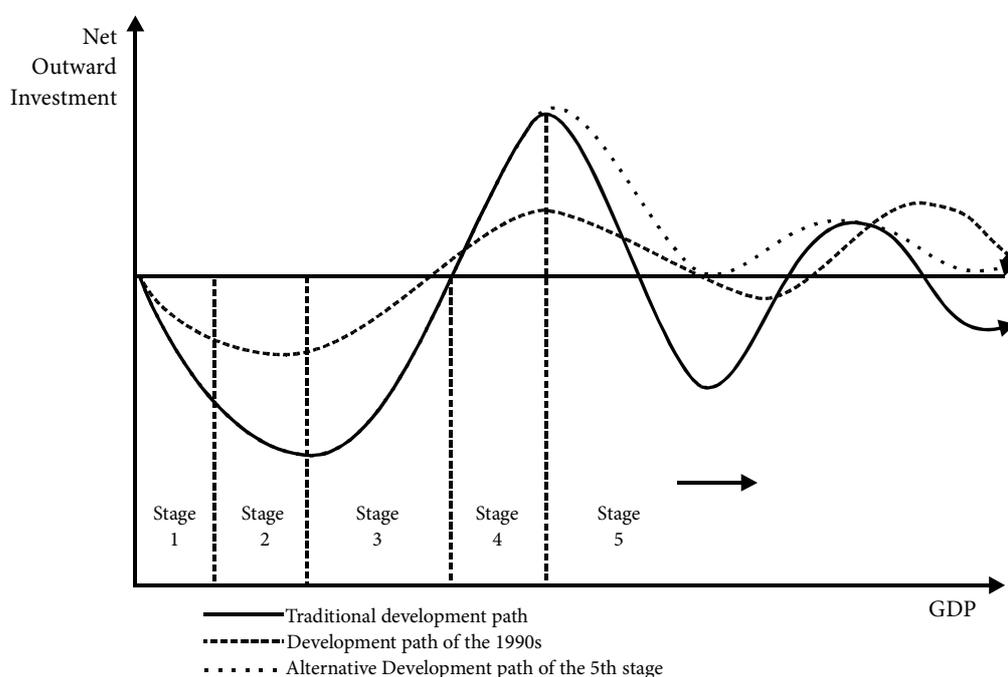
It is clear that the Japanese approach is exceptionally useful, since, despite the relative efforts from the microeconomic approaches (cf. Buckley, 1985: 119) it continues to constitute the only effort to create a model of general equilibrium (Kojima and Ozawa, 1984) analysing the welfare implications. It appears, however, that in order to constitute a satisfactory framework of analysis of FDI it is essential to recognize the inherent weakness of the neoclassical theory to explain all forms of international transactions. What is quite surprising is that this has already been realised in the theory of international trade, through the so called ‘new’ theories that incorporate the existence of market imperfections, economies of scale and transaction costs in the interpretation of international trade.

#### *1.5.2.6 The Investment Development Path (IDP)*

The basic principle of the IDP is the idea that the relation between inward and outward FDI of each country is systematically associated with its economic growth. More specifically, it is supported that each country passes through five stages of growth (Figure 1.17), which are directly linked with the position of a country as a net exporter or importer of investments. The main contributor of IDP is Dunning (198a, 1993 and 1997) and not surprisingly, the eclectic approach is his basic framework of interpretation. Thus, the correlation that was described

above will depend on the growth of ownership (in other words competitive) advantages of the domestic enterprises compared to those of other countries, the local resources and capabilities of the country (that is to say advantages of location) and finally the degree to which the domestic enterprises will decide to combine their ownership advantages with the location advantages of their country or some other country through internalisation of the essential transactions (which depends immediately from the two previous factors). The five stages (Gra'fima 3.4) are described as follows (Dunning, 1997): In the first stage of growth of investments the outward investments are non-existent or almost non-existent. On the other hand, the low level of growth of the country (low domestic demand, inadequate government policies, bad or non-existent infrastructure and the low quality human resources) result to very low location advantages for the TNC. The only exception are investments in search of natural resources, although at very low levels, since, apart from the reasons that were reported above, the government policies in this phase are characterized by intense protectionism. Today, most African as well as a few Asian countries are found in this stage. Most countries of Asia have already moved to next stages.

**Figure 1.17 The Investment Development Path**



Source: Dunning (1997)

In the second stage outward FDI is still at very low levels. On the contrary, inward FDI begin to amount very rapidly. The role of government policy is exceptionally important for the passage in this stage. Even if initially the relative enlargement of the domestic market is the factor that will attract the first investments, which will substitute exports to the country (which are owed to a large extent to tariff and other barriers), perhaps the most impart factor for the increase of inward FDI is the creation of attractive location advantages. On the other hand, on this phase the ownership and internalisation advantages and accordingly the level of outward investments that progressively begin to increase, depend directly on the government policy. With regard to the former, they depend on the industrial policy which usually aims at the growth of supporting sectors of agriculture while the latter, is influenced by the ‘push’ factors of FDI (motives for exports and growth of technology). The outward investments in this phase are expected to be in search of markets or in support of trade in neighbouring countries, or in search of strategic resources in DCs. However, despite the beginning of outward investments, as it appears in Figure 1.17, throughout the whole of the second stage the inward investments increase much faster than the outward. The rate of increase of net inward investments begins to decrease at the end of second stage.

In the third stage the situation is reversed with the rate of increase of outward investments beginning to accelerate, simultaneously with the deceleration of the rate of increase of inward investments. The comparative advantage of the country in the production of labour intensive products begins to decrease, while investments in these sectors begin to move to countries that are found in the previous stages of the IDP. This further means that the ownership advantages of foreign enterprises soon begin to be characterized by more advanced technology, since the domestic enterprises effectively compete with them.

The further enlargement of the domestic market, as well as the improvement of the infrastructure quality – changes that allow the exploitation of economies of scale – increase the location advantages of the country and encourage the entry of more technologically advanced investments. The role of the government policy in the configuration of ownership advantages of the domestic enterprises begins to decrease, as the advantages of the enterprises themselves, which are supported by their multinationality soon become more important, resembling those of the most advanced countries in all sectors, apart from the most technologically advanced ones. However its contribution is essential for the passage to the next stage, through the structural transformation that will lead the declining sectors to investments abroad. The fourth stage is achieved when the outward investments level or even exceed the inward ones. Entry to this stage signals changes (as, in fact, entry to all the previous stages) in all three types of advantages of the country and its enterprises. The ownership advantages of the enterprises tend to stem mainly from their multinationality. That is to say, the importance of natural assets tends to decrease as capital and high technology are becoming less crucial than intangible elements such as the access to markets, economies of scope and geographic differentiation. On the other hand, the location advantages cease to depend on the natural resources of the country, which give their place to created resources (since the cost of capital is henceforth lower than the cost of labour). Finally, mainly because of the altered character of ownership advantages the firms of the country will display a higher tendency to internalise markets. Inward investments emanate mainly from countries that are found in the same stage of growth, seeking a more rational organisation of their activities and in search of resources and occasionally from countries of previous stages. On the other hand, outward investments are directed to countries at lower stages, mainly by declining sectors seeking lower labour costs, as well as to countries at the same stage, with objectives similar to those of inward investments. This means that in this stage one should expect the appearance of higher levels intra-industry FDI between countries that are found at the same levels of growth.

In the fifth and last stage of development, net outward investments stop increasing (as it would happen if the fourth stage was considered to be the last one), and in turn fluctuate between positive and negative rates of growth, as the example of the USA initially highlighted, to be followed by the other advanced countries that entered the fifth stage. This stage is a relatively new addition (Dunning, 1997), as in the initial version of the IDP (Dunning, 1980) the stages were four (as they are portrayed by the interrupted line in Gra'fima 3.4).

Does this fluctuation mean that inward or outward investments are declining? In fact, what happens is the opposite, since what changes is the rate of increase. This last stage, in which few, very developed countries, are found today is characterized by the convergence of economic structures of countries (resulting to a tendency to equalize location advantages) and the increase of international transactions that are internalised. It would not be too far fetched to support that firms of countries at the fifth stage make their investment decisions, mainly with regards to investments in other countries of the same stage, as if they were domestic investments. At the same time, the national character of firms becomes more and more vague.

The IDP is not a theory of FDI neither of the TNC. It can however be considered a very useful tool of comprehension of the relationship between economic growth and FDI and in some way, similar to the eclectic approach on which it is based, no more than a paradigm. The basic reason for its inability to constitute a theory (Dunning, 1997) is that it compares two different phenomena, i.e. the FDI and the activities of TNC, which is a substantially micro-economic phenomenon (in the sense that the motives are differentiated not only at the sectoral, but also at

the firm level and hence cannot be summed up to a national size), with growth that is a clearly macroeconomic concept. However, it gives a dynamic dimension to the phenomenon of FDI, while, finally, it appears to be empirically verified (Dunning, 1997).

*1.5.2.7 Recent developments in the theory of TNC: the resource-based theory*

According to the proponents of the resource-based theory, the basic weakness of all previous theories of the TNC, can be traced in their failure to examine the subject of FDI, in other words, the multinational enterprise itself. More specifically, it is supported that even in the 'microeconomic' theories, the enterprise remains a 'black box', that is to say a factor whose reactions are considered more or less known and foreseeable, and hence, of no interest to the analysis. For example, even in the theory of internalisation, the firm simply reacts to insufficiencies of the external environment.

One of the first efforts to enter inside the firm was the publication of the book titled 'Theory of the Growth of the Firm' by Edith Penrose (1959) that constituted the building block of what was later called the named resource-based theory. Up to then (under the pervasive influence of the, even up to today, dominant neoclassic theory), the theory of the firm viewed the enterprise as a simple factor of theory of general equilibrium. However, as under this point of view, as Penrose (1995: 11) points out, what is of primary interest is the product and its distribution, the role of the firm is limited in the determination of prices and the distribution of resources, while the enterprise itself remains at the background.

Penrose (1995), for the first time placed the firm in the centre of the analysis. However her efforts were not focused on the 'ideal' firm – a product of the neoclassical necessity, but on real-world firms. Thus, the firm was defined as (Penrose, 1995: 31):

...at the same time as an administrative organisation and a bundle of productive resources; its general operation is the organisation of use of its own resources in combination with other resources that are supplied from outside the enterprise for the production and sale of products aiming at making a profit.

Describing the firm as a bundle of productive resources, Penrose was not referring, naturally, to the famous 'productive resources' of the neoclassic theory (capital and labour), and certainly not in the way they are approached in the neoclassic analysis, that is to say as general and unspecified categories to which all firms have access, and the only thing that differentiates the different firms is their quantity and no qualitative characteristics. On the contrary, for Penrose (1995: 24-25), although the productive resources initially be separated into tangible, which could be identified with the capital of neoclassic approach and human, that is to say labour, it is possible to further analyse them, and in fact with relatively great precision.

Thus, on the one hand, the tangible resources are material objects, such as factories, equipment, land and natural resources, raw material, semi finished products, disposables and by-products, even unsold stocks of products. Some of the above are completely consumed at the productive process, while others have a more permanent character, continuing to offer their services even for very extensive periods. Some are bought, while certain others are converted during production into other tangible resources. In other words, tangible resources are the things that the enterprise buys, rents, or produces, but also the attributes and their uses with which the enterprise is familiar.

The human resources, on the other hand, are composed of the unskilled and skilled production personnel, the secretarial, administrative and financial staff, those working at the legal department and the management. Some of the above may be permanent personnel of the firm, representing an important investment, while others can be temporary staff. In this context, loss of human resources, even the temporary personnel, can constitute a great loss for the enterprise, in terms of cost or foregone opportunities, although it is likely that for significant periods they do not offer all the services available to them.

It becomes clear that for the resource-based theory the conventional separation between capital and labour is clearly restrictive, as it ignores the particular importance, for the firm, of certain

resources, compared to the others. However, the base of the resource-based theory is not the determination of the diversity of resources, as it is not them that contribute to the productive process, but the services that they can offer. This finding is particularly important, since it constitutes the base of firm differentiation. Thus, even if two enterprises have exactly the same resources, the way of combination of their services it is almost impossible to be identical, which will lead them to produce different products.

However, in spite of the fact that the differences in the final result of the productive process are ensured, as it is impossible for two enterprises to own exactly the same resources, Penrose (1995: 31) introduces another factor which ensures the diversity of enterprises, which is no other than the productive opportunity of the firm. The productive opportunity is the total of productive possibilities that the innovative businessmen see and can exploit. Most importantly, it also determines the rate of growth of the firm in any given period.

Thus, it becomes more or less explicit that the rate of growth (or even its limits) cannot be determined as a linear and constant (or foreseeable) course to some 'optimum' equilibrium level, since growth itself depends on factors that are slightly, or not at all predictable. On the one hand we have the resources of the firm which are altered constantly, while the accumulated experience determines novel ways of combining them, in a usually turbulent external environment, while on the other hand, we have the very important role of innovation (enterprise). Without the 'psychological predisposition' for discovery of opportunities, which requires considerable effort, along with the engagement of certain resources of the firm, change (with the characteristics of innovation) it is rather impossible to achieve.

However, the most important factor in the developmental course of the firm, mainly with regards to the direction, is the existence of unused productive services. As we saw, productive services are the product of productive resources of each enterprise and generally each resource can contribute a number of productive services. However, because of the indivisibilities of most resources, it is usually impossible to pursue of some productive process using all the possible services of the resources involved. This can easily be clarified with the use of an example concerning human resources. Let us suppose, therefore, that a Greek firm plans its export expansion to the German market and for this objective, it hires a German speaking employee for the sales department. The services that the employee offers include negotiations with the German representatives, support in the adaptation of the products for the new market (German safety specifications etc). It would, of course, be naïve to believe that this employee can offer only one service – the use of the German language. All the other services that he could offer remain unused, until they are identified by the firm's management, which in combination with the external conditions, channels them into some new productive process, which, in its turn will naturally create new unused productive services.

From the above, the central role of knowledge in the Penrosian firm becomes explicit. The use of accumulated – from the firm's daily operations – knowledge is what gives the possibility of identification of new opportunities that lead to the growth of the firm. This helps to comprehend the efforts of interpretation of the firm in organic terms, although the firm is not a natural, but a social organism. The more important implication of the above is that a firm it is more than the sum of capabilities and services of its resources, since the firm itself creates and reproduces knowledge.

The ideas of Penrose constituted, without doubt, the building block of the resource based theory, which during the last decade has been one of the central theoretical approaches of the theory of strategic management (Kay, 2000). However, the resource based theory has evolved rapidly, during the last 20 years, starting with Wenerfelt (1984), who, followed by a number of writers from the field of strategic management, used the Penrose's contribution for the creation of profit seeking strategies. Thus, Barney (1991) proceeded in the determination of certain characteristics of enterprise resources which are essential for the creation of a sustainable competitive advantage, including: their usefulness in the exploitation of opportunities, or the confrontation with environmental threats, their unavailability to the firm's competitors, the difficulty of

copying or substituting them. Thus, for many management writers the role of the resource based theory, and accordingly the contribution of Penrose, was to guide managers on how to dominate their markets and achieve higher profitability, something, that, as Rugman and Verbeke (2002) support, does not appear to have ever constituted one of Penrose's objectives.

The main contribution of resource-based theory is that the factors of growth of the firm can be traced within the firm itself. Very quickly, the ideal combination, usually of intangible, resources, but also the constant renewal of the firm's basic capabilities became a central subject of discourse in strategic management. Although this theory, as was also the case with the – dominant – theory of the TNC, i.e. the internalisation theory, was not created in order to analyse the TNC, it soon became clear that it could turn out to be an exceptionally useful tool.

Regarding Penrose, although the TNC was one of her basic study subjects, it was mainly pursued outside the framework of the resource-based theory (Rugman and Verbeke, 2002: 776). On the contrary, she examined the TNC through a market power point of view (a la Hymer). This, according to Kay (2002: 210) may have to do with her choice of the petroleum sector, which made difficult the application of the resource-based theory for three reasons, the most important of which was that 'product differentiation was only marginally important for the activities of oil companies...'

According to Kay (2002: 212), the first time that the work of Penrose was applied in the interpretation of TNC was by Wolf (1977), in which the alternative directions of expansion of firm (expansion in the home country in the same sector, sector diversification, or diversification abroad – whether through exports or through FDI) are alternative ways to exploit a firm's under-utilised resources.

Caves (1982) also approached the TNC using the theory of resources, although he personally does not acknowledge that. This becomes perceptible by the fact that while the theory of internalisation, on which Caves is based, is considered more suitable for the comprehension of mode of expansion (i.e. the choice between FDI, exports, licensing etc – see Kay, 2002: 213), Caves' actual main concern is the analysis of directions of expansion (in other words, whether it will be realised within the country or abroad). Thus, because of the fixed costs incurred by each firm entering a foreign market, Caves considers that firms owning under-utilised productive resources will tend to expand in their domestic market. However, at some point, while the domestic market reaches a saturation point the possibilities of differentiation are exhausted, hence, to expand abroad becomes the next reasonable stage. Consistent with the theory of internalisation, he considered that firms will prefer to first expand to countries that are characterized by bigger resemblances with the home country (regarding language, culture etc.) for the reduction of the adaptation cost.

A particularly important contribution in the analysis of the TNC through the framework of the resource-based theory is that of Kogut and Zander (1993), who, influenced by the evolutionary theory of Nelson and Winter (1982), described the enterprise as a community specialised in the creation and internal transfer of knowledge. Specifically, the writers empirically investigated the decision of firms to transfer the capability to manufacture new products internally (that is to say through FDI), or externally (that is to say providing it to other firms), leading to the conclusion that the more informal (tacit) is the knowledge that is required for the manufacture of the product, the more likely is the undertaking of FDI. Disputing the public good character of knowledge, they supported that market failures (on which theory of internalisation – transactions costs is based) do not suffice for the interpretation of the reasons that cause FDI, but that firms proceeding to FDI are more effective in the internal transfer of knowledge.

The approach, however, of Kogut and Zander constitutes a rather restrictive application of the resource-based theory (indeed, no reference is made to the work of Penrose), as it is focused on the, somehow generalised, knowledge of the firm, which can more correctly be seen as a service provided by its resources (some or all of them). Nevertheless, the services of various resources can be very different, but also with considerably different consequences for the direction of growth of the firm, as Kay (2002) argues.

Kay (2002: 214-219) used a relatively simple example, in order to show the possibility of application of the resource-based theory on the TNC, but, and this is particularly important, also its limitations. Specifically, he described a hypothetical enterprise, which produces wallets in its home country. The resources of enterprise are grouped in four general categories: marketing resources, productive resources, R&D resources and country resources. Regarding the additional services that the each resource can offer, they can be grouped into two categories. The first concerns the further specialisation of resources for provision of services similar to those they already offer, while the second requires the differentiation of services provided. This grouping is essential, since in the first case the exploitation of resources is considered to more complete. Supposing, therefore, that the firm has under-utilised resources and that none of the likely strategies of expansion is more profitable than the others, the firm is confronted with four strategic choices.

The first choice concerns the specialisation of the firm aiming at achieving a bigger share of the domestic wallet market. This strategy involves common use of the services of existing resources, since it is possible to produce most wallets at the existing productive units of the firm, exploiting the marketing, the distribution network, but also the firm's existing R&D services. Finally the firm continues functioning in the familiar environment its home country.

The second choice concerns the differentiation of the firm by expanding into new markets in the home country (e.g. women's purses). As in the first case the firm will continue using the existing country resources, which, however is not the case with all of the resources of the remaining three categories. For example, some of the machinery used for the manufacture of wallets may not be suitable for the production of purses.

In the two remaining expansion choices, because of the barriers presented by the entry in a foreign market, the common use of entire categories of resources becomes impossible. In the case of exports of wallets the common use of marketing and country resources becomes impossible, while in the case of FDI for the production of wallets in another country, the only resources that can possibly contribute in both processes (i.e. the production in both countries) are the R&D resources. The result of the inability of common use of resources is that the firm is henceforth forced to invest for the acquisition and creation of identical or similar resources in both countries.

This conceptualisation, although simplistic, may allow a better understanding of the importance of the resource-based theory for the interpretation of the TNC. Following Caves (1982), the multinational expansion appears to be the last in a line of choices (the stages of which are: diversification → exports → TNC). Moreover, it provides theoretical support to a series of empirical findings concerning the TNC, such as:

1. Big firms are more likely to become multinational (as they are more likely to have already passed through the first two stages, exhausting the possibilities of domestic expansion), justifying, at the same time, the greatest concentration of assets of most of TNCs in their home countries
2. TNCs tend to present higher R&D intensities, that sectors that are characterised by higher concentration tend to be over represented among TNCs (since concentration often plays a role equivalent to that of R&D in the production of knowledge),
3. TNCs tend to present higher advertising intensities, since, apart from R&D resources, it may be possible to jointly use some of the marketing resources (especially recognisable brand names),
4. TNCs tend to favour expansion into countries with smaller 'psychological distance', that is to say countries using the same language or common cultural elements (religion etc).

The most important, point in Kay's (2002) analysis is the ascertainment that the resource-based theory is useful for the analysis of the direction of expansion. For the analysis of the mode (i.e. whether the enterprise will advance in the direction it has selected alone or with collaborators) the use of the internalisation theory is required. In other words, the resource-based theory cannot

constitute a complete theory of the TNC, which is also the case for all the other theories that have been proposed. This, during the last years, has given rise to an array of efforts (apart from that of the eclectic paradigm) to combine different approaches which are based on the resource-based theory, on ownership advantages, internalisation, oligopolistic interaction, location etc. (see Pitelis, 2000: 82).

At this point two more factors should be introduced, which we consider important for the interpretation of the TNC, although to a significant extent have been ignored by the TNC literature. The first factor are the demand conditions, which, according to Pitelis (2000), can operate both as push factors, as well as pull factors of FDI. The former include the cases of declining effective domestic demand, low expected levels of profitability and growth in the home country, while the latter may include factors such as higher expected rates of growth and profits in the host country. In an empirical investigation of the impact of demand on FDI Pitelis (1996) found that outward FDI is influenced negatively by the profit rates of enterprise and changes of the effective demand in the country of origin. Demand side effects have also been analysed by Dunning (1998), who introduced them in his analysis through location factors.

The second factor concerns the (relatively limited) body of international literature that interprets FDI as a 'divide and rule' mechanism of the workforce (Peoples and Sugden, 2002). This theory supports that perfectly competitive labour markets are simply non-existent. This happens because on the one hand the number of employers is almost always too limited to guarantee the existence of perfect competition. Moreover, given their small number, employers are very likely to collude in order to further limit competition and therefore wages. On the other hand, the workers, given the situation at demand side, have no other defence than unionisation against the prospect of increasing exploitation by the employers. However, when it comes to unionisation, there exists an enormous difficulty of co-ordination. Even if we consider that it is feasible to co-ordinate and organise all workers in context of a single country, global co-ordination is practically impossible.

This means that firms have at their disposal a means of leveraging the power of negotiation of workers, which is no other than their multinationality. In other words, the TNC by delocalising (or threatening to delocalise) certain departments of their production process are in fact capable of fragmenting any trade-union unit, achieving their objectives (i.e. increasing their profits).

#### *1.5.2.8 Conclusions*

The basic aim of this section is to describe the theoretical efforts to answer two fundamental questions: the first concerns the conditions of creation and expansion of the TNC. Specifically, the question has two parts: a) how is the direction of expansion determined (in other words, why a firm selects to extend abroad and not in its home country) and b) how is the mode of expansion determined (i.e. why the firm decides to exploit its own competitive advantages abroad alone and not in collaboration with other firms or with exports). The second question concerns the configuration of the phenomenon of FDI, outside the TNC.

Although today it is clear enough that FDI and the TNC are two different things, which are found at completely different levels of analysis and are interpreted with the use of completely different tools, not more than 50 years ago, this discrimination was literally non-existent. Despite the fact that essentially the first contribution in the theory of the TNC took place in 1958 by Dunning (1958), this distinction was not realised before the publication of Hymer's (1974) doctoral thesis. He was in fact the first to observe the essential contradiction between the arguments of the theory of international capital markets and reality (Graham, 2002). More specifically, while the theory argued that FDI should be directed from countries with high capital stocks (and relatively low profits) to countries with low stocks, immediately after the end of the 2nd WW, American FDI, instead of being directed into the ravaged countries of continental Europe, was in fact flowing with particular intensity to countries such as G. Britain and Canada. These two countries had come out of the war more or less intact, while moreover, they were among the richest countries of the world in terms of capital. This discovery could not

be interpreted through the use of the traditional tools of the theory of international capital markets.

In other words, this distinction is owed to Hymer, who also pioneered the use of tools of industrial economics in the analysis of FDI related phenomena and particularly the study of the TNC. Given that, it should be acknowledged that roughly during the same period Penrose (1995 [1959]) supported that the growth of big firms should be examined outside the framework of classic economic theory. These two economists were two of the most influential forces of the TNC theory.

The answers to the first general question come from three basic directions. Two of them, the theory of internalisation and the resource-based theory were already thoroughly analysed, while the third is in fact based on Hymer's tradition and includes all these approaches that are based on market power in order to interpret the growth of the TNC.

Beginning from the third approach, it supports that because of market imperfections, firms have a tendency to progressively increase their share in the domestic market. As the size of firms (and their share in the domestic market) increases, through expansion of their productive capacity, but also M&As, their profits also increase. This behaviour inevitably leads to the configuration of oligopolistic markets, in the context of which the possibilities of further expansion are soon exhausted. This is usually the starting point for the beginning of the second phase of expansion and concentration, this time abroad, which (at least initially) is financed from supernormal profits in the home market.

In this way the TNC, increasing the concentration of markets and managing to increase its share in the markets of final products, functions destructively for the competition and is in place to increase its profits because of its ability to shift locations, which allows it to practise strategies of the 'divide and rule' type.

The second theoretical approach is that of internalisation. This approach is based on the classic work of Coase (1937) who attempted a criticism in the conventional neoclassic theory by importing in its framework the significance of transaction costs, in an effort to define the limits between market and firm. Specifically he supported that the firm will tend to internalise the operations of the market to the extent that the cost of this internalisation is smaller than the cost of using the market mechanisms.

A characteristic example of the advantages of internalisation (in contrast to using the market) comes from McManus (1972), who is considered the first to use Coase's theory, in fact several years since the writing of the relative article. The example concerns the creation of a Canadian subsidiary company of the hotel chain Holliday Inn of USA. The firm had the possibility of granting short-term rights of use of its brand name to all interested individual businessmen. This, however, would lead to an enormous cost of supervision and control of the firm's service standards. Instead, the firm went into an agreement with a Canadian firm, which undertook the whole process of granting of rights and controlling the Canadian operations. In the first case the transaction costs would concern the expenses for a very large number of controllers (perhaps hundreds), whose number, with the establishment of the subsidiary, was limited to 15.

What this in fact implies is that the theory of internalisation is mainly concerned with issues of control and security. Whether one looks at the cost of daily contracts with workers (which was one of Coase's original concerns) or at the protection of the firm's created knowledge (an issue that apparently is the foremost concern of the modern literature, see Buckley and Casson, 1976), the malfunctions and barriers of the market, but also the unpredictable behaviour of economic agents, appear to be the basic factors leading firms to internalise the market.

However, it is obvious that the theory of internalisation provides only one answer to the dual question of the growth of the TNC, and in particular the one that apparently follows, which is no other than the mode of expansion (if, in other words, the firm will proceed to the direction – for example to expand abroad – it has selected alone or using the operations of the market).

Answers as to why, and accordingly the direction of the investment can be answered much more satisfactorily by the third approach, which is not other than the resource-based theory.

The resource-based theory, which is based on the work of Penrose (1995), moves one step further into the interior of the firm. It faces the firm as a bundle of resources, including tangible ones (factories, equipment, land and natural resources, raw materials, semifinished products, waste and by-products, even unsold stocks), as well as human (unskilled and skilled production personnel, secretarial personnel, administrative, financial and legal services and management). Thus, the operation of the firm in fact consists in the organisation of these resources, along with other resources that are available in the market.

It is precisely there – in the resources of the firm – where the sources of the growth of firms are located. Because of indivisibilities of most resources, it is usually impossible to exhaust all the possible productive services of the resources utilised in any given productive process. This means that there exist resources whose services are partly used, until this is realised by the firm's management, which, in combination with a favourable external environment, channels them to a certain new productive process, which, will in its turn create a new array of under-utilised productive services. Thus, the mechanisms of expansion of the firm become comprehensible.

Understanding the substantially different character of the three approaches is particularly important in order to interpret the TNC, since each one (something particularly true for the two last ones) provides answers to different questions. Thus, for example, the question why numerous Greek firms have expanded abroad, can be much more persuasively answered by the resource-based approach. The interpretation of Kamaras (2001) for the growth of the Greek investment activity appears (despite the fact that no specific reference is made) to some extent lends on the approach. Specifically, after the first stage of exports, many firms realised that they possessed, or were in a position to easily acquire resources (in this case mainly human resources) that could allow them to escape the intense competition of the Greek market. However, his question regarding why they opted for creating their own subsidiary companies and no other way of expansion is better answered through the theory of internalisation. The instability that prevailed in the region for a relatively long period, the absence of infrastructure, along with the existence of a skilled and adaptable labour force appear to have contributed to the very small number of alternative strategies (franchising, licensing, etc.).

On the other hand, because of the character of the Greek economy and in particular the relative weakness and small size of Greek manufacturing, the theories of market power, can interpret the behaviour of very few Greek firms, which, moreover, mainly expanded to specific and geographically limited regions, or market niches.

However, it is obvious, that there exist also certain other questions, which cannot possibly be answered with the use of these theories. For example, why this exodus of Greek firms took place in that particular time period, or why certain specific sectors are more heavily represented than others, that is to say questions that concern the configuration of the phenomenon of FDI, remain unanswered.

In order to have a more complete picture, one should look into more macro theories. The first contribution of this type was by Vernon (1966) and was in fact a reaction to the conventional (H-O-S) theory of international trade. Based on novel tools such as the time of innovation, the implications of scale economies, but also the role of uncertainty in the configuration of trade Vernon shaped a theory which for a number of years dominated the international trade literature and continues influencing the thought of many economists.

The 'product life cycle' model distinguishes five stages in the development of a product, which are accompanied by corresponding geographical shifts. In the first stage, during which the product is considered innovative, it is produced in the innovating country and from there exported globally, while in the last stage, the product is produced in one or more UDCs. The concise description of this course reveals the importance of the 'product life cycle' model,

which concerns the introduction of a dynamic element in the analysis of the development of FDI, as well as the introduction of geography in the analysis.

Both elements have played a very important role in the configuration of the two more recent macroeconomic approaches. The former one is the IDP, which argues that there exists a more or less identifiable and predictable relation between the net investment position (NIP) of each country and its level of growth.

This approach, that borrows elements from Rostow's (1960) theory of the stages of growth, as well as the 'product life cycle' model is to a large extent based on Dunning's (1993) eclectic paradigm and argues for the existence of five stages.

In the first stage of growth of investments outward FDI is either scarce or inexistent, while the inward is also limited and almost exclusively concentrated on the exploitation of natural resources. In the second stage the growth of the country begins to attract more FDI, while outward flows remain at low levels. In the third stage the situation is reversed with the rate of increase of outward investments increasing, concurrently with the reduction of the rate of growth of inward FDI. The fourth stage is achieved when outward flows equal or even exceed inward, while in the fifth and last stage the NIP fluctuates between positive and negative values, while at the same time both outward and inward FDI continue to increase.

Using so many different elements from relatively different theories, the IDP cannot be considered to be a theory of FDI neither of the TNC. Moreover, its expected pattern does not appear to be empirically verified in all cases. Nevertheless, it constitutes one of the few efforts to analyse the developmental consequences of FDI, but also the effect of economic growth on FDI.

The objectives of third macroeconomic approach, i.e. the Japanese approach, appear to be quite similar. Since it is based to a large extent on the traditional (H-O-S) international trade theory, whose building block is the theory of comparative advantage, the Japanese approach is perhaps the only effort at a macroeconomic level that could be called a theory.

The main point of the theory is that FDI should emanate from the comparatively disadvantaged sector of the investing country, which may be the one in which the receiving country has a comparative advantage. In simple terms FDI is supposed to reinforce the comparative advantage of country of reception. If this happens, there will also be a welfare improvement in both countries. However, this 'if' is also the most problematic point of the theory. Specifically, as with the 'product life cycle' model which is thought to be inextricably linked to a specific phase of growth of the American economy and a very specific economic situation of the world economy, during which the American economy was dominant, the Japanese approach was also based on the experience of a specific country. As soon as Japan stopped investing exclusively in Asian UDCs, the validity of the theory collapsed.

Thus, while its dependence on the conventional tools of analysis of international trade allow the investigation of questions such as the impacts of FDI on unemployment, the balance of payments and the productivity at country level, these constitute focal points of the theory. On the other hand, the dependence of the approach on the theory of comparative advantage automatically reveals its weaknesses, as the assumptions of the latter are highly unrealistic.

During a relatively short period, of no more than 50 years, the perception of the phenomena of FDI and the TNC has significantly evolved. Compared to the relatively simplistic picture of FDI as a variant of international capital markets, the current situation, with a large number of theories trying to interpret the international investment activity, seems rather chaotic. However, from another point of view, the proliferation of theories can only be indicative of the complexity of the phenomena, as well as the number of questions that requires investigation.

### *1.5.3 Theoretical discussions on subcontracting and outsourcing*

International fragmentation has largely been addressed with a clear emphasis on its wage or more generally factor-price effects, and on welfare implications (Kohler, 2001). Those are the

issues discussed by many scholars, and which they are attempting to explain by introducing new models.

The most commonly used type of model is a Heckscher-Ohlin (H-O) model. However, there are some considerations that should be taken into account about the use of a H-O model, as recognised by Kohler (2001), whose work will be used extensively in the following section: a) the H-O model is known to yield weak results in higher dimensions, b) its characteristic assumption that all factors are completely mobile between sectors is of questionable relevance from a policy perspective, where short run factor-specificity is normally deemed important; therefore, he relies on a specific-factors model. His main argument is that effective prices constitute a useful tool also for investigating welfare and distributional consequences of international fragmentation in a unified way. Moreover, he stresses two other interesting points. First, he highlights the role that costs of international fragmentation play for the welfare consequences. Maintaining a cross-border link for international fragmentation may entail a significant fixed-cost element, which in turn may result in a reduction of economic welfare in the home country, due to outsourcing. Another crucial point is whether firms complement outsourcing with FDI or whether fragmentation must rely on arms-length transactions.

On the other hand, Feenstra and Hanson (1996 and 1997) focus more on the wage debate. Using the example of the Mexican maquiladoras, they refer to the scale of skill intensity in production. They argue that in such cases higher skilled workers are needed in both countries, which eventually leads to increased wages in both countries. Their justification is based on the fact that since US exports its low skilled fragments to Mexico, US firms will focus more on the remaining fragments, which require high skilled workers. The situation in Mexico is exactly the opposite. Since the majority of the Mexican workforce is not high skilled, there will be an increased demand for skilled workers, which in turn will lead to an increase in the wages of skilled workers. As a result, the increased skill intensity in both countries will lead to higher wages.

The two underlying assumptions in the previous model are that there is only one final good and that there are only two countries. Arndt (1998), following previous work of Jones and Kierzkowski (1997 and 2000), uses a more conventional H-O model with two goods and two factors. He advocates that if the labour-intensive import-competing industry in the US moves some of its fragments to Mexico, it will be as a technological improvement in the remaining fragments of this industry. Assuming that prices for the final goods are given from world commodity markets, the outcome will be in favour of labour, as it is a widely known outcome for labour intensive industries.

It should be noted that there is a basic difference in the two models. Feenstra and Hanson emphasise the factor-bias in technological change, while Arndt emphasises the sector-bias. But as Krugman (2000) points out, factor-bias definitely does matter, and a factor content approach to infer the effects of trade on factor prices turns out to be an entirely justified procedure when carefully applied. The major issue raised by Kohler (2001) about the latter is that allowing outsourcing for more final goods (instead of only one or two included in the H-O models) generates more candidate fragments for outsourcing, and the outcome is less clear-cut. Furthermore, although usually the case is that labour intensive fragments are outsourced, these fragments may be parts of an industrial sector which is capital intensive in aggregate. The result is that the wage rate in the outsourcing country is depressed. In any case, this whole issue is still open and scholars still consider the question of which of the two views is more relevant.

Another differentiation of the Feenstra and Hanson (1996) model comes from Glass and Saggi (2001), whose model is driven by differences in technology, instead of differences in factor endowments. The former model divides the world in North and South, where South focuses in the production of intermediate products. The final outcome is positive, since an increase in international outsourcing benefits Northern workers by lowering the prices of goods and if the South is small enough, this effect outweighs the negative wage effects, leading to an overall welfare gain. Glass and Saggi (2001) model assumes that both innovation and production occur

in the North, and only production in the South. It complements the former one, concluding that a welfare gain can occur through faster innovation. This gain may materialise due to a variety of reasons, as reduced costs of adapting technology for Southern production or a span of production that can be outsourced. Alternatively, increased production taxes in the North, increased production subsidies in the South, or subsidies to adapting technology in the South, all lead to increased international outsourcing. They claim that the firm chooses its intensity of innovation, and then the price of its product and intensity of adaptation, to maximise its value given the prices and innovation intensities of other firms. The reward to innovation is the discounted stream of profits from production. Of course there is a limit to outsourcing which is a sensitive point for corporations. Keeping at least a small step of production (broadly defined) within the firm ensures that outsiders cannot fully replicate the production process.

Some basic notions of the latter model are the following: consumers are willing to pay a premium for quality products because they derive more utility from higher quality products. This premium gives the Northern firm an incentive to develop quality improvements. Once successful in inventing a higher quality level of a product, a Northern firm can then attempt to outsource production by adapting its basic production technology for the low cost country. If the firm is successful in adapting its technology it then licences a southern firm to perform its basic production at cost.

Deardorff (2001) examines the effects of both H-O and Ricardian (theoretical, not empirical) models in the context of a two small open economies model, and concludes that fragmentation *can* matter, depending on the circumstances. His fundamental assumption is that factor prices are not equal everywhere, and his four main conclusions are summarised here: *1. If fragmentation does not change the prices of goods, then it must increase the value of output of any country where it occurs and that of the world. 2. If, on the other hand, fragmentation does change prices, then it can lower the welfare of a country by turning its terms of trade against it. 3. Even in a country that gains from fragmentation, it is possible (but not necessary) that some factor owners within that country will lose. 4. To the extent that factor prices are not equalized internationally without fragmentation, fragmentation may be a force toward factor price equalization.*

Finally, Egger and Egger (2001b) set out a simple theoretical model of Cournot competition in two stages. In the first stage, firms strategically choose their outsourcing intensity, and in the second they assume that firms serve markets under market competition. Following the bulk of the literature, their assumption is that the cost-saving potential (which is the driving force for international outsourcing) arises due to lower wages rather than specialisation effects or technology differences. It turns out that a higher market concentration is associated with a higher outsourcing intensity at the industry level. The evidence from their statistical analysis of data about the EU12 area justifies this. Hence, their claim that market structure is indeed one of the reasons, why outsourcing activities are so different across industries, is supported adequately. The outsourcing intensity is negatively related to the number of firms and therefore positively related to the market concentration.

Reviewing critically the aforementioned models, Kohler (2001) highlights one additional point, which is not discussed explicitly by other authors and their models. It is implicitly assumed that there is a single final good. However, this may not be the case in reality, as products or compartments of a specific fragment may be used for various final products. Therefore, it is very difficult if not impossible to pin down the factor price effects of international fragmentation, unless additional assumptions are made. The work of Jones and Kierzkowski (in Kohler, 2001) reinforces the impression that it is not clear-cut whether fragmentation may be beneficial or harmful to (low-skilled) workers. It all depends on the mosaic constituted by the factor-endowment position and output pattern of a country, and the factor-intensities prevailing in the different fragments. In addition, they stress the difference between the imputed prices of the individual components of a production process prior to fragmentation, and explicit prices of value-added fragments which are determined on world markets once fragmentation is established, and which in general will be different from imputed prices before (Kohler, 2001).

### **1.5.3.1.1 Research focus / issues raised**

Reviewing the literature about international outsourcing, it is possible to identify some key issues raised by authors and highlight where latest research is focused. Apart from the directions pointed by the previous section and the models mentioned, there are also some other more or less similar issues discussed in relevant literature.

Three key issues referred to by Arndt (1998) are a) the terms of trade, b) output and employment effects, and c) national welfare. Surprising sceptics, he claims that when import-competing industries abandon production of labour-intensive components, wages rise and industry employment and output expand, while national welfare increases. For a large country the terms of trade improve, raising national welfare still further. There is an emerging cost-price gap, which introduces opportunities for further profit and offers motivation to corporations to expand production. Moreover, if labour is homogeneous and perfectly mobile, the wage effect spreads throughout the economy. Nevertheless, he stresses that any alterations in product prices do matter. He winds up saying that:

“extending the international division of labour beyond final products to the realm of component activities, opens up new welfare opportunities”

It does so by reducing the comparative disadvantage of the labour-intensive industry. As shown, the effect on relative wages depends on the sector in which outsourcing takes place, and production rises in the outsourcing sector and falls in the other sector.

In accordance with the latter finding, Egger and Egger (2001b) find that the EU’s net exporting industries are indeed more skill-intensive than the region’s net-importing industries, and that outward processing by importing industries is about twice as high as by exporting industries. Moreover, in their paper about *Market Concentration and International Outsourcing* (2001a) they advocate that before firms outsource internationally, they have to consider the additional costs generated: a) *search costs*, which include all costs related to finding a suitable supplier of the imported intermediate b) *production adjustment costs* c) *communication and coordination costs*. Those costs depend on the degree of outsourcing.

Expanding further on the same issue, Hendry (1995) says that all arguments for outsourcing are based on analysis of the formal side of the system, which incorporates the technology-based information systems, which in turn have made change possible. However, no matter how important the informal side of the system may be, it is easily ignored, since it cannot be reengineered using information technology. So, the crucial question for Hendry becomes: “*You lose cost, perhaps, but do you lose anything else as well, and if so, what?*”. He certainly acknowledges the very real and much more immediate economic benefits of outsourcing and cutting back to the core. Notwithstanding, he stresses that benefits are directly measurable and can be achieved in the short term, whereas costs are uncertain and may become apparent only in the longer term. Efficiency is essential for short-term survival and success, but learning which depends on culture and community is equally essential for longer term survival and prosperity. Additionally, he suggests a balance between focus and awareness, motivation and control, autonomy and coordination.

Some of those underlying factors can be recognised also in Glass and Saggi (2001), although only implicitly, since they focus more on their model. They seem to make some random assumptions, which although may coincide with theory, they do not go along with empirical results. So, their assumption that citizens of the North will always aim to buy products of the highest quality, paying an extra premium required for the latter, does not seem to reflect a typical situation, even in the North. However, their conclusion that increased international outsourcing affects welfare of the Northern citizens in two conflicting ways, seems to fit in with the rest of the literature. What should also be noted here as a more general comment is the fact that most of the analysis starts and ends from the Northern (or western, industrialised, advanced etc) economies, leaving out of the models and the majority of the literature the wider effects of international outsourcing on the countries where fragments are being outsourced.

This brings in the discussion the question, whether international outsourcing is ethical or not. This is neither a simple nor a short-term answer. No matter that international outsourcing has been around global economy for several decades, it is only recently that it is being scrutinised.

There are two main sides, for or against international outsourcing. Some argue that as long as actions are legal, they are ethical. Others argue back that these actions (“...by greedy companies that disrupt the economic futures of many people” through job losses) are purely unethical. As mentioned, there is no straight answer. A manufacturing engineer from a US firm which outsourced and relocated a large part of its production activities in other US states and Hong Kong, states clearly that while there are considerations, the ethical border line for him is this:

“If a company outsources because of corporate greed and the selfishness of the top executives, then it is unethical. However, if outsourcing is done out of competitive necessity and the needs of the employees are a major consideration during the process, then indeed outsourcing may be the most ethical action that can be taken.” (*www.machinedesign.com*, 19/8/2004)

Who will judge this is another issue, which is out of the scope of this paper. So here it is clarified that international outsourcing is not only a strictly economic process affecting only various sectors of national economies, but it is also a phenomenon with social aspects.

A general conclusion about the literature, reached by Kohler (2001), is that without considering the various distortions, international fragmentation is but a further instance of beneficial division of labour. However, as he shows in his paper, fixed costs of coordination and networking may imply that international fragmentation causes a welfare loss. The fact is that international outsourcing (or whichever definition one adopts) is -still- happening and has various aspects, thus should be seen and manipulated from various perspectives.

Hendry (1995) elaborates the recent situation successfully; therefore his words are used as a final remark:

“As corporations seek a new balance, appropriate to the technological and competitive environment of the 21<sup>st</sup> century, the overall movement must surely be in the direction of the network organisation, with outsourcing continuing to be a key feature of organisational change. Taken too far, however, such a movement may well be self-destructive, for deprived of its informal information systems, its cultural influence and its sense of community, the network organisation will be very vulnerable in the longer term.”

#### 1.5.4 *The discussion on the organisation of business*

Firms, markets and the nation state have undoubtedly been the main focus of mainstream economic theory for more than a century. Most economists have been taught that firms and markets are the key players in the allocation of scarce resources. Although the first company was allegedly founded in 1374<sup>20</sup>, according to Chandler (1980) the modern hierarchical archetype was only created around the last decades of the 19<sup>th</sup> century. On the other hand, ‘gentlemanly capitalism’ (Cain and Hopkins, 1986) and the ‘moral economy’ (Thompson, 1971) are terms reflecting a market system not at all impersonal, or devoid of personal, political, social and other influences.

The main object of this section is an exploration of the literature around other forms of organisation of economic life, most notably networks. To proceed to such an analysis in a comprehensive and all-embracing manner is by no means an easy task. As will be argued networks come in an endless variety; this includes, among others, the factors leading to their initiation and subsequent conduct, the underlying principles of their existence, their outcomes, and the analytical and scientific framework used in their analysis.

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20 The alleged oldest commercial corporation in the world, the Stora Kopparberg mining community in Falun, Sweden, reportedly obtained a charter from King Magnus Eriksson in 1347 (<http://en.wikipedia.org/wiki/Corporation>).

Finally, we come with a taxonomy of networks and their variants, as well as with a number of research questions related to their relevance as a constructive part of the analysis of the delocalisation of European labour intensive industries.

#### 1.5.4.1 *What is replacing the “modern corporation”*

Modern corporation (i.e. a large multidivisional and increasingly transnational enterprise, with its extensive managerial hierarchy), as Sturgeon (2002: 451-452) argues, had become an undeniably dominant force in economic development. In fact, the trend for the steady increase in the size of the manufacturing firms had been so persistent that, as Hymer (1976: 441) puts it “it might be formulated as a general law of capital accumulation”. However, this lasted up to the '70s and '80s when, changes in the world economic scene, particularly the failure of large US corporations to adequately respond to competition from UDCs put into question the primacy of the modern corporation as an organising principle. The failure of the “modern corporation” idea, as Sturgeon (2002: 452-453) argues, led to the rise of new ideas stressing the importance of external economies and production networks, as well as of the importance of trust, reputation and long-term “relational” contracting that can create stable external economies that resist the apparent tendency for economic activity to concentrate in the ever-larger modern corporations.

During the last 15 years, falling barriers to international transactions (taxes, transport cost, communication cost....) gave rise to elaborate corporate systems of organising the production process, what UNCTAD (2002: 121, 125) terms, the “international production systems” within which TNCs locate different parts of the production process and service functions, across the globe, to take advantage of fine differences in costs, resources, logistics and markets. There is a growing tendency for firms, even large TNCs, to specialize more narrowly and to contract out more and more functions to independent firms, spreading them internationally to take advantage of differences in costs and logistics. Some are even opting out of production altogether leaving contract manufacturers to handle it while they focus on innovation and marketing.

The “international production system”, has different locational requirements. In a sense a given location, as is argued in UNCTAD (2002: 125), is judged by how cost-efficiently it performs a given function in coordination with functions located elsewhere, and not merely in isolation. Clustering has become a key influence on TNCs’ locational decision-making. TNCs recognize the value of co-location with suppliers, competitors, service providers and knowledge intermediaries. While distance might matter less for many transactions, proximity and access to tacit or partly tacit knowledge is increasingly vital for competitive advantage.

In a sense we live in a new era with a different spatial organisation of the international economy (production, services etc) what Sturgeon (2002: 451) calls the “*modular production network*”: In this on the one hand we have the lead firms that concentrate on the creation, penetration and defence of markets for end products and the provision of services to go with them. On the other hand we have the contractors that take the production of the lead firms and operate globally as *turn-key* suppliers. “*Modular production network*” relies on inter-firm links and the generic manufacturing capacity residing in turn-key suppliers to reduce transaction costs, build external economies of scale and reduce risk for network actors. Distinct breaks in the value chain tend to form at points where information regarding product specifications can be highly formalized.

Hence, in the modular network market, concentration can increase without concomitant concentration in the ownership of productive capacity. One of the implications of this is that, as Sturgeon (2002: 465-466) argues, as large-scale shared external economies emerge in an industry, the link between gaining market share through successful product innovation, on one hand, and firm size and scope, on the other breaks down. This link was the cornerstone of Schumpeter’s conception of industry structure and his explanation for the rise of the large, vertically integrated industrial firm in the early part of the 20<sup>th</sup> century. Nowadays, firms that outsource a large share of their manufacturing no longer have to carry the financial, administrative and technical burden of fixed capital for production, allowing them to focus on product innovation and become more organisationally and geographically flexible.

Thus, as Sturgeon (2002: 466-468) argues, lead firms enjoy now only barriers to entry due to innovation and not those based on the holding of their production activities. If there are risks associated with letting go of manufacturing, they appear to have less to do with losing the ability to innovate, and more to do with losing the protection afforded from new market entrants by large-scale, firm-specific investments in plant and equipment. Barriers to entry based on the holding of productive capacity by leading firms fail to develop. From the suppliers' perspective, long-term viability in a network environment means maintaining a large and diverse pool of customers and to develop generic manufacturing capacity and services that allow product variation to be very large. As suppliers gain in financial strength, technical and operational competence, and geographic reach -and as brand-name firms become extremely reliant on them - the possibility arises for suppliers to take the further step of developing their own end-products in competition with their customers. Perhaps, in some cases producing innovative products too. One needs to be reminded that as UNCTAD (2002: 124) points out, DCs continue to perform most of the research aimed at radical breakthroughs, UDCs too now carry out significant R&D.

Outsourcing provides advantages for both lead firms and subcontractors. In the sense that it allows **lead firms** (virtual corporations), as Sturgeon (2002: 452) argue, to focus on the "core" competence areas that are perceived as being essential to the formation of competitive advantage, especially product innovation, marketing and other activities related to brand development, while they hand out all "non-core" functions to subcontractors. Lead firms outsource, as Sturgeon (2002: 462) argues speaking about electronic firms only, because: a) they place manufacturing in a low position on the hierarchy of corporate esteem; b) they gain flexibility i.e. the ability to ramp the volume of their production upward or downward on short notice without the need to install or idle in-house plant and equipment; c) contractors work on a "turn-key" basis and they added a range of front and back-end services related to the assembly process; and d) they avoid the investment that is necessary due to the further automation of the process.

Technological advances and competitive pressures, as UNCTAD (2002: 122) argues, have altered the balance between two opposing firm-specific advantages sought by TNCs - internalisation versus specialisation - in favour of the latter.

To meet the growing demand for full-service outsourcing solutions **suppliers** have in many cases had to add entirely new competence areas, increasing their scope of activities while improving quality, delivery and cost performance. They became, what Sturgeon (2002: 455) calls, "turn-key" suppliers since their deep capabilities and independent stance *vis-à-vis* their customers allows them to provide a full range of services without a great deal of assistance from, or dependence on lead firms. Increased outsourcing has also, in many instances, vastly increased the scale of suppliers' operations. The main suppliers and contract manufacturers are themselves often large TNCs, with global "footprints" with their own subcontractors and suppliers; work simultaneously for many brand name companies that often are competitors in the market; bought "brand - name" companies' factories with a contract to do subcontract work for them for a number of years; have their HQs in DCs (US etc).

Nevertheless, firms from UDCs are quickly becoming major players. The biggest firms in India : Infosys, Wipro, Technologies and Tata Consulting Services. Pou Chen Group is a Taiwanese owned company a TNC in itself (turnover US\$ 1,939 million and profits US\$ 229 million) (Clean Clothes Campaign, 2004). Flextronics, a Singapore-based firm: In 2003 Ericsson, the Swedish telecoms firm chose it to take over the manufacturing operations of its mobile phone handset unit. It makes handsets for Alcatel, a French TNC. Large -format printers for Hewlett-Packard. Xerox sold half its office equipment making operations to Flextronics

One of the main advantages of contract service provider TNCs is their established links to clients in the US and Europe. In the call centre industry, the largest contract service producers (Table 1.10) are all from the US and their offshore business account for less than 10% (UNCTAD, 2004: 158).

Table 1.10 Contract service provider TNCs offering call/contact centre services, 2003

Company name	Turnover (S billion)	Number of employees	Year of establishment	Year of first offshore location in developing country
Convergys	2,3	55 000	1998	2000 ( <b>India</b> )
ICT Group	03	11 000	1987	2002 (Philippines)
Sitel	0.8	26 000	1985	2001 (India)
Sykes	05	16 000	1977	1997 (Philippines)

Source: UNCTAD (2004: 158).

Research question 19: Is there a gradual upwards movement in the value chain of firms that take outsourcing activities in the UDCs?

Research question 20: **TNCs that outsource are more vulnerable. Not so much because they loose the ability to innovate but primarily because they loose the protection from new market entrants (corporate contract manufacturers).**

Research question 21: **Is innovation still a business of the DCs and of the old TNCs only?**

#### 1.5.4.2 *Markets and hierarchies: the limiting cases?*

Throughout most of its history the science of economics has been occupied with the study of the firm and the operations of the markets. Value addition was considered to take place only within the boundaries of a firm, or through arm's length transactions in (mostly) idealistic perfectly self regulated markets. Although Marshal (1895), more than a century, ago was the first to notice the special influence of agglomeration and intra-firm cooperation – most of which did not take place within a firm, or through the market – on firms' and markets' operations, it took more than 40 years before Coase (1937) made the first explicit effort to understand the boundaries between firm and market.

Through the years, it became clear that firms, which in the coasian (or transaction costs) perspective is nothing more than the gathering of the transactions necessary in each value chain under common hierarchical administrative control, markets which bring together totally independent entities for non-repetitive impersonal transactions, along with nation states, are not the only institutions of economic life. As Dunning eloquently points out:

Once upon a time, there was the firm, and the boundaries of its economic jurisdiction were clearly demarcated by its ownership. There were few intrafirm transactions, and all interfirm transactions were conducted between independent parties at arm's length prices. This is no longer the case. Once upon a time, there were identifiable and autonomous markets, the confines of which were unambiguously delineated by the particular assets, goods and services being traded, and by the parties to the exchange. This is no longer the case. Once upon a time, there were nation states, whose political domain largely corresponded with their economic domains, and whose governments produced largely independent macro-economic and macro-organizational policies. This is no longer the case (Dunning, 1997, p. 99).

Before looking at the alternative mode of organizing economic life it should be stressed that for a number of reasons, hierarchical structures, (i.e. firms), are during the last few decades beginning to restructure, in a sense emulating the characteristics and structures of networks of independent entities. One such example is the Asea Brown Boveri (ABB) group which was formed after two very old firms, the Swedish Asea and the Swiss Brown Boveri were merged in 1987 (Taylor, 1991). In 1991 the group employed 240.000 people and contrary to what one would expect, only 100 were employed at the central offices in Zurich. More interestingly, the group's 4.500 'profit centres' enjoy considerable autonomy, at least when it comes to certain

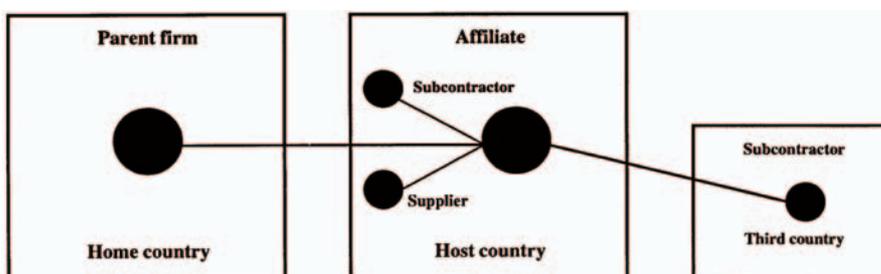
aspects of their operations, making the group a ‘federation of companies with a global coordination centre’.

Of course, ABB is not alone at pursuing such a strategy. UNCTAD, which publishes a yearly report on the development of FDI and the TNC, devoted its 1993 issue in the analysis of the integration strategies of TNCs. Specifically, three broad types of integration were identified:

a. Stand-alone strategy

The main link between the parent and its affiliate(s) is control through ownership. In fact the affiliate often operates as a duplication of the parent producing a similar range of goods, and can be servicing its own, or nearby foreign markets. Furthermore, it may have a number of affiliates or subcontractors in its own or foreign markets (Figure 1.18). However, what is more important characteristic of stand-alone affiliates in the context of our study is its considerable independence from the parent firm.

**Figure 1.18 Standalone strategy**



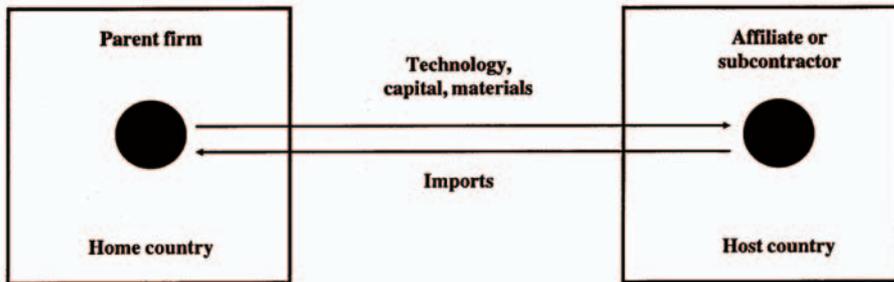
Source: UNCTAD (1993: 119)

b. Simple integration strategies

The most typical example of a simple integration strategy is international outsourcing, which is defined as ‘a transfer of some value-adding activities to locations other than the home country and the primary country or countries of final sale’ (UNCTAD, 1993: 119). In effect, outsourcing represents a ‘slicing’ of the firm’s value added chain, whereby some of its portions are performed by other firms. This, it is argued, enables the TNC to concentrate on core capabilities – to use a more up-to-date parlance – while other firms perform the, usually lower value added, other activities.

What is more interesting is that according to UNCTAD, from a functionality point of view, the ownership of the firm undertaking the outsourced activity is more or less indifferent. In other words, whether the firm owns (wholly or through equity sharing) a subsidiary or subcontracts the work to independent firms, makes little difference, since, even a subcontractor has to be linked to the TNC or its affiliates, thus becoming a part of the TNC structure (Figure 1.19). In fact, the type of linkages depends on the position of the subcontractor at the parent’s value chain.

**Figure 1.19 Simple integration strategy**

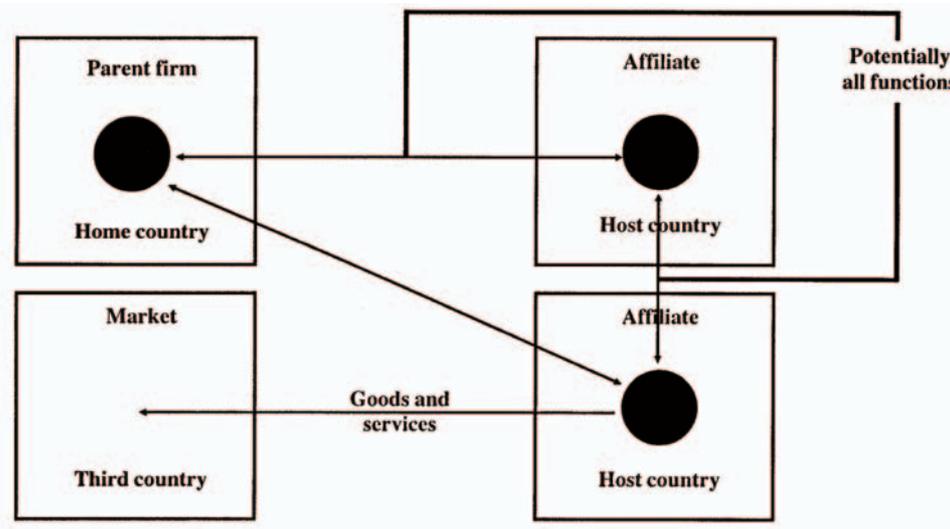


Source: UNCTAD (1993: 120)

c. Complex integration strategies

Under complex integration strategies, any function of the TNC can be performed by an affiliate or groups of affiliates. What this actually implies is that the various – and in the most ‘extreme’ cases all – functional activities of TNCs can be located at the most advantageous locations around the globe. According to Powell (2001), firms such as ABB and General Electric with essentially flat and highly decentralised organisation structures and a ‘passionate commitment to organizational learning’ exemplify the complex integration strategy. This effectively means that if a certain unit of the firm manages to excel in any field, it, almost automatically assumes full responsibility of that field at the company level.

**Figure 1.20 Complex integration strategy**



Source: UNCTAD (1993: 123)

Although according to UNCTAD (1993:121) the ‘complex integration strategy is based upon a firm’s ability to shift production or supply to wherever is most profitable’, Powell (2003) argues that firms adopting such strategies do not shift operations from one site to another in search of lower labour costs, as do smaller firms such as Nike. Specifically regarding a firm’s employees, the former strategy could be labelled the ‘high road’ of reconstituting labour without victimizing the employees, as opposed to the ‘low road’ of cheap labour in an effort to cut costs. According to the author, the prospects are brighter for knowledge-intensive industries. Naturally, a single firm could be pursuing both strategies at the same time. Where does these leave labour-intensive industries?

Although cooperative strategies have gained significant momentum in the academic literature during the last decade, the first efforts to build a cohesive (economic) theory of networks is much older.

In the beginning of the 1970s, Richardson (1972) argued that it is only in theory that firms are well-defined autonomous units; in practice they are interrelated e.g. Firm A can be: a joint subsidiary of firms B and C, can have technical agreements with D and E, may subcontract work to F, be in marketing association with G and so on. In the real world between the firm and the market there is a dense network of co-operation and affiliation by which firms are inter-related (Richardson, 1972: 883, 884).

He went on to argue that firms are linked together in patterns of co-operation and affiliation and that planned co-ordination is possible not only within the frontiers of the firm but also between firms. The need for co-ordination of complementary activities may propagate three different responses: direction, co-operation (when two or more independent organisations agree to match their related plans in advance) and market transactions.

Firms make products and market forces determine how much of each product is made. Organisations will tend to specialize in activities for which their capabilities offer some comparative advantage (Richardson, 1972: 888).

The idea that networks are something distinct from both markets and hierarchies (i.e. represent an alternative, and not a composite type of organisation) was pioneered by Powell (1990), mainly as a reaction to Williamson’s (1985) dyadic view of the economy. Of course, in essence, it was not a critique of Williamson’s failure to analyse more economic institutions of capitalism, something that Williamson (1985:385) himself acknowledges, but of his main analytical tool, i.e. transactions. In other words, Williamson argued that all economic institutions could be explained by the use of transaction costs, something that Powell (and for that matter the majority of social economists) strongly opposed. In turn, it is argued that economics is embedded in social and cultural forces while, in practice pure examples of any type of economic institution are hard to find. Regarding the latter, there appear to be elements of hierarchy in written contracts, while market processes are being introduced into the firm.

Powell’s effort for a crude distinction between the different forms of organisation, the situations giving rise to each of them and their relative merits or shortcomings is reflected in Table 1.11<sup>21</sup>. Each type of organisation is apparently suitable for certain operations in specific environments.

Table 1.11 Comparison of Forms of Economic Organization.

<i>Key Features</i>	<i>Forms</i>		
	<i>Market</i>	<i>Hierarchy</i>	<i>Network</i>
Normative Basis	Contract – Property Rights	Employment Relationship	Complementary Strengths
Means of Communication	Prices	Routines	Relational
Methods of Conflict Resolution	Haggling – resort to courts for enforcement	Administrative fiat – Supervision	Norm of reciprocity – Reputational concerns
Degree of Flexibility	High	Low	Medium
Amount of Commitment Among the Parties	Low	Medium to High	Medium to High
Tone or Climate	Precision and/or Suspicion	Formal, bureaucratic	Open-ended, mutual benefits
Actor Preferences or Independent		Dependent	Interdependent

21 Although he specifically acknowledged the inability of stylised models of the types of organisation to be perfectly descriptive of economic reality.

Choices

Mixing of Forms	Repeat transactions (Geertz, 1978)	Informal organization (Dalton, 1957)	Status	Hierarchies
	Contracts as documents (Stinchcombe, 1985)	Market-like features: centers, transfer pricing (Eccles, 1985)	profit Multiple Partners	Formal rules

Source: Powell (1990:300)

When choice, flexibility and opportunity are highly valued, markets are the preferable type of organization. However, since markets are a simplifying mechanism, unable to capture the details of idiosyncratic and complex exchange, they are a poor device for knowledge and technological know-how. The need to conduct more complex exchange gives rise to other types of organization.

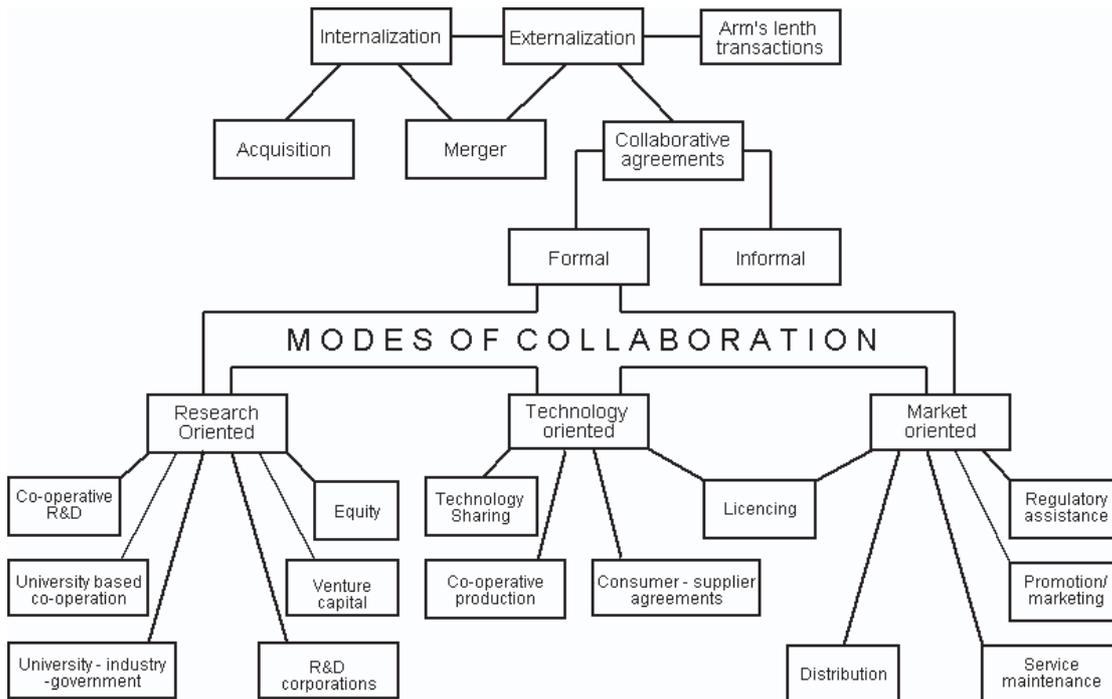
According to Powell (1990:303) hierarchies are better suited for mass production and distribution of goods or services of a given quality. However, they are generally characterized by lower flexibility, and are thus less capable of facing volatile and unexpected environmental changes and fluctuations in demand. At this point we should note that Powell, failed to notice the trend, which had admittedly already started to take place at the time of writing of his article, of divestment and contraction of the behemoths of the time, which gradually started adopting elements of a network organization.<sup>22</sup>

Networks, on the other hand, are an organization in which one party is dependent on resources controlled by another, and there are gains to be had by the pooling of resources. The main advantage of networks is that they appear to be particularly suitable in situations where there is a need for efficient and reliable information. Since exchange in networks is not primarily regulated by prices or administrative control, most – formal – networks are regulated by contracts. However, again, this is a rather restrictive view of networks. In order to better comprehend networks and their organization, we follow Podolny and Page (1998:59) in defining ‘...a network form of organization as any collection of actors ( $N \geq 2$ ) that pursue repeated, enduring exchange relations with one another and, at the same time, lack a legitimate organizational authority to arbitrate and resolve disputes that may arise during the exchange’. The definition provided clearly excludes market transactions, which are, ideally, not enduring or repeated (unless, of course, we are talking about monopolistic situations), as well as hierarchy, where a legitimate authority exists to resolve disputes.

According to Podolny and Page (1998) networks include a wide array of organizational structures, such as joint ventures, strategic alliances, business groups, franchises, research consortia, relational contracts and outsourcing agreements. Some of them may be regulated through contracts, and some not. Hence, the existence of a contract appears not to be a prerequisite, while in fact, short-term contracts are more useful in regulating market transactions. A more extensive representation of network typology is provided in Figure 1.21, taken from Anderson (1995). We argue that most of these types may also occur in informal networks, a possibility Anderson apparently ignored.

<sup>22</sup> Which, we should note, he did – and quite successfully so – 13 years later (Powell, 2003)

Figure 1.21 Types of collaboration



Source: Anderson (1995:60)

Which is then the 'glue' that binds network members together? In other words, enduring relations imply that cost considerations may not always be the defining criterion shaping transactions. Furthermore, as is often argued in the literature, even when relations are contractual, members of a network are usually hesitant in resorting to court litigation over some dispute (Granovetter, 1985:496). It is generally argued that networks are characterised by a specific ethic or value orientation (Podolny and Page, 1998:60). According to Powell (1990) the building block of these characteristics is reciprocity, which may be entirely consistent with the pursuit of self-interest, in situations where equivalence is stressed (e.g. returning ill for ill and good for good). Other approaches examining reciprocity (sociological ones) focus on indebtedness, arguing that it is imbalance that sustains a relationship and not equivalence – which may, in fact, even undermine it. In any case (especially, however, through the sociological view), reciprocity means that each partner goes beyond the narrow criteria of self-interest, not only because a short-term profit (by pursuing his self-interest) may jeopardise an established relation, and therefore a longer term profit, but also because trust ensures that other partners will not pursue their self-interest.

Trust, obligation and above all, embeddedness are also stressed by Granovetter (1985), who argued that most behaviour is closely embedded in networks of interpersonal relations which generate trust. In this sense, the social context of each economic relationship is of utmost importance.

Naturally, there exist other, less socialized (and perhaps equally, if not more in our context, valid) approaches concerning the governance of networks. In this context, Sacchetti and Sugden (2003: 674) define a network as a number of nodes and links amongst actors, where each one dynamically aims at improving its position within the network; as relating the distribution of resources amongst actors to the structure of actors' interdependencies. Therefore, according to Sacchetti and Sugden (2003: 675) we can understand networks either as reciprocal dependence based on complementarity of resources, shared objectives and on the agreement not to act against the interests of others in the network, or **not** as a reciprocal, preferential and mutually supportive locus of production (e.g. relation of prime contractor to subcontractors)

Therefore, networks entail an idea of governance in production where power becomes a crucial determinant of the nature of relationships between actors, with or without the presence of market relations. This way, according to Sacchetti and Sugden (2003: 670), differs from the “market model” (where all actors have equal power) as it does not confine the presence of power asymmetries to exceptional circumstances –i.e. a market failure – but embodies power as a constituent element of network relationships.

In this context, as Sacchetti and Sugden (2003: 671) argue, networks may be viewed as having a centre, the big firm (the star) managing the actors of its “constellation” (the planets), which are partially controlled and partially autonomous; without a centre, where – in order to obtain reciprocal advantages – relationships among participants are mutual. Hence, the most significant defining characteristic of networks is the distribution of power, which may give rise to two quite distinct governance structures, i.e. networks of direction and networks of mutual dependence<sup>23</sup>, with very different implications on the roles of the various members of the network. In the TNC literature, the issue of the relationships between parents and affiliates has attracted considerable attention (e.g. Bartlett and Ghosal, 1989 and 1990; Birkinshaw, 1998 ). Expanding this logic to encompass all other relations (contractual or not) could be particularly interesting in our context.

#### 1.5.4.4 *Factors leading to the rise of network structures*

Although according to most sociologists, network structures are by no means something new, to the average economics and business scholar (who are apparently more interested on the ‘wider’ perspective), networks represent a distinct evolution of economic organisation.

In the economics and management literatures, which are naturally adopting more – although not entirely – ‘undersocialised’ views regarding economic decisions, the last 15 years have witnessed a rapidly growing interest on cooperative schemes. Terms like ‘alliance capitalism’ (Gerlach, 1992 and Dunning, 1997), ‘strategic alliances’ and ‘dynamic networks’ are not only in the daily parlance as an in vogue strategy approach, but rather as a strategic approach that is better suited to the economic and business environment of the 21<sup>st</sup> century. According to Contractor and Lorange (2002) there are three main types of factors affecting the formation of alliances, i.e. regulatory factors, changes in the business environment and changes in business practice, which in turn are grouped into three types of contextual or environmental changes (Table 1.12).

**Table 1.12 Economic and environmental trends favoring alliances.**

<i>Governmental Policy Changes (R)</i>
Further Deregulation and Economic Liberalization (R)
A Move Towards Harmonization of Standards and Reciprocal Acceptance of Data (R)
Spread of Intellectual Property Laws and Effective Enforcement (R)
<i>Knowledge Management in Firms (P or E)</i>
Identification and Codification of Knowledge Assets in Firms (P)
Acceleration in the Rate of Technical Change (E)
Growing Diversity of Knowledge Sources (E)
Escalating R&D Costs and Risks (P)

23 What is the actual source of dependence is a very interesting and relevant issue. In this context, considering the embeddedness of the firms to be the source of dependence, instead of purely economic (i.e. transaction) reasons will have different implications for the network, as well as the firms comprising it (Uzzi, 1997).

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*Changes in Production and Distribution (P or E)*

Outsourcing and Deconstruction of the Value Chain (P)

The Increasing Strategic Importance of Speed (E)

Multiplicity of End Applications of Technologies and Customization (E)

The Growing Role of Information Technology in Alliance Relationships (P)

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Source: Contractor and Lorange (2002:7).

(R): regulatory factors, (E): changes in the business environment and (P): changes in industry practice.

One direct implication of these trends is the centrality of knowledge in the new developments. On the one hand, knowledge is becoming more complex and expensive to develop, while on the other, it is becoming easier to share and protect it. Dunning (2002) also stresses on the impact of societal, business and environmental changes on the growing relevance of networks. With regards to the societies, the focus is apparently beginning to shift from efficiency considerations to upgrading and transforming societies through the preservation of their cultures and quality of life. Regarding the environmental changes, deregulation and liberalization have increased competitive pressures, forcing firms to focus on their core competencies. Along with disintegration comes a greater reliance on external sources at almost all conceivable parts of the value chain.

1.5.4.5 *How are the theories of FDI affected by the network perspective?*

The importance of embeddedness and long-standing social relations gives rise to a number of questions regarding the relevance of a ‘socialised’ view of economic decisions in explaining – at least some of – the movement of firms abroad. Specifically, it regards two questions; the first is related to the influence of the ‘thickness’ of relations of a firm on its decision to delocalise some or all of its productive stages. In other words, are more deeply embedded firms less footloose? Moreover, can the pooling of resources inherent in networks increase their resistance to competitive pressures (e.g. footwear and clothing in Italy). The second question relates to the influence of the local setting of the host country on the firms investing abroad.

One of the first exploratory efforts of analyzing the impacts of these changes in international business activities has been provided by Dunning (2002). Drawing on much of the extant sociological literature and some recent work on the strategy field (i.e. Holm *et al.*, 1996 and Dyer and Singh, 1998) Dunning argues for the existence of firm specific relational assets (R-assets), which he defines as (2002:572):

The stock of a firm’s willingness and capability to access, shape and engage in economically beneficial relationships; and to sustain and upgrade these relationships. Such relationships, though always conducted by and between individuals, may take place both within the confines of a particular firm, or between that firm and other organizations and individuals

Having realized the importance of R-assets, Dunning also acknowledged the difficulty in measuring them, or even identifying them. Instead he provides a (rather long) list of firm and country specific positive and negative virtues/values, which alone, or more often in combination form R-assets. Positive virtues/values include concepts such as trust, loyalty, reciprocity, dependability, willingness to learn, forbearance, adaptability, work ethic, spirit of community etc., while negative ones include opportunism, moral hazard, corruption, free riding, volatility and instability. By definition, their measurement is very difficult and always achieved through proxies<sup>24</sup>.

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24 for social or country R-assets, indices such as the extent of civil litigation, crime, drugs, terrorism, truancy, membership or participation in churches, clubs, charitable institutions or voluntary associations etc. could be used. In the case of firm assets, indices could include the existence of codes of conduct, the number of repeated interfirm ties, the number, frequency and density of interfirm linkages, the absence of industrial unrest etc.

Research question 22: Are the relationships between lead firm and contractor affected by the type of globalisation strategy of the specific firm, or they reflect structural characteristics of the industry concerned?

Research question 23: Is firm embeddedness a crucial factor in determining its performance? Is this determined by the particular point that it has in the value chain? (e.g. more important in the last stage of the value chain?)

## **1.6 Critical current issues and future developments**

### *1.6.1 Global Commodity Chains as a means to understand the location of firms*

The emerging new geography of production in labour-intensive industries is characterised by a multiplicity of ways of integrating formerly detached enterprises and regions into the global network of production and distribution. *In recent years, labour-intensive industries have become more globalised.* Admittedly, the pace and characteristics of global integration vary considerably from industry to industry - and even within industries. Compared with a decade ago there is now more optimism on the export potential of SMEs in UDCs (Nadvi and Schmitz, 1999). Nevertheless, there is a clear recognition in the literature that *breaking into export markets represents a discontinuous step.* If enterprises are assisted in the initial stage of exporting, they are more likely to continue. The critical issues are the sunk costs of gathering information on foreign markets, establishing marketing channels and changing product specifications. Start-up costs for exporters are high, particularly when the country as a whole is not on the 'export map' (and the Balkan countries are not).

What emerges as a key consideration in this context is: *How do formerly localised enterprises globalise?* The significance of this issue is illustrated in Gereffi's (1994 and 1996) work on changes in the garment industry. Global commodity chains (GCCs), according to Gereffi et al (1994: 2), are sets of inter-organisational networks, clustered around one commodity or product, linking households, enterprises, and states to one another within the world economy. A "commodity chain" traces the entire trajectory of a product from its conception and design, through production, retailing and final consumption. GCCs are the network of labour and production processes whose end result is a finished commodity. These networks are situationally specific, socially constructed, and locally integrated; underscoring the social embeddedness of economic organization. Gereffi (1994: 45) distinguishes GCCs between: a) *Producer-driven commodity chains*, where TNCs or other large industrial enterprises play the central role in controlling the production system, mainly in capital and technology intensive industries (e.g. automobiles, computers, aircraft and electrical machinery); b) *Buyer-driven commodity chains*, where large retailers, brand-name merchandisers and trading companies play a central role, predominantly in labour-intensive and consumer-good orientated industries (e.g. clothing, footwear, toys, consumer electronics, house-wares and hand-crafted items).

Both Gereffi (1994) and Schmitz & Knorrninga (1999, 3- 22) argue that an increasing number of countries engage in contract manufacturing for a decreasing number of global buyers. That is, while the number of producer firms and countries has increased rapidly, there has been a concentration amongst buyers. These buyers are global in the sense that they source from producers all over the world. This gives *increased power to global buyers.* It gives them an unrivalled ability to choose the best mix available from companies around the world in terms of: price, product quality, innovative design, speed of response, punctuality of delivery, flexibility in coping with changes in orders, design quality etc. There are huge TNCs that enjoy enormous economic power to bargain with their subcontractors around the world. For example, according to Gereffi and Mayer (2004: 22), Gap that is the largest US clothing chain, has more than 3,000 stores and an estimated 3,000 factories in 50 countries.

*A very powerful means to facilitate our understanding of the delocalisation of industries is via the concept of GCCs.* The manufacture of almost every product involves a number of relatively discrete sub-activities, which in turn have quite different skill, technology, labour and capital requirements, and hence have different locational needs. We can use here two examples i.e. TV sets and cut flowers.

- *TV sets*: It has at least three main categories of subactivities (Kenney & Florida, 1994): a) *television tube*: requires excellent process-engineering skills and skilled technicians. The factory is capital intensive, highly automated and needs substantial investment. It is located in DCs. b) *Integrated circuits*: produced in a semiconductor fabrication facilities which are: capital intensive; produce semiconductors for TV and other purposes and is located again in DCs. c) *chassis assembly/ printed circuit board stuffing /final assembly and test*: labour intensive, cannot be inexpensively automated. It can be located in UDCs.

- *cut flowers*: This has, as Hughes (2000) points out, at least four main categories of subactivities: a) *florigenetics and other materials*: It needs highly skilled researchers and is located in developed countries (i.e. Netherlands and Israel) b) *ideas of flower design – life style magazines*: It needs highly skilled people and is located in developed countries (e.g. UK). Floristry experts, retailers and life style magazines influence our notion of flower consumption. Hence, it is difficult to establish any beginning and end points in the process of generating design-based knowledge. c). *Production*: It is labour intensive and is located primarily in underdeveloped countries (i.e. Chile, Colombia, Ecuador, Gambia, India, Kenya, Uganda, Zimbabwe/ etc.), though there is some production in developed countries too (i.e. Netherlands), d) *Trade*: is controlled by developed countries, mainly through the auction houses in Netherlands (while producing 1/5 of the commercially grown flowers in the world, it handles the 3/5 of the world's trade).

There are a number of useful reviews of the GCC literature, and it is not our purpose to replicate this work (e.g. Leslie & Reimer, 1999; Hughes, 2000). Leslie and Reimer (1999: 404-6) see three main approaches to the investigation of commodity chains: a) *GCC* literature frequently recognizes the interplay between production and consumption, centring on the global dynamics of production/consumption/retailing linkages. A highly dualistic approach is retained (core – periphery): commodities are produced in peripheral regions of the world economy for retail and consumption in the core. GCC analyses often remain at a superficial level, focusing on systems and flows, and only periodically examining individual nodes. b) “*Systems of provision*” (Fine & Leopold, 1993) pinpoints differences in the ways in which production and consumption are linked in various commodities. c) *Commodity circuits*. Unlike chains, circuits have no beginning or end: there is a dense web of interactions between all sites.

Most versions of commodity chain analysis, as Leslie and Reimer (1999: 410) rightly point out, view the chain as a one directional process, focusing on the agency of the metropolitan consumers who construct meanings from inert raw materials from the third world. However, producers can also be consumers, hence, the connection between production and consumption is less a clear-cut sequence in economic practice than a multi-stranded and reflexive cultural process. Moreover, as Hughes (2000: 187) argues, based on the case of the flower chain, there is a network of interdependence in GCCs, rather than the oversimplified notion of core-periphery relations proposed by the commodity chain approaches.

We go along with Smith et al (2002: 43 - 44), who argue that, for an understanding of the reconfiguration of territorial economies in increasingly integrated macro-regions, a focus on value chains and networks is more useful than a focus on the production and consumption of commodities per se. GCCs framework provides potential insights into the reconfiguration of division of labour, economic and industrial organization and regional economic performance in the European and other macro-regional economies. Its main contribution lies in its implicit focus on flows of value that link various geographical scales from local/regional to global. Moreover, Smith et al (2002: 58) criticize the GCC because they do not recognize that there are other agents (i.e. labour, whether organized or not, and supranational/national and local states) that play crucial roles in the governance of value and activity across value networks.

Research question 24: Different activities in manufacturing or services have different location patterns, both between and within countries, depending on their position in the GCC.

Research question 25: Even within the most labour intensive sectors, there are segments that are knowledge/ capital intensive.

### 1.6.2 Globalisation and triangular manufacturing

A very prominent feature of the globalisation process has been the inclusion of new producers, especially from labour surplus countries, in a bid to reduce costs, especially in labour intensive products. The literature has tended to emphasise the benefits of sourcing from low wage countries, but has neglected the *often-considerable cost of transmitting product and process know-how*. The main obstacle has been how to import the range of skills required for producing to global standards.

The emerging new geography of production in labour-intensive industries is characterised by diverse modes of integrating formerly detached enterprises and regions – especially those that possess considerable reservoirs of cheap and adaptable labour - in the European and global network of production and distribution. A key consideration in this process was how to import the range of skills required for producing to global standards. Historically buyers have played a major role in this process. Frequently the ex-manufacturers from developed countries were the importers and transmitters of the required production expertise. Over recent years, however, some buyers from developed countries have found a way of extricating themselves from this task. *New regional intermediaries* have been able to occupy this role. It seems that the regional intermediaries are of increasing importance in order to understand whether and how producers from poor countries can integrate into the world economy. Many of the new regional intermediaries are former manufacturers. The most significant example is Taiwanese manufacturers moving to low wage sites in East Asia. Much of the seemingly miraculous export success of Mainland China is due to Taiwan joint ventures, Gereffi (1994) has observed it in the garment industry and refers to it as ‘triangle manufacturing’.

Intermediaries – usually former manufacturers - are very important because of their monitoring function: they ‘assure that the buyer’s standards in terms of price, quality and delivery schedules will be met by the new contractors in other Third World localities (Gereffi, 1994:114), as well of their role as transmitters of skills, and organisers of production, particularly in the incipient stages (Schmitz & Knorringa, 1999: 17). Firms seeking to subcontract their work are not just looking for suitable partners; their checklists also include issues concerning the socio-economic environment (i.e. education, training, infrastructure, proximity to suppliers etc). Effective infrastructure is crucial for the flow of materials and information (roads, ports, airports, communication lines) and speedy customs clearance for importing components and exporting finished goods. Therefore, the role of the state is crucial in ensuring that “triangular manufacturing” is an enduring solution.

The sourcing found in footwear (Schmitz and Knorringa, 1999) is following the same process as that found by Gereffi in garments. A difference arises only in the role accorded to the ‘old’ manufacturers. While Gereffi (1994:114) emphasises their monitoring function: they ‘assure that the buyer’s standards in terms of price, quality and delivery schedules will be met by the new contractors in other Third World locales’. Schmitz and Knorringa (1999) stress more the ‘old’ manufacturers’ role as transmitters of skills and organisers of production, particularly in the incipient stages. In footwear, they have found that much of the actual assembly line monitoring continues to be carried out by the foreign buyer’s own inspectors.

In order for a company to be able to act as an intermediate there are certain preconditions itself that have to be fulfilled. Hong Kong firms managed to play such a role. As Enright *et al.* (1997:54-55) argue:

“The role of Hong Kong firms as packagers and integrators ... which match demand, often in North America or Europe, with sources of supply throughout Asia, and even further afield in parts of Africa and the Caribbean... This is not a traditional ‘middleman’ function of the stereotypical trader or intermediary. It is part of a far more complex set of functions that allows the Hong Kong firms to add value - through their knowledge of source and destination markets, through their familiarity with production capabilities of literally thousands of factories scattered throughout Asia, through advanced capabilities in logistics, and through expertise in managing subcontractors”.

The expertise of this business services cluster extends to design, as Enright *et al.* (1997:54) argue:

“Hong Kong has a particularly deep pool of talent and expertise in interpretative design that can be used across a number of light manufactured products, be they garments, watches, travel goods, jewellery’, toys or cellular phones.

In summary, Hong Kong firms as Enright *et al.* (1997:55) argue

‘... provide a complete headquarters for management, financing, technology, design, prototyping, quality control, marketing, and distribution service between dispersed assembly plants on the one hand, and retail buyers on the other’.

Enright *et al.* (1997) imply that such services are bought by the retailers in the US or Europe. But in principle, they could also be bought by (groups of) developing country manufacturers helping them to overcome the marketing barriers emphasised by Lall (1991). In instances where the emerging intermediaries do not make a positive contribution to the competitiveness of the ‘triangle’ they are soon replaced by the establishment of direct linkages between buyers and manufacturers – for an example see the case of the Ukrainian clothing industry in Kalantaridis *et al.* (2001).

One of the reasons for arguing in favour of “*triangular manufacturing*” is that it helps the upgrading of the economies involved because it puts firms and economies on potentially dynamic learning curves (Gereffi, 1999: 39). The upgrading role of buyers, as Schmitz and Knorringa (1999, 18) argue, is not an act of generosity, but one of necessity.

“Triangular manufacturing” between the industrialised core of the EU, countries with intermediate level of development (e.g. Greece) and the Balkans, as Labrianidis and Kalantaridis (2004) argue, resulted from spontaneous entrepreneurial decision-making and appears largely beneficial to all three parties, although to different degrees. Parent enterprises, located in EU core, need to tap into new sources of supply; doing this through regional intermediaries undoubtedly reduces their own risks. In the case of Greece, the “transfer” of the production process to the Balkans constitutes an effort to reduce production costs, and this creates problems. In the short term it creates unemployment. The experience of the last 15 years should be alarming, in the sense that firms are closing down or drastically reducing their production, only to move to the Balkans. However, the most significant problem is that Greek firms are concentrating their efforts on the still downgraded markets of the Balkan countries. In the case of Balkan countries the experience has been, in the main, negative. The main feature of this process has entailed opportunistic investment to tap the local supply of cheap and adaptable labour. This has involved little investment in new machinery and equipment, and even less in developing human capital. Local partners were, in most cases, mere ‘figureheads’ for the sake of official records.

Existing “triangular manufacturing” simply results from initiatives by individual firms and can be described as exploitative and shortsighted. Thus, it might lead to unsatisfactory developments (e.g. turning Balkan countries into screwdriver/sweatshop economies, intensifying the social problems that breed unrest, whilst diminishing the competitiveness of Greece). There are only a handful of instances of ‘good practice’, where mutually beneficial relationships have developed. Up to now, there has been no attempt on the part of policy makers to intervene and influence the nature of such relationships.

This lack of intervention leads to a need to ‘re-invent’ triangular manufacturing, something that requires the participation of all stakeholders in all three locations. Moreover, this task cannot be effected exclusively through initiatives by individual businessmen. What is required is an examination of all possible arrangements binding the enterprises in sustainable relationships; this must take into account competitive advantage as well as need for socio-economic advancement at all three points of the triangle. Even then, its survival as a long-term arrangement is dependent upon the ability of all contracting parties to gain more from the perpetuation of triangular relationships rather than their dissolution. The maximisation of

benefits to the Greek and the Balkan economies from new opportunities, and the minimisation of negative effects cannot be left to the responses of individual businessmen. What is required is an examination of all possible forms binding the Greek and the Balkan economies, that takes into consideration their position in the International Division of Labour and the restructuring they are undergoing.

Needless to say, it is easier to argue for these things than to realise them. There are major obstacles related to the structural characteristics of the Greek economy (i.e. the low value added, the low structural competitiveness etc), the need for massive investments in infrastructure and social policy (i.e. transport system, education system etc) and of course, competition from other countries eager to play a similar role, that have to be overcome.

#### 1.6.2.1

Research question 26: Countries can enter the international markets through “triangular manufacturing”

Research question 27: Can “triangular manufacturing be beneficial for all parties concerned, at least in the short run?

#### 1.6.3 *FDI and immigration between neighbouring countries: FDI flying out of the country immigrants coming into the country*

The flow of people from one country towards its neighbour may coincide with an increase in the flows of commerce and capital in the *opposite* direction (e.g. Greek FDI to the Balkans, immigration of Balkan people to Greece; US FDI to Mexico, at the same time Mexican immigrants to US; US offshoring IT work to India, Indian IT workers immigrating to US). An examination of the trends and characteristics of these flows may illustrate that these flows reflect the course of economic development in the two countries as well as the interrelationship of the two countries.

In certain instances, as Sassen (1999) argues, internationalisation processes may contribute to new migration, mainly when FDI assumes the form of export-led industrialisation. Such FDI may draw new strata into the labour market, such as women, and, by doing so, may disrupt traditional work structures. This can promote further emigration. Furthermore, emigration is facilitated by FDI in the form of export-led industrialisation creating links with the countries providing this capital. These workers are applying their labour to goods or services that are geared to foreign countries and hence feel capable of using their labour power effectively in the foreign markets as well. The presence of foreign plants not only brings the ‘Western’ country closer, but also ‘Westernises’ the less developed country and its people. Emigration then emerges as an option.

Acting in the opposite direction, the presence in the *FDI origin* country of immigrants labour who are nationals of the *FDI destination* countries constitutes a comparative advantage for investment originating from these countries. Immigrants can act as a conduit back into the markets they came from. Familiarity with the language, with local market conditions and the existence of an informal network of contacts will all be useful. In this way, the presence of immigrants will act, first to ‘open up’ new markets for exports, and then to smooth the way for investment.

Investing in a neighbour’s economic development is thus in many respects a case of internalising a number of externalities. The multiplier effects of investing in a neighbouring country, particularly one where the web of economic exchanges is already dense, has the potential of being important. The importance arises due to what, in the *general* case of FDI in a distant country, are thought to be second-order, feedback effects, of little quantitative importance. The links between migration (flows of labour), trade (flows of goods) and investment (flows of capital) are just the kind of effect that is usually overlooked.

1.6.3.1 *The Balkan Expansion of Greek Capital and Immigration: Greek entrepreneurs looking for low cost labour as a source of comparative advantage*

The influx of immigrants from the Balkans coincided with the expansion of Greek businesses to the Balkan countries and these processes, as we have argued already (Labrianidis, et al. 2004), are linked.

In an increasingly globalised environment, the mobility of people is linked to the mobility of capital, goods and services. For Greece, which historically has been neither an immigration country, nor a net investor abroad, new opportunities were created in the aftermath of severe ruptures in the Balkan peninsula.

The two major structural changes that occurred at the turn of the century in Greece (namely inflow of migrants and outflow of direct foreign investment) are closely connected. Both are directly related to the responses of the Greek business sector to the competitive challenges of the opening up of markets. The Greek economic structure that is characterised by small family-run enterprises has had to invent ways of coping with increased competition and pressures to produce innovative products at a competitive price. The predominant response was to adopt labour-intensive strategies as a way out, either by using easily available cheaper labour in Greece (usually migrants from the Balkans), or by exploiting lower labour costs abroad (by direct investment, mostly in Balkan countries). In that sense, FDI in the Balkans by Greeks functions partly as a substitute and partly as complement to immigration from the Balkans into Greece. Both processes offer the opportunity to Greek enterprises to remain competitive by overcoming, temporarily at least, their crisis by satisfying their increased demand for cheap labour.

The two processes—flow of capital one way, flow of labour the other—create important mutual externalities. These externalities exist at the *micro* level: the Albanian migrant acting as a representative for the aspiring Greek entrepreneur, familiarity with Greek products for exports, Greek financial firms ‘following their customers’ in the Balkans. They also exist at the *macro* level—through multiplier effects and increasing synchronisation of the economies. There may also be diplomatic interconnections—the Greek advocacy of Balkan membership of multilateral institutions and of the EU foremost among them. The density of relations leads to the evolution of a form of *political* interdependence, in that Balkan *stability* must build on sound economic relations.

Migration and FDI constitute potentially positive developments that can turn either into a blessing (both for the economy and the society) or into a Pandora-box trap (in the form of providing an alibi for inertia). It is significant that *which* view ultimately predominates depends not so much on economic, as on social and political factors: building multicultural societies tolerant of differences and developing attitudes conducive to open economies. The *economic* challenge is how to build open *societies*.

1.6.4 *Global governance issues*

Markets, as Gereffi and Mayer (2004), based on Polanyi (1944)<sup>25</sup> argue, demand systems of governance; indeed they require them. Before globalisation, as Gereffi and Mayer (2004: 15) argue, markets and firms were largely national in scale. The governance of markets takes place within the nation-state, there are big differences though between the DCs and the UDCs. In the DCs, free markets are constrained by both public governance (in the form of elaborate regulatory institutions dealing with minimum wage, workplace conditions, environmental performance, etc) and to a somewhat lesser extent by private governance (in the form of collective bargaining agreements between unions and firms). In the UDCs the relationship between state, market and society is more corporatist. There are high levels of public ownership and other forms of market intervention and less independence of labour unions. There are few of the regulatory and compensatory mechanisms present in the DCs.

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25 Polanyi K. (1944) *The great transformation*. Boston: Beacon Press.

Increasing free trade will tend to disadvantage workers in DCs, who must now compete with an abundance of low-wage labor in UDCs. Hence, national institutions that bear the adjustment costs of economic openness (on plant closings, offshoring of jobs, worker skills, etc.) must be adequate to the task. However, in the globalisation era, as Gereffi and Mayer (2004: 17) argue, as national borders become increasingly porous, the old governance structures, organised on the unit of nation-state, lose some of their capacity to govern the market. In DCs competition from UDCs and competition for investment began to hollow out both regulatory and social safety net institutions. Social insurance, welfare and other social programs are insufficient to compensate those who lose out in the international marketplace. In the private governance realm, the ability of unions to demand wage and other concessions from firms has diminished greatly. In the UDCs the impact of economic globalisation on governance was even more dramatic. The neo-liberal prescription of privatisation and open markets eroded the old corporatist model and strengthened the role of the market in national societies. There is little effective public governance of markets at all.

The new developments due to globalisation led to an increasing understanding that we are living in, what it can be termed as, *a crisis in global governance because the new economic configuration cannot fit easily into the old forms of governance based primarily on the nation state*. As Gereffi and Mayer (2004: 2) point out “What we are witnessing today... is a crisis of governance – that is, of the inadequacy of institutions not only to *facilitate* market growth and stability, but also to *regulate* markets and market actors, and to *compensate* for undesirable effects of market transactions. The rise of an increasingly global economy no longer firmly rooted in nation-states, and one that encompasses a large portion of the developing world, is challenging the regulatory and compensatory capacities of both developed and developing countries. Northern governments find it increasingly difficult to maintain their capacities in the face of competition from less regulated, lower cost economies. Developing nations lack both governmental and societal capacities to cope with the domestic challenges imposed by international openness. And at the international level, little regulatory or compensatory capacity has evolved to take up the slack. Taken together, these developments have led to a *governance deficit* of considerable magnitude”.

The three main institutions that govern globalisation (i.e. IMF, the World Bank and WTO) appear to be working in favour of the DCs. Hence, today we are at a turning point where *there is a need for institutional innovation at a global level in a similar way that back in the 20<sup>th</sup> century there was a need for such innovations at the national level*. As Gereffi and Mayer (2004: 3) point out “Just as in the early part of the 20<sup>th</sup> century, when the rise of the welfare state in the public arena and patterns of collective bargaining in the private realm represented institutional innovations to meet the demand for new forms of governance at the national level, at the beginning of the 21<sup>st</sup> century we are witnessing the invention of global governance mechanisms. We discuss two of these below: the attempt to link labor and environmental standards to trade agreements (a public governance mechanism), and the trend towards corporate social responsibility in the form of codes of conduct and monitoring (private governance mechanism). Neither is likely to be sufficient, yet each constitutes an important innovation and points the way towards other governance responses”.

#### 1.6.4.1 “A race to the bottom” can it be stopped via “ethical trade”

Lower wage production in other countries is responsible for a loss of jobs in first-world countries and there are trends for “a race to the bottom” as TNCs leap from one low-wage country to another, in a quest for the cheapest production costs.

Of course one cannot argue for a retreat to protectionism or in favour of “localisation” (i.e. that everything which can be produced locally should be produced locally). However, all nations might need to have some freedom to protect their economies by means of tariffs and legal barriers. The purpose of the policy is to grant nations both economic and political autonomy, to protect cultural distinctiveness and to prevent the damage done to the environment by long-distance transport.

One of the most striking developments of the last two or three decades has been the enormous intensification in competitive bidding between countries (as well as between communities within the same country) for the relatively limited amount of internationally mobile investment (like an “investment tournaments”). In Hu’s (1992: 286) words, such “cut-throat” bidding undoubtedly allows TNCs to play off one state against another to gain the highest return for their investment”.

If US companies could move to Mexico to avoid higher cost labour and environmental standards (using the NAFTA framework) and European companies to CEECs, *even the threat of such movement* would weaken the hand of labour and environmentalists in domestic debate.

Reports the harsh reality of life for those working at the bottom of the global supply-chain. It reveals a pattern of abysmally low wages, workers being forced to work excessively long hours, exploitative terms of employment, bullying, sexual harassment, and physical and verbal abuse. Workers sewing sportswear for up to 16 hours a day, six days a week, especially during peak seasons. They cannot refuse overtime work.

“Global companies” put immense pressure on their suppliers to reduce their prices, speed up the manufacturing process, and meet their demand for flexible production and delivery. In response suppliers transfer the costs down to their workers, making their work longer, faster, and cheaper. Further, the constant relocation by companies from supplier to supplier in search of the cheapest price creates peaks and troughs in demand for labour that lead to job insecurity and a reliance on flexible workforces, employed on short-term contracts.

During the 1990s, public concern grew as media revealed that reputable companies were selling everyday consumer goods made by exploited workers in sweatshops. Sweatshop is a factory where people work for a very small wage, producing products such as clothes, toys, shoes, and other consumer goods. Workers are kept in harsh environment with inadequate ventilation, and workers may sometimes be abused physically, mentally, or sexually, subjected to long hours, harsh or unsafe conditions etc. Often fail to pay minimum wage, in few cases they use children and they forbid unionisation. Sweatshops are not a new phenomenon. In the US and Europe there were sweatshops in the 19<sup>th</sup> and early 20<sup>th</sup> century employing low skilled workers and new immigrants. Moreover, some sweatshops still persist in manufacturing enclaves in the US and other DCs (e.g. the garment manufacturing sector in N. York and L. Angeles). Sweatshop labour is a focus of the anti-globalisation movement, which has accused many countries (e.g. Walt Disney Co, The Gap and Nike) of using sweatshops.

One of the first incidents came in 1992 when a report appeared in the Washington Post about the production of Levi jeans by Chinese prison labour in the island of Saipan (Hale and Shaw, 2001: 512, 513). The revelation in 1995 of the virtual enslavement of Thai workers in a garment factory in El Monte, California, prompted the Clinton government, as Gereffi and Mayer (2004: 21) argue, to form a task force called the Apparel Industry Partnership.

The Ethical Trading Initiative (ETI) represents a public commitment by companies to the promotion of minimum labour standards throughout their global supply chains. Ethical Trade is an umbrella term increasingly used to cover different approaches to improving labour, social and environmental conditions along international supply chains. It aims to ensure that conditions within mainstream production chains meet basic minimum standards and to eradicate the most exploitative forms of labour such as child and bonded labour and “sweatshops” (Hale and Shaw, 2001: 512).

In a globalised economy, the central driving force for most companies is the maintenance of profit levels in the face of intense competition. In labour – intensive industries such as garments, this is often translated into a need to cut back on labour costs. The key question is, as Hale and Shaw (2001: 516, 517) argue, *whether it is possible for such ethical trade policies to be implemented in the context of such downward pressures on labour in a weekly unionised and largely female workforce* (Globally, women typically make up 74% of the garment industry workforce).

Garment production has remained fairly easy to enter for entrepreneurs with relatively low levels of investment, making it the classic “first stage” of industrial development for many countries. The garment industry is now controlled by marketing and retail companies that manage a global network of suppliers in low-wage countries (Hale and Shaw, 2001: 517, 518).

The goal of private governance campaigns is to force the peak or lead firms in global supply chains to set higher standards of corporate conduct that lesser known suppliers would be forced to adopt. Their global brand names become, in the words of Gereffi and Mayer (2004: 21-22), a “double-edged sword”: they are a source of great market power, but they also make branded companies vulnerable to charges of exploitation that could harm their image among consumers.

Many sports-brands tend to share the same suppliers (e.g. Adidas, Nike, Fila and Umbro; or Fila, Puma, Lotto, Nike, Adidas and ASICS; or Lotto, Fila, Puma and Kappa). As suppliers face tremendous pressure from this cut-throat industry to reduce prices, shorten lead-times, companies that do ask for labour standards to be respected in the workplace is marginal by the many who place little importance upon these standards in the normal run of the business.

The rise of an international network of NGOs has been characterised as a global social movement or global civil society. *The key governance issue is*, as Gereffi and Mayer (2004: 9) argue, *whether it is possible to reconstitute, at a global level, those societal institutions (labour unions, civic groups, political parties, professional associations, interest groups, etc.) that long served important governance functions at the national level.*

Research question 28: *Even the threat for the delocalisation of firms / offshoring of activities to a low cost country would weaken the hand of labour and environmentalists in home countries.*

**Research question 29: There is an increasing need for global governance to offset the undesirable effects of delocalisation in both DCs and UDCs.**

#### 1.6.4.2 *Multilateral Agreement on Investments (MAI)*

Proponents of unconstrained free trade and globalisation have turned their sights to the next target for liberalization and deregulation--foreign investment. Recognizing that foreign investment has become the main force behind economic integration, TNCs and industrialized countries are advocating a Multilateral Agreement on Investment (MAI - [http://www.thirdworldtraveler.com/WTO\\_MAI/Facts\\_MAI\\_FOE.html](http://www.thirdworldtraveler.com/WTO_MAI/Facts_MAI_FOE.html)).

The MAI intends to guarantee unrestricted capital mobility i.e. the right of big companies and financial institutions to go where they want, leave on their own terms, and therefore play one country against another for the most favorable 'climate' for investment, leading to a downwards spiral of labor and environmental standards.

Since 1995, the OECD has been quietly negotiating the treaty in Paris. The treaty's strongest supporters, which include the US, the EU and TNCs, argue that government regulations that prevent the free movement of money and production facilities are inefficient and costly. Removing these barriers, the treaty's preamble states, "will contribute to the efficient utilization of economic resources, the creation of employment opportunities and the improvement of living standards." Once the 29 OECD countries have ratified MAI, the rest of the world will be invited to join. Most will have no choice but to do so. As the State Department explains in a published summary of the treaty, the MAI would serve as "a benchmark for emerging economies wishing to continue to attract foreign investment."

The MAI - which is being negotiated at the OECD - would 'open' all sectors of countries' economies to foreign companies; strip nations and localities of their right to differentiate between local and foreign companies, and let corporations directly challenge our laws (e.g. ban regulations by which some countries or regions can require companies who get public money to hire locally or pay a living wage). The MAI allows investors to directly challenge laws and seek monetary damages, but there are no mechanisms to hold them accountable to the social and environmental concerns of the countries they came from, or the countries they invest in.

The MAI legal framework would permit both corporate and individual investors to sue sovereign nations for any failure to follow MAI rules that cause loss or damage to the investor or his investment. Traditionally, international agreements have only allowed nations to sue other sovereign nations for treaty violations. While MAI permits corporations to sue governments for violating the agreement, the treaty contains no provisions for governments to sue corporations. In fact, the treaty puts almost no demands on corporations. MAI contains no measures to counter anti-competitive business practices (like price fixing) that a treaty actually designed to improve economic efficiency should include.

This MAI prohibits signatory nations from impeding the flow of money and production facilities from one country to another. The treaty, in effect, subordinates the right of elected governments to set national economic policy to the right of TNCs and investors to conduct business - investing and divesting - however they see fit. In the name of international fairness, it erodes the prerogative of governments to intervene in the market for the public good. Nor does the treaty allow governments to discriminate between foreign investors based on their country of origin. While this foreign treatment provision of the treaty may seem fair, it would prevent democratically elected governments from imposing sanctions against countries that are gross abusers of human rights or wanton despoilers of the environment. If MAI had been in place in the '80s, for example, the U.S. sanctions against investment in South Africa, which helped bring down the apartheid regime, could have been prohibited.

Research question 30: Is there a need for a “good” MAI?

#### ***5.4.3 Patenting and potential implications in a globalised world***

Along similar lines, there are concerns raised globally about the new regime being shaped currently, about patenting. Patents and licenses are not something new, but their importance has risen lately, since there are efforts – lead by specific large TNCs’ interests – to alter the current status. Some pessimists advocate that this will bring radical negative effects in everyone’s life, including of course the international labour market and also SMEs and subcontractors. Although the situation may not be so dramatic, the impact of such acts brings up issues like governance – both in national and international scale – and accountability.

To introduce briefly the core idea of those recent developments about software patenting, one should consider the current legislation. Initially, it should be noted that current discussions in the EU (Poland blocked the new legislation temporarily), concern software patenting, although the phenomenon may include in the near future other industries too. Nowadays, it is normal for a company producing a new software to follow the standard national and/or international procedure to patent its new invention, to protect it from imitation, but also to compensate one for all the resources used to invent, and finalise one’s product. The current debate was launched due to large software corporations’ need to fully protect their products, but also in an attempt to maximize their profits. So, as large corporations complain about loosing profits by such practices – which indeed is translated in large amounts of money, if estimated internationally – they came up with the notion of patenting not only a specific product (e.g. Microsoft Media Player), but also the whole process of producing this product.

For example, in the early 1990's IBM started an aggressive licencing program which generated over \$2 billion a few years later. Despite the fact that it is difficult to quantify, an indication is that at January 2005 Microsoft alone has 6,130 issued patents that are presumably mainly software patents (US PTO Search). Microsoft expects to file 3,000 new applications this year. IBM received 3,415 patents in 2003 but many of these do not relate to software

([http://en.wikipedia.org/wiki/Software\\_patent#Practical\\_effects\\_of\\_software\\_patents](http://en.wikipedia.org/wiki/Software_patent#Practical_effects_of_software_patents)).

"SMEs are crucial providers of pathbreaking innovations, but would be most adversely affected by patentability. The majority of them is deterred by the costs of patenting themselves, but would have to navigate around software patent portfolios of large corporations."

*Deutsche Bank Research*

<http://www.nosoftwarepatents.com/en/m/dangers/sme.html>

What this means in practice and how it will be controlled is still debated, and it constitutes one of the main topics of current discussions and negotiations. However, one can come up with some ideas of the implications of such a decision. Consumers, end-users, small subcontractors and SMEs will face two insurmountable impediments:

A) this act will raise the cost of production for companies that up to now used free or at very low cost various production processes in software development, and moreover they will not be able to reproduce versions of software to suit their own or their clients' needs. It is probable that this will affect other industrial sectors too. For example, an electronics corporation may patent the way they make semiconductors, used as an intermediate product by other industries in the same value chain.

B) the other hidden cost is that SMEs applying subcontracting, particularly in the EU (due to language and other barriers), will have to check for every order whether they are breaching any of the current patents, which would result in getting fined. The crucial note here is that there are a few hundred patent applications every day globally. This means that a legal advisor should be hired (in any way) and employed full time.

Advocates of the current status state that: "*Copyright law, which protects every developer at no incremental cost, is much better positioned to enable bright minds in Eastern Europe to develop software for their own markets and the entire internal market of the EU*".

<http://www.nosoftwarepatents.com/en/m/dangers/eastern.html>

and they go on stating that effects will be more severe for CEECs, since affordable and innovative software are key requirements for the Eastern European economies to grow and prosper.

In sum, if a decision to patent the whole manufacturing process instead of only the end product is not blocked by the European Union's Parliament in 2005, it is most probable that new concerns will arise for labour intensive industries operating in this globalised world.

### 1.6.5 Tariffs

Driven by short-term commercial interests, DCs are pressing hard for much greater access to UDCs markets. If they succeed, poor countries will no longer be able to use tariff policy to help build national industries that are capable of supplying domestic markets and of exporting, thereby increasing employment and incomes, and generating other benefits to the economy. There is a danger that excessive opening to imports will lead to the closure of industries, balance of payments problems, lower tax revenue and thus to unemployment, dislocation and an increase in poverty, without bringing compensating economic gains (Oxfam, 2005: 1, 6).

The average tariffs of DCs are low, however they maintain high tariffs for products in which UDCs are competitive (e.g. the average US tariff for all imports is 1.6% but this rises to 4% for India and Peru and to 14-15% for Least Developed Countries such as Bangladesh, Nepal and Cambodia - Oxfam, 2005: 1).

As Oxfam argues (2005: 4), tariffs are one element of successful industrial policy, which includes the construction of a dynamic export sector, so it is important that UDCs retain control over the levels at which they are set.

While selective liberalization of imports may well be desirable UDCs should not be under pressure to go too far, too fast. Countries with successful growth records such as South Korea, Viet Nam, China and Mauritius have developed key sectors behind protective barriers, and then gradually opened up once growth was already under way and they were becoming more competitive internationally. They supported their domestic industries in the early stages of their development, in order for them to acquire the scale, knowledge and technology to compete with TNCs (Oxfam, 2005: 1, 5).

Given that DCs constitute 75% of world GDP, access to their markets is critical for UDCs (Oxfam, 2005: 6).

In OECD countries, tariffs account for a mere 1% of tax revenues but in UDCs the figure is much higher (e.g. in Swaziland 55%, Madagascar 53%, Uganda 50%, Dominican republic 44%, Philippines 20%, Paraguay 18% and Thailand 12% - Oxfam, 2005: 8).

There is a tariff discrimination of DCs against the UDCs (e.g. in the US while the average tariff is 1.5% this is 3.5% for goods from India and 14-15% from Bangladesh and Cambodia). However, on top of tariff discrimination DCs use and other less transparent tools of protection against UDCs such as sanitary and phyto-sanitary as well as technical barriers to trade (Oxfam, 2005: 9-10).

Oxfam (2005) Oxfam International contribution regarding NAMA negotiations 25-29 April  
2005 WTO, Geneva. Oxfam International  
([http://www.oxfam.org/eng/pdfs/bn050426\\_nama.pdf](http://www.oxfam.org/eng/pdfs/bn050426_nama.pdf))

### 1.6.6 *Better governance*

Many recognize the opportunities for a better life that globalization presents. We believe their hopes are realizable, but only if globalization is subjected to better governance at all levels (ILO, 2004: VII).

Globalisation has set in motion a process far reaching change that is affecting everyone. New technology, supported by more open policies, has created a world more interconnected than ever before. This spans not only growing interdependence in economic relations – trade, investment, finance and the organisation of production globally - but also social and political interaction among organisations and individuals across the world (ILO, 2004: X).

There is an imbalance in the global rules. Economic rules and institutions prevail over social rules and social institutions. Trade in manufactures is liberalized, while agriculture remains protected. Goods and capital move much more freely across borders than people do (ILO, 2004: 4).

The global markets lack institutions for public supervision that, in many countries, provide national markets with legitimacy and stability. The present process of globalisation has no means to keep the balance between democracy and markets (ILO, 2004: 4).

ILO (2004) *A fair globalisation: creating opportunities for all*. World Commission on the Social Dimension of Globalisation <http://www.ilo.org/public/english/wcsdg/docs/report.pdf>

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## **A-1. Appendices**

### *Terms and definitions*

As will become evident in the following sections of this paper, there are very few clear-cut and all-embracing definitions in International Business (IB). The situation has become even more complicated during the last few years with the increasing use of relatively new (or rediscovered) terms such as outsourcing or offshoring.

Very often, the use of one term or the other appears to be no more than a matter of taste, as different terms may be referring to exactly the same phenomenon. Yet, in other cases, the same term may be referring to quite distinct phenomena.

#### **Foreign Direct Investment**

According to UNCTAD (2004: 345): Foreign direct investment (FDI) is defined as an investment involving a long-term relationship and reflecting a lasting interest and control by a resident entity in one economy (foreign direct investor or parent enterprise) in an enterprise resident in an economy other than that of the foreign direct investor (FDI enterprise or affiliate enterprise or foreign affiliate). FDI implies that the investor exerts a significant degree of influence on the management of the enterprise resident in the other economy. Such investment involves both the initial transaction between the two entities and all subsequent transactions between them and among foreign affiliates, both incorporated and unincorporated. FDI may be undertaken by individuals as well as business entities.

Thus far, it is clear that FDI is distinguished from capital flows, since the latter may not involve a long-term relationship and reflect a lasting interest and more importantly control or influence on management. FDI has attracted the academic and popular attention since the 1950s (see section 1.5.2) and is widely considered to be one of the pillars of contemporary globalisation.

#### **Subcontracting**

Subcontracting is another term that is clearly distinguishable from FDI. It is defined as the manufacture of goods by one firm (the subcontractor) for another (the lead firm) based on the specifications of the latter. Often there can be several layers of firms or intermediaries mediating the relationship between the actual production workers and the end product market. The lead firms normally exercise considerable control over their subcontractors in terms of price, quality and timing of the products they supply.

According to UNCTAD subcontracting is yet another form of investment, although a non-equity one. More specifically,

‘Foreign direct investors may also obtain an effective voice in the management of another business entity through means other than acquiring an equity stake. These are non-equity forms of investment, and they include, inter alia, subcontracting, management contracts, turnkey arrangements, franchising, licensing and product-sharing’ (UNCTAD, 2004:346).

#### **Outsourcing**

Outsourcing is the delegation of tasks or jobs from internal production to an external entity (such as a subcontractor). Most recently, it has come to mean the elimination of native staff to staff overseas, where salaries are markedly lower. This is despite the fact that the majority of outsourcing that occurs today still occurs within country boundaries

#### **Offshoring**

Offshoring can be defined as relocation of business processes (including production/manufacturing) to a lower cost location, usually overseas

### Offshore outsourcing

Offshore outsourcing is the practice of hiring an external organization to perform some or all business functions in a country other than the one where the product will be sold or consumed

Hummels (2001: 76) Increasing interconnectedness of production process in a vertical trading chain that stretches across many countries, with each country specialising in particular stages of a good's production sequence. This phenomenon was termed by Balassa and Findlay "vertical specialisation" others have used terms such as "slicing up the value chain", "outsourcing", "disintegration of production", "fragmentation", "multi-stage production", "intra-product specialization"

To help clarify the terms and produce a taxonomy (Table 1.13) of firm organisation let us suppose that we have a domestic firm producing a single product using two intermediate goods (1 and 2 respectively, the former being labour intensive and the latter knowledge intensive), domestic capital and domestic labour.

Let us start with a **vertically integrated domestic firm**. In this case both intermediate goods are produced in-house using domestic capital and labour. Under this configuration, the firm can only be linked with the world market through its final good exports, or raw materials imports.

The first possible deviation occurs when the firm realises that, for a number of reasons (which are thoroughly analysed in section 1.5.2), a foreign market can be better served by producing the product there rather than exporting it. This implies a duplication of the production process as additional plants are established to supply different locations: a **horizontal FDI**.

On the other hand, when the firm realises that, for example intermediate good 1 can be produced more efficiently in a less developed (and lower labour cost) country, it may decide to set up a plant there to produce it. Although such movements have traditionally been described as **vertical FDI**, quite recently (UNCTAD 2004:148) the alternative term **intra-firm, or 'captive' offshoring** has entered the IB vocabulary. The differences between the two terms are almost inexistent, although the latter tends to apply more to service industries, while the former to manufacturing ones.

Alternatively, the firm may decide that it is in its best interest to focus on its 'core competences', which we may assume are better employed in the production of intermediate good 2. This could imply that the firm wishes to stop producing intermediate good 1. Assuming that the latter is still essential to the firm, it would probably **outsource** it to either a local firm in a foreign country, or to an affiliate of another TNC.

**Table 1.13 A summary of definitions of IB organisation types**

	internalised or externalised production	
Location of production	Internalised	Externalised
Home country	Production kept in-house at home (Vertically integrated domestic firm)	Outsourcing (production outsourced to third-party firm e.g. a subcontractor)
Foreign country	Vertical or horizontal FDI	International outsourcing
<i>For service industries</i>	<i>Intra-firm (captive) offshoring</i>	<i>Outsourced offshoring</i>
<i>Offshoring</i>		

Source: Based on UNCTAD (2004:148)

The inherent difficulties in defining the terms are now more or less evident. One question that arises is whether firms that traditionally bought the intermediate product (i.e. never produced it in-house and therefore never stopped producing it) are outsourcing. Another issue is related with subcontracting: is it merely a special case of outsourcing or a completely distinct category? Finally, one last issue ignored by this relatively simple taxonomy – however – very important in our context has to do with the governance; are relationships based on formal, contractual agreements, are they the outcome of specific social environments, trust and embeddedness?

Although the last issue will be discussed in section 1.5.4.2, we strongly feel that the project will greatly benefit by the adoption and consistent use of terms which are clearly defined and universally understood. In this context, we propose the adoption of a more ‘conventional’ stance. It is clear from the outset that the causes of the problem are the newer terms, i.e. outsourcing and offshoring. The latter, in particular, can be a significant source of confusion and we would therefore propose to stop using it. Outsourcing, on the other hand needs to be addressed more cautiously, since it may involve subcontracting or simply imports of intermediate goods. We feel that for analytical purposes it would be more convenient to use these two terms instead of the more generic ‘outsourcing’. That is because subcontracting, much like FDI is an activity particularly demanding in terms of the firms’ resources, and as such it should be handled separately from imports of intermediate goods. Of course, in measuring, through secondary sources, the phenomenon we are forced, as most of the related literature suggests, to use a single measure, based on the imports of intermediate goods. In this context, in terms of flows of goods, outsourcing appears to be a more relevant term, something evident in much of the most recent economic literature (Grossman and Helpman, 2002a, b and 2003). However, in terms of business organisation we ought to be more selective in the choice of terms. Finally, it should be noted that it is impossible to completely avoid using the two terms, particularly outsourcing.

*A further note on subcontracting and outsourcing*

The advantages to companies of subcontracting have been apparent in two main areas: production flexibility and the lessening of labour rights (cost?). By reducing the regular factory workforce and using subcontractors, employers can react to these changes and keep costs to a minimum. Subcontractors therefore act as buffers to seasonal fluctuations in demand.

Subcontracting has been an appealing strategy in industrialized countries especially since the ‘70s, when it started to be a frequent practice in the car industry (Sacchetti and Sugden, 2003: 675). Today there is a proliferation of “Manufacturer’s without factories”, “Companies without factories”, “Factory-free companies”. That is companies that act as design offices whose function is to develop marketable styles – known under recognized brand-name labels and coordinate the production process, often through offshore buying offices.

There is a *pyramidal structure of subcontracting*. At the top of the hierarchy – keeping strategic control - there is the core firm, which has built linkages with suppliers following a strategy of vertical disaggregation. *First-tier suppliers* are in small numbers and benefit from “preferred status”: they are usually involved in joint R&D, or joint design projects with the core firm, and possess high technological competence. Relations with the client are based on long-term contracts and single sourcing agreements. When approaching the bottom of the pyramid, the size of firms decreases, their technological competence declines and competition increases (Sacchetti and Sugden, 2003: 683), and consequently exploitation of the labour force increases too.

There are many reasons why subcontracting develops in manufacturing, despite the increase in transaction costs that it implies, such as the structure and geographical instability of markets in particular products; tendency to flexible production systems; the attempt to reduce investment in fixed capital, equipment and accessories; the greater possibilities offered for reducing labour costs.

As the tasks directly performed by TNCs have shifted gradually to higher value added activities, the number of jobs in subcontractors located in both developed and underdeveloped countries

has increased rapidly. Such subcontracting is popular in the garment and footwear industries. Prominent examples are Nike (US), Ikea (Sweden) and Benetton (Italy) (UN 1994, 193).

*International subcontracting:* We would like to stress the vulnerability of countries that are based on orders of capacity subcontracting from abroad, which becomes even more acute when the country competes with low cost economies that are spatially adjacent.

*Types of subcontracting relations:* Subcontracts can be distinguished according to: their duration (permanent, regular, periodical, casual, etc); the number of principles (single -or multiple- subcontractors); the use to which their product is put, industrial, where the product is an input in the manufacturing process (intermediate product) and commercial, where the product is distributed for final consumption (final product) (Holmes, 1986: 85).

Further a subcontract can be distinguished according to whether it is *subcontracting of quality or specialization subcontracting*, in which the principal lacks the necessary equipment or know-how; or *subcontracting of capacity*, in which the principal has the necessary equipment, etc. but gives out the work for other reasons, such as lower cost or an inability to meet demand; or finally *supplier subcontracting*, in which the subcontractor is in many respects an independent supplier with full control over the development, design and manufacture of the product, and provides the principal with dedicated or exclusive use products (Holmes, 1986: 86).

Finally, a subcontract can be distinguished according to the location where the subcontract is performed; those that are carried out within the business premises of the principal -internal subcontracts and those carried out elsewhere- external subcontracts.

Subcontracting relationships constitute but one of the many relationships between firms often expressed in flows of material information and transactions between pairs of firms (Holmes, 1987: 82). Subcontracting becomes a means of smoothing production for the principal in the sense that total demand for the product is broken into a fixed component undertaken by the firm and a variable component given out to subcontractors (Holmes, 1987: 89). Take for example the strategy followed by the car industry to secure the supply of parts (Friedman, 1977) and the case in poultry meat production (Labrianidis, 1995). There are however many reasons why subcontracting develops in manufacturing such as the structure and geographical instability of markets in particular products; tendency to flexible production systems; the attempt to reduce investment in fixed capital, equipment and accessories; the greater possibilities offered for reducing labour costs, which bring back methods of extracting absolute surplus value.

#### *Analysis of outsourcing*

International outsourcing is one of the prevailing trends in economies around the globe nowadays. In EU manufacturing, outward processing has grown at the relatively rapid pace of more than 6 percent per annum, with growth more pronounced in importing industries, where it grew at 11 percent (Egger & Egger, 2001). Corporations seek to reduce costs by contracting out services and activities traditionally provided in-house (Hendry, 1995). The rationale behind such actions is easy to discern and essential for firms to follow, should they aim to sustain and expand their market share. The simple principle followed is:

“if contracting something out is cheaper than doing it yourself, outsource”

However, outsourcing has various implications, including -sometimes hidden- costs. As Hendry (1995) argues, political ideology, management fashion and short-term responses to periods of recession, contribute in highlighting the benefits of outsourcing, hiding at the same time the very real associated costs.

Recently, the trend of contracting out company activities entered the tertiary sector too. It began with support services like catering and cleaning, but it developed promptly to cover central service functions such as personnel, accounting and information systems, as well as traditional core operations: R&D, logistics, manufacturing (Tully, 1993). Nevertheless, it should be stressed that two temporally differential waves may be distinguished in economic globalisation, which is closely intertwined with international outsourcing. The first one about hundred years

ago, and the second one in the end of the 20<sup>th</sup> century. At present, the principle of international arbitrage is applied to ever smaller slices of the value-added chain, instead of ruling over a given set of well-defined production processes. This gives rise to a “new” phenomenon called international fragmentation or outsourcing (Kohler, 2001). Empirical evidence for this is presented in Feenstra (1998) and Irwin (1996). Though, as Labrianidis (2000) states, outsourcing as a result of the internationalisation of markets through FDI<sup>26</sup> is not a new phenomenon. The dispersion in time of this phenomenon will be discussed further in this section.

According to Feenstra and Hanson (1996), international outsourcing has not received too much attention in the literature, especially before the mid-90s. Despite that, there is a bundle of terms describing this phenomenon which takes place in economies around the globe. Hendry (1995) refers to it as contracting out (of activities or services), Labrianidis (1996) and Andersen (2000) as subcontracting, Holmes (1999) as vertical disintegration, Jones and Kierzkowski (2000), Deardorff (2001) and others as fragmentation, and the *Economist* (19/2/2004) as hollowing-out. Arndt (1998) summarises all terms used in his paper, adding to the ones stated previously: off-shore sourcing, intra-product specialisation, super-specialisation.

It is noteworthy that other authors have adopted the term fragmentation too, forming a subgroup of researchers, referring to this feature of globalisation. For example Feenstra & Hanson (1996) mention the fragmentation of production into discrete activities, which are then allocated across countries. Furthermore, Egger & Egger (2001) and Kohler (2001) all refer to cross-border fragmentation of production. Deardorff (2001) defines fragmentation as the splitting of a production process into two or more steps that can be undertaken in different locations but that lead to the same final product. Discussing about fragmentation within and across countries, he assumes that domestic fragmentation does not economize on resources, and therefore focuses on fragmentation that occurs across countries.

While the capital accumulation-outsourcing hypothesis has captured much attention in the popular press, it has been largely dismissed in the academic literature (Feenstra and Hanson, 1997). So it becomes obvious that although the phenomenon is happening for quite some time and there is some academic interest, it is not enough to lead eventually to the creation of a core theory and a mutually agreed terminology, which would be adopted by everyone researching this field of economic globalisation. Nonetheless, if one studies the definitions used in literature about this trend, one will realise that all discuss the same phenomenon, viewed from various perspectives. Therefore, a few definitions used by the aforementioned authors will be juxtaposed here, to illustrate this fact.

According to Feenstra and Hanson (1996) outsourcing has expanded dramatically during the last 30 years. Their point is that industries with large exports of final goods also have large imports of intermediate inputs, which is consistent with the notion that outsourcing is a response to import competition.

Feenstra and Hanson (1996), measure outsourcing as the share of imported intermediate inputs in the total purchase of non-energy materials. They admit that their definition is more general than that which appears in the rest of the literature. When they define manufactured materials, they include two types of intermediate inputs: *a*) parts and components *b*) contract work done by others. Whereas Berman et al (1994) defined outsourcing to include only parts and components purchased from abroad. According to him, imported materials amounted to only 8 percent of US total material purchases in 1987, compared to 11.5 percent estimated by Feenstra and Hanson. This creates a discrepancy whether employment shift away of less-skilled workers is due to outsourcing. Notwithstanding, the generally agreed point here is that since the ‘70s the usage of imported intermediate inputs has increased in almost all cases (Swenson, 2000).

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<sup>26</sup> Kohler (2001) clarifies about FDI, saying that his setting does not involve any capital *formation*. Instead, what he has in mind is cross-border movement of *existing* capital. He just uses the term FDI because it is commonly used indicating internal instead of *arms-length* transactions.

The term outsourcing is not static for corporations either. When the word came into common usage 15 or so years ago, this new business practice was usually associated with reducing cost and cutting headcount. Today, companies still look to outsourcing to reduce cost. But the global changes of the last five years have broadened the range of reasons to outsource<sup>27</sup>. Therefore, it becomes essential to clarify and adopt a definition of international outsourcing, which will encompass not only the fundamental reasons that lead corporations to outsource, but also the recent trends.

International outsourcing it is understood that it refers to a phenomenon dispersed in time and space (more precisely countries) and industrial sectors (for a detailed analysis see Temin, 1999).

### ***Examples***

To illustrate this dispersion in time and space, some brief examples will be used from the last two decades.

Compaq Computer Corporation purchases parts for personal computers from foreign subsidiaries and from foreign suppliers that it does not own. In either case, Compaq imports components that it could have produced domestically. No matter which type of outsourcing is implemented, it will affect the range of activities that Compaq performs in its domestic manufacturing operations. On the other hand, most of Nike's athletic shoes have been manufactured by foreign firms, but designed and distributed by the US firm (Feenstra and Hanson, 1996). According to Tully (1993), the apparel companies are modular<sup>28</sup> pioneers. Nike and Reebok have prospered in the 1990s by concentrating on their strengths: designing and marketing high-tech, fashionable footwear for sports and fitness. Nike owned one small factory that made some sneaker parts. Reebok owned no plants. The two rivals contracted virtually all footwear production to suppliers in Taiwan, South Korea, and other Asian countries. Sparse fixed assets were translated into bountiful profitability. Nike and Reebok each earned a return on assets of over 16% in 1992, fifth and sixth best in the FORTUNE Service 500.

Focusing on the wage effects of international outsourcing, Glass and Saggi (2001) mention the cases of workers who went on strike in two occasions, protesting for increased outsourcing of production to low wage countries: General Motors employees in 1996, and Boeing employees in 1995, both in the US. In the latter case the company had committed to outsource half of the value of the average jet craft, mostly to China. Following this trend, Dell is setting up another call centre in India, while Sainsbury's is renegotiating its outsourcing contract with the US IT services vendor Accenture, as part of an overall three-year, £2.5 billion rescue plan (<http://www.nwfusion.com/topics/outsourcing.html>, 19/11/2004). But there is also intra-European outsourcing, as indicated by a 10-year, \$3.6 billion contract awarded to Siemens Business Services to outsource BBC's Technology division. Labrianidis (2000) examines the case of Greek FDI in the Balkans, concluding that although very rare, there are some successful cases of Greek sub-contracting in South-eastern Europe.

As a result it becomes obvious that international outsourcing is taking place in various industries in various regions over the world<sup>29</sup>, raising various issues. Those will be explored in the next section.

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27 <http://www.outsourcing-definitions.com/outsourcing.html>, accessed 18/11/2004, Outsourcing-Center.com

28 The idea is to nurture a few core activities -- designing and marketing computers, copiers, or autos, for example -- and let outside specialists make the parts, handle deliveries, or do the accounting. The new breed avoid becoming monoliths laden with plants and bureaucracy. Instead, they are exciting hubs surrounded by networks of the world's best suppliers. Those manufacturing or service units are modular: They can be added or taken away with the flexibility of switching parts in a child's Lego set.

29 Instead of "all over the world", since there are certain areas of the world which are exempted of this tendency.

## 2 Successful adjustment strategies: a review of the literature & key conceptual issues

Professor Christos Kalantaridis\* & Dr Ivaylo Vassilev†

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### 2.1 Introduction

This chapter sets out to address two key issues. The first concerns, with the review of the large – and growing – body of literature on successful adjustment strategies adopted by enterprises in labour-intensive industries. This literature emanates from a number of diverse disciplinary settings, however, it is dominated by the work of the Global Commodity Chain (hereafter GCC) approach and its variants (Global Value Chain etc). Our focus here is to examine the adjustment strategies identified in the literature rather than their conceptual underpinnings, which are dealt with in an earlier chapter. The second issue explored here is implications for policy. To put it in another way, what (if any) lessons can policy-makers learn from the accumulated literature? In doing so, we tap into an advanced body of knowledge emanating from the area of business strategy, which defines the boundaries of policy action.

Before proceeding any further, we would like to position our approach in relation to the dominant view in the accumulated body of literature. We believe that GCC provided researchers with useful insights into the reconfiguration of industrial dynamics in increasingly integrated networks of production and distribution the world over. These insights have been used to inform policy-making by trans-national organisations such as the IMF (2004), UNCTAD (2003, 2004), World Bank (2004) and the OECD (2004). As is always the case with approaches that dominate the research and policy agenda, GCCs has been the focus of intense scrutiny. Among the plethora of critiques Smith et al (2002) advanced the thesis that there is ‘a tendency to neglect the dynamics and fluidity of organisational forms in GCC analysis. We are left with a rather straight forward choice between the ideal-typical models of producer-driven and buyer-driven commodity chains. There is consequently little detailed analysis of complexity in either intra- or inter-organisational relations’ (Smith et al, 2002). This constitutes the point of departure of our paper. We, unlike Smith et al (2002) who focus squarely upon the integration of macro-regions, set out to explore the micro-dynamics of change. Thus, enterprises constitute the main analytical unit for our purposes.

The chapter is organised in three large Sections. The first, and larger Section, reviews the accumulated body of empirical evidence around successful adjustment strategies in labour-intensive industries. Case studies are presented whenever appropriate in order to inform the discussion. This is followed by a discussion of some key conceptual issues that need to inform the evolving project. These issues are derived from the wider body of literature on enterprise strategy and have failed, to date, to inform the debate on labour-intensive industries. The final Section explores a possible way forward. Lastly, we offer some concluding remarks.

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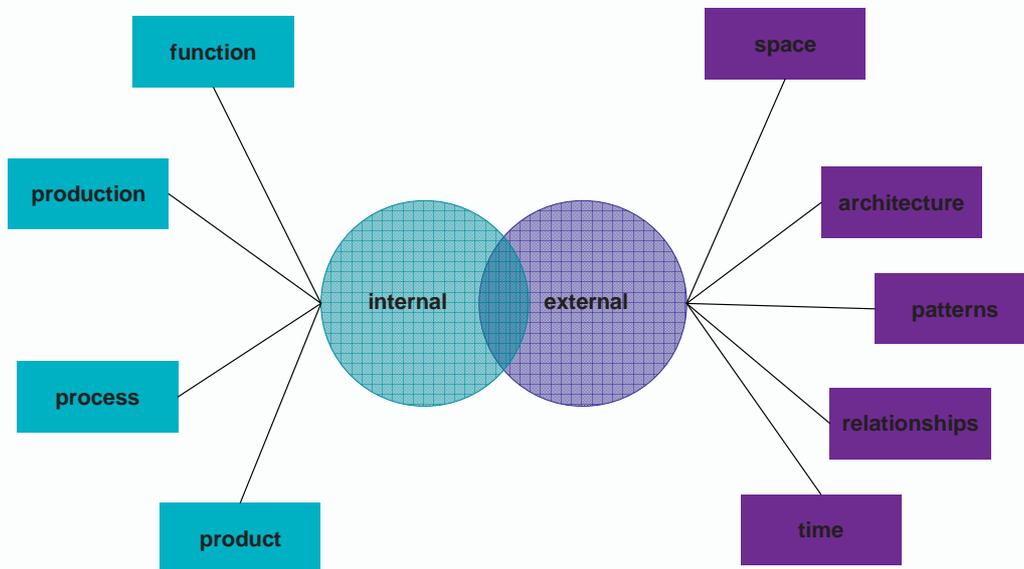
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## 2.2 A review of the empirical literature

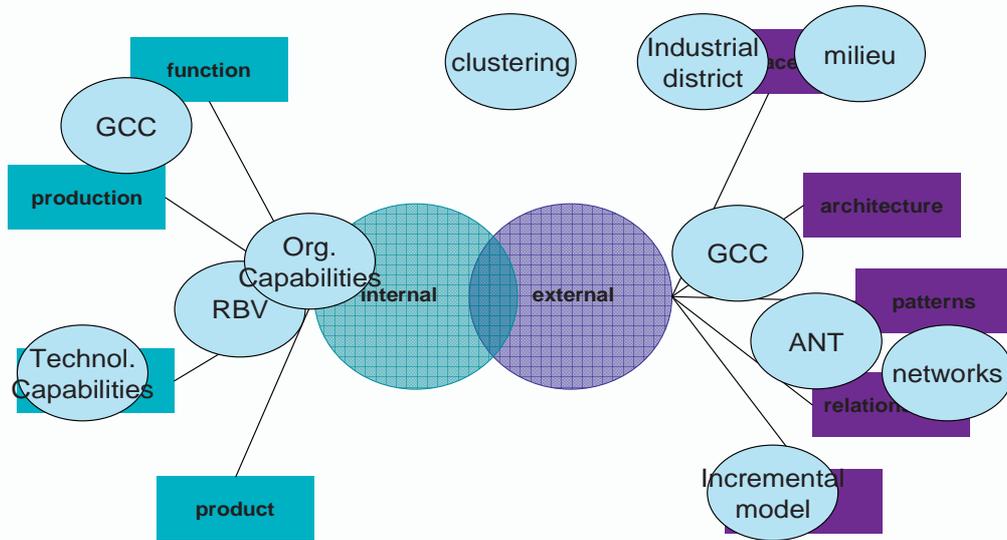
### 2.2.1 A Framework for Exploring the Literature

Previous empirical research into the successful adjustment strategies adopted by enterprises in labour-intensive industries has often adopted two, not mutually exclusive, viewpoints (see Figure 1): internal and external (Humphrey and Schmitz, 2001). The former refers to the study of dimensions that can be controlled and directed as they lie within the organisational boundaries. Within this context, particular attention has been paid upon products, processes, and production. The second viewpoint explores how the enterprise attempts to manage its environment. The ability of the enterprise to control this setting is limited by the fact that it involves interaction with other independent entities (such as firms, the state, educational organisations etc). Particular emphasis is placed here upon the organisation of different types of relationships over space and through time. A third dimension involves relationship architecture. This is influenced but not defined by production architecture – a concept that has been used in the literature (Andersen, 2005). It involves the configuration of production between enterprises using a multitude of patterns of integration (ranging from market exchange to hierarchical linkages through the creation of subsidiaries). We would like to stress here that the boundaries between these two viewpoints are at best blurred. For example a decisions to externalise part or the whole of the production process is closely interlinked with decisions about the nature of the relationships to be established as a result. However, we decided to use this distinction for purposes of analytical convenience in the review of the accumulated body of knowledge. Influential empirical studies can be plotted upon the analytical framework used here in order to explore the literature. This task is performed in Figure 2.

**Figure 1. A Framework for Exploring the Literature**



**Figure 2. A Framework for Exploring the Literature in Context**



### 2.2.1.1 Internal Viewpoint

There is widespread agreement among researchers as well as policy-makers that product innovation is one of the main means of enhancing long-term enterprise competitiveness in labour-intensive industries (Dunford, 2002; Gereffi and Memedovic, 2003; Schmitz, 2003). It enables the enterprise to move away from cut-throat price competition towards market segments where price (and as a result production costs) is a secondary consideration. However, the manifestations of product innovation may vary considerably between labour intensive industries. In the clothing and footwear industries one manifestation of product innovation is the introduction of new design. Although each ‘generation’ of new designs may have a relatively limited ‘self-life’ it may increase ‘brand-awareness’ (assuming off-course that new design is used in own-brand products). Another manifestation of product innovation in the clothing industry is the use of new man-made fibres and technical textiles. Technical textiles are particularly significant in that they offer opportunities to develop new kinds of product and are suited to new uses in, for example, the transport sector, furniture and furnishings and construction (Dunford, 2002). Again however, product innovation has to be visible to the consumer as the advantage derived from each generation of changes may be short-lived. The development of brand awareness is therefore a key consideration. Another manifestation of product innovation is the development of incrementally different products (an example shown in Box 1): something that is particularly the case in the electronics and software industries. These industries also offer scope to launch radical innovations, in the form of products that are totally different from what preceded them. In both incremental and radical product innovation each ‘generation’ of changes may be more sustainable – at least in the short to medium term – as they may involve difficulty in replicability, either on technological or intellectual property rights grounds.

#### **BOX 1**

‘...after studying the software of several Nokia Telecommunication products we identified a number of problems that, at the time, we traced to a lack of attention to software architecture.

From discussions with our colleagues from Philips we learnt that the problems were not Nokia-specific, and together decided to initiate a co-operative research project in the ESPRIT framework. In order to focus the project, we chose to emphasise the role of software architecture in developing families of software intensive products...to compete on the global market companies have to address specific requirements of different markets segments. Products must offer a choice of functional features and capabilities to satisfy a wide spectrum of customer requirements. National standards often impose constraints on product functionality and implementation. Cultural differences and fashions add variation to user interface design. Advances in technology require frequent migration of products to new implementation and integration platforms and environments. A company that produces a range of similar products has an opportunity to reduce the development, maintenance, support, and marketing costs of each product by sharing some of the effort and parts between different products. In order to manage such sharing, related products are organised into families or product lines. In the systems we have studied variability and configurability was achieved by 1 source-code pre-processing using macros and compiler flags 1 programming language based mechanisms like indirection and late binding of functions, variables and types 1 configuration management systems The elements of variability supported by these mechanisms (text lines, functions, variables, and files) are not the elements of variability required by products, which are commonly related to functional and quality features, user interface styles, and capabilities of underlying platforms. If required variability is achieved and managed by the mechanisms mentioned above it leads to replication of information and non-local dependencies. We are studying possibilities to address variability and configurability of software on the architectural level. It is often assumed that development and management of a family architecture addressing all the common requirements and providing the basis for wide scale reuse would always be economical. This is not quite true. When independent products continue their evolution they face new requirements. These requirements can be tackled only in the product development project that control the resources and have the responsibility. Later some of the new requirements may prove to have wider scope and they can be tackled on the family level. However changes on the family level may be very costly for the product projects. Commonality management also requires communication and co-operation. Between different organisation over wide distances such a co-operation is complex and costly. We can conclude that in many cases an architecture that would address all the common requirements would restrict product development projects too much and would make the parallel development of different family members impossible. Reuse and modifiability must be balanced according to the product development organisation and market needs. (Ran and Kuusela 1996)

It is useful to note here that product innovation matters not only because of the short or medium term competitive advantage gained. Probably more importantly, product innovation matters because of the competences (in a wide sense of the term) that it affords the enterprise (Corso and Pavesi, 2000; Chapman et al, 2001). These competences are both tangible (for example capital due to short term profit rises, technology, and skills) and intangible (in terms of knowledge, market recognition etc). These competences are the real source of competitive advantage, if they are used in a process of continuous product innovation. Saviolo (2003) discusses in some detail competence building in the case of Armani (see Box 2). This case highlights the importance of accumulated finance and knowledge in the process of continuous innovation.

## **BOX 2**

‘ .... After the success of his first collection Armani decided to extent his name over a wider product range entering into new licencing agreements. Furthermore, thanks to the royalties rising from the GFT licencing agreement, Armani could invest on his image and on his distribution network. Over the time his name became a successful umbrella brand ...The

corporate communication is managed entirely by Giorgio Armani ... (he) controls in a very careful way communications campaigns, leaving very little room to photograph and choosing himself models, locations and merchandising ...the total communications investment is nearly 5% of total turnover generated' (Saviolo, 2003, 19-21).

We must stress here that product innovation is an activity that involves considerable difficulty, and therefore may often be unsuccessful (in the sense of failing to achieve the objectives originally envisaged, rather than necessarily leading to bankruptcy or downsizing). In fact, for every successful product innovation there may be literally tens of unsuccessful ones. Box 3 presents the case of an enterprise which was unsuccessful in launching own-brand clothing range in post-socialist Ukraine. In this case it is the combined effect of declining levels of domestic demand, and the opening up of the market to international competition that increases the difficulty of the situation and undermines the ability of the enterprise to introduce new products in the market successfully.

### **BOX 3**

Kalantaridis (2000) discusses the case of USF. This company constitutes a successful manufacturer of clothing for the international markets. As a result, by 1998 some 65% of all sales turnover was destined to international markets. However, in a strategic attempt to move up the value chain and engage in the process of product design the company continued to produce own-brand products. In doing so, it utilised competences it acquired during the socialist era, as well as new ones. The results were disappointing. Own-brand items accounted for only 6% of sales turnover as of 1998. Moreover, they were a loss-making operation for the company. This is because during 1997 and the first half of 1998 the company manufactured 50,000 items but managed to sell less than half of those – some 22,000.

Process related strategies revolve around two key considerations. The first involves matching demand with production and storage capacity, whilst the second involves technological advancement. The key concept regarding the former consideration is 'lean retailing'<sup>30</sup> (Abernathy et al, 1999; Wrigley and Lowe, 2002). This aims at the optimisation not only of intra-organisational but also of inter-organisational processes (Wortmann, 2003). The underlined aim is to optimise the flow of products and information and information along the entire value chain, starting at the point of sale with the collection of highly detailed data on customer demand (Von der Heydt 1999). This results in faster reaction of supply to actual sales. Lean retailing is made possible through using more accurate sales forecasts and the adoption of electronic sales registers and bar-coding. 'On the basis of linking sales-point data to wider systems for electronic data interchange (EDI), leading US apparel retailers have been able to shift inventory control methods based on lower and later initial orders, selective later replenishments and more frequent introduction of new items – provided that suppliers also adopt the appropriate technology and accept responsibility for inventory management. This in turn paves the way for retailers to replace warehouses by distribution centres (DCs) where goods are moved on without being stored, and for suppliers to be asked to accept responsibility for highly detailed bar-coding, preparation of goods to floor-ready standards and to conform to new standards regarding shipping.' (Gibbon 2001). For an example see Box 4 below. Lean retailing however, is not just about optimising logistics. Data collected through the scanner tills also provide valuable information about customer behaviour (i.e. who buys what, when and where) that can be used for the development of new marketing strategies (Wortman, 2003).

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<sup>30</sup> Another terms often used in the literature is agile supply chain (for a review see Christopher, 2000).

**BOX 4**

Christopher (2000) reports that Zara produces fashionable clothing aiming for a global audience in the 18-35 age group. In doing so, it competes with some of the most skilled operations (including Benetton and Gap). Its success rests to a considerable degree upon its lean supply chain. The process begins with cross-functional teams, comprising fashion, commercial and retail specialists. The design reflects the latest international trends and is informed by regular inflows of EPOS data. Raw material is procured through the company's buying offices, whilst some 40% of products (those with the broadest and least transient appeal) are sourced from low cost manufacturers in the Far-East. The rest are produced by quick response in Spain, using Zara's own highly automated factories and a network of sub-contracting workshops. For these items production levels are kept always below expected sales to keep the stock moving. This is because Zara views undersupply as the lesser of two evils, the other being holding slow moving or obsolete stock.

Technological change constitutes an element of process-focused strategy that has not often received sufficient attention in empirical literature on enterprise adjustment in labour-intensive industries. In some instances the implementation of new (either to the company or the industry) technology has been identified as a source of productivity gains, and increased production capabilities (i.e. better quality of production or enhanced capacities) (Kalantaridis, 2000). Within this context, accessing new technologies is viewed as a source of enhanced competitiveness for the enterprises involved. In many other instances technological change is viewed as an enabler in the processes of either product innovation or functional upgrading – which will be discussed in greater detail below. In this context, access to new technologies is a means of implementing enterprise strategies. In both instances however, we have to be aware of the distinction between accessing and exploiting new technologies. This point is discussed extensively by Watanabe et al. (2001). They discuss the utilisation of different technologies gathered from multiple sources developed in different areas, which relates to both product and process upgrading. This requires strong assimilation capacity and ability to utilise spill-over technology. How to utilise this substitution potential has become one of the most crucial R&D strategy for industry. Japan in the 1980s is the best example of strong assimilation capacity, which however has deteriorated in the 1990s.

Functional upgrading, has emerged during the past ten years or so as a key element of enterprise adjustment in labour-intensive industries (IMF 2004; World Bank 2004). It is a strategy often identified with the GCC approach. The argument goes like this: European producers and distributors seek monopolistic rents through strategies centred on design, fashion and branding. Another strategy (deployed by producers both in Europe but also in Newly Industrialised Countries) is aiming to introduce changes in the distributive order. This is to be achieved through change the weight attached to different functional roles in the value added chain, by concentrating for example on knowledge intensive activities, marketing and logistics. Essentially producers seek to reposition themselves in the overall value added chain, with a specialisation on what are seen as core competencies (Gereffi and Memedovic, 2004). Buxey (2000) discusses the interesting case of small producers of electronics in Australia, which had to adapt to tariff reductions on the part of the government. Within such an open to global competition environment Australian companies developed six distinctive and usually mixed strategies. Two of the major ones were push to increase productivity and replacing local production with offshore, mainly independent suppliers in China.

**BOX 5**

Lee and Chen (1999) explore the process of synergetic functional upgrading from own design manufacture to own-brand products. In doing so, they use the example of Acer which used companies developed whilst manufacturing products for IBM and Hitachi in order to launch its

own brand products. Although starting an own brand product seemed to be a threat to existing buyers, Acer mitigated such a concern by directing its own brand products towards different, yet complementary market segments.

In order to improve the position of an enterprise in the global networks of production and distribution involves organisation learning. Thus, participation in these networks emerges (at least in the GCC literature) as an essential pre-condition that may initiate dynamic learning curves (Bair and Gereffi, 2003). However, there are other obstacles in the process of functional upgrading, as higher level roles are more demanding than lower ones. In order to overcome these obstacles enterprises require physical and human capital as well as access to effective networks (invariably identified in the literature as social capital). Within this context, building and managing networks emerges as an issue of at least equal importance as accessing financial, design and marketing resources. Some forms of upgrading may meet obstacles of different kinds: access to resources, restriction from partners<sup>31</sup>, etc. addressing obstacles such as restriction may require ‘underground’ risk-diversification (Bazan and Navas-Aleman 2001).

In achieving functional upgrading there are differing views regarding the origin<sup>32</sup> of resources. On the one side, local cluster theory emphasises that the knowledge needed for upgrading comes from within the cluster (Fujita, Krugman and Venables, 1999; Audretsch, 2003). On the other side, global value chain theory emphasises that the know-how comes from outside the cluster, in particular from the global buyers (Humphrey/Schmitz 2002; Humphrey 2003; Schmitz 2003)’ (Loebis and Schmitz 2003).

Functional upgrading is invariably viewed in the literature as progressive change, whilst functional downgrading is viewed more or less by definition as inherently negative. In fact, there has been precious little research exploring particularly functional downgrading, even though we are aware that this is also a strategy that may be deployed by enterprises in labour-intensive industries. This is because the main approach adopted by the majority of scholars in the field focuses upon the long-term economic development of a spatial unit (locality, region or nation). This tension between enterprise on the one side, and wider economic development on the other, means that we currently possess precious few insights into the process of functional downgrading. This is despite the fact, that there is ample evidence to suggest that functional downgrading is often used as a short-to-medium term strategy by enterprises in labour-intensive industries. For example, a number of enterprises in post-socialist regimes opted for functional downgrading during the early stages of reform, in order to safeguard survival and link into the global network of production and distribution (Kalantaridis et al, 2003). An example of an Italian company which opted for functional downgrading is presented in Box 6.

#### **BOX 6**

Rabellotti (2003) presents an interesting case of functional downgrading from a celebrated industrial district of Italy. Many footwear manufacturers in the districts of Brenta moved away from the production of, own-design and own-brand products, towards the production of luxury shoes based on the design and brand of powerful top fashion houses. To be part of the chain Brenta’s manufacturers accept a functional downgrading, abandoning design and marketing and focusing on production. Whilst in the short term may improve enterprise returns (as the new lines entail higher profit margins) in the long term it may result in the loss of design competences among manufacturers. Whether this will happen or producers engage in a multitude of chains – with different positions in the supply chain – it is hard to tell – according to Rabelotti (2003).

<sup>31</sup> Schmitz et al. (1999) discuss a case about a footwear cluster in Brazil where few big local exporters, included in global chains, tried to prevent conflicts of interest with the lead firms in the value chains, and were instrumental in preventing a collective upgrading strategy.

<sup>32</sup> This will be discussed in greater detail in the following Sub-Section.

Production constitutes the final element of internal viewpoint. If product innovation revolves around the question: what to produce; and process about how to produce it; production focuses squarely upon how much to produce and where to produce. It is interesting that there is precious little discussion in the literature about production levels per se. Instead, discussion about production focuses more on where does it take place: an issue that will be discussed in greater detail in the following sub-Section.

### **2.2.1.2 External Viewpoint**

The geography of production (identified as the 'space' dimension in Figure 1) constitutes the first aspect of the external viewpoint. A number of competing explanations have emerged regarding spatial enterprise strategies. These could be broadly clustered in two groupings: the first stresses the importance of locality, and enterprise embeddedness as a source of competitive advantage. In sharp contrast, the second approach focuses upon industrial dynamics, and thus views enterprise strategy emerging in a global but structured space. However, an issue common to both approaches is the importance of environmental influences in the process of enterprise strategy formation.

The 'locality' view falls within a broader shift in paradigm, supported by a voluminous body of empirical research, regarding the role of spatial externalities on economic activity (Fujita, Krugman and Venables, 1999). This 'new learning' perceives individual ventures as structural elements of territorially defined networks, whereby emphasis is placed on the interaction between firms and the local milieu (Audretsch, 2003). Within this context, geographical, industrial, organisational and institutional proximities are perceived to be instrumental in facilitating the emergence of shared patterns of behaviour and cognitive rules, which in turn underpin collective learning processes (Kirat and Lung, 1999; Malberg and Maskell, 2002). This shift in emphasis towards localised interacting agents rather than their behaviour in isolation, long accepted in regional science, has become more common in 'mainstream' economics (Anselin, 2003; Karlsson and Dahlberg, 2003). As a result, concepts such as location, spatial interaction and spatial externalities are increasingly common in theoretical formulations in a growing number of fields of study with economics. The empirical evidence that lends support to the new paradigm draws upon a growing number of celebrated cases of localised systems the world over (see Castells and Hall, 1994; Cooke, 1996; Cooke et al, 1995; Ottati, 1996). The 'new learning' advances the idea of local enterprise co-operation as a key element of economic development initiatives (DTI, 1999). Such strategies build upon notions of participation and endogenous development and involve the exploitation of human, natural, and economic resources that are specific to a geographically defined locality (Laschewski et al, 2002). Within this context, both policy-makers and academics have become concerned with the role that public agencies can play in enabling or even stimulating in promoting inter-organisational co-operation and networking (Huggins, 2000). Two central assumptions underlie these local development initiatives. The first is the assumed existence, or the good possibility of creating, relationships between local actors which themselves may engender mutual trust and shared learning (Curran et al, 2000). The second assumption is that economic activity is typically socially embedded, which is generally taken to imply local embeddedness (Jack and Anderson, 2002; Oinas, 1997).

The importance of the locality as a source of competitive advantage has been emphasised by authors coming from different traditions. In Krugman (1991), building on Marshall (1920); by Porter (1990, 2001) particularly the importance of local synergy and rivalry; the importance of local relationships in industrial districts (Pyke and Sengenberger 1992, Becattini 2002, Bellandi 2002, Dei Ottati 2002, but also in EU Observatory of Europe of SMEs (EU 2002). These tendencies were paralleled by work on innovation systems which moved away from a narrow focus on an individual firm and looked at innovation as an outcome of interaction on both the national and the local and regional levels (Lundvall 1998, Freeman 1995, Braczyk et al 1998, Strambach 2002). There are however different views on how exactly is the locality important.

Thus, some authors emphasise the linkages between local enterprises and institutions (Cooke and Morgan 1998, Scott 2000) and those who stress on the importance of extending those links to the meso level and the global level (Messner 2002)<sup>33</sup>. In a similar manner, in a comparison between inter-related clusters in Pakistan and Germany Nadvi and Halder (2002) study the importance of locality and clusters in two ends of the production of surgical instruments. Drawing on Bell and Albu (1999) the authors distinguish between knowledge flows and production flows within and in-between the two clusters in order to understand what are the open possibilities for upgrading in firms operating in the two clusters. The importance of the region has prompted further distinctions between types of regions beyond the 'flexibly specialised' region as discussed mainly in relation to Italian cases. Rama et al (2003) are trying to relate different types of subcontracting to different district types. They suggest that interfirm connectedness within regions can be studied by using intradistrict production subcontracting. They use a model to demonstrate that Madrid electronics producers comprise and emerging high-technology district. In contrast to conventional claims that assume the existence of random networks in large scale industrial districts Nakano (2003 STN) argues that there is underlying social structure not only between buyers and suppliers but also among and across the embedded industries within an industrial district.

Domestic production carries advantages in terms of low inventory and short lead times. This is well seen in the apparent paradox that in the US there is still a significant footwear production capacity. Even more interestingly these are the cheaper models with the more expensive being produced in SE Asia. In addition to being more flexible and less inventory this can be explained by the nature of the production process, where cheaper sports shoes need less stitches and thus are less labour intensive. In addition tariffs against athletic shoes massively discriminate against imported shoes (Barff and Austen 1993).

However, there is also a growing appreciation of the disadvantages associated with 'over-embeddedness in a regional or local setting. These arguments are inspired by the work of economic sociologists who suggest that local embeddedness can also act as a constraint. Uzzi (1997) identifies three conditions that may turn embeddedness into liability: the unforeseeable exit of a key player, the prevalence of institutional forces that rationalise markets, and overembeddedness, which is of greater importance in a rural context. Burt (1992) argues that overembeddedness can reduce the inflow of information into the local setting if there are few or no links to outside members who can contribute innovative ideas. He takes the argument further, suggesting that people who stand near structural holes<sup>34</sup> 'are more familiar with alternative ways of thinking and behaving, which gives them more options to select and synthesize from alternative' (Burt 2003). Whilst people connected across groups may be able to generate good ideas, locally embedded entrepreneurs may become 'ossified and out of step with the demands of its environment, ultimately leading to decline' (Uzzi 1997:59).

Clark et al (2004) argue that an exclusive focus on clusters and geographical embeddedness is insufficient. Contrary to that, and drawing on research in labour intensive industries in economically disadvantaged areas, they emphasise industry determinants. Depending on the emphasis on the 'shareholder value' doctrines (stripping out overhead costs, identifying and concentrating on 'core competencies', implementing supply chain rationalisation programmes, etc.) companies may be pushed to a different extent towards externalising 'back-of-house' functions. Sales maximisation and increasing shareholder value are often in conflict and would depend on the ownership structure of the company and on who controls the sourcing function: accountants or retail specialists (Gibbon and Thomsen 2002), they are not as prominent in

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<sup>33</sup> Discussion in Schmitz (2003).

<sup>34</sup> According to Burt gaps between individuals or groups of individuals are 'holes in the structure of information, or more simply structural holes... People on either side of a structural hole circulate in different flows of information. Structural holes are the empty spaces in social structure ... The value potential of structural holes is that they separate nonredundant sources of information, sources that are more additive than overlapping' (Burt, 2004, p. 7).

companies in mainland Europe as they are in the US and UK (Froud et al 2000, Kadtler and Sperling 2002). The strategies adopted will depend on three main factors: first, industrial structure and firm size, second, enterprise type, and third, ownership structure (Palpaceur et al 2003). Industry dynamics in the organisation of the production process emerge as a key consideration in the GCC approach and its variants (Schmitz, 2001; Gereffi and Memedovic, 2003). The argument advanced here is that competitive conditions at the industry level will define the organisation of production at the spatial level. The fact that labour constitutes the most important element of cost in what is viewed as inherently price competitive industries means that there is an incessant shift of production from high- to low-wage countries (Andersen, 2005).

It is worth pointing out here that this is not always a one way process. Admittedly not very frequently, there are instances where production (or parts of it) is moved away from low- to high-wage countries. This is invariably associated with changes in products or processes that necessitate an increased control over the production process. Box 7 below provides such an example from the electronics industry.

#### **BOX 7**

‘Erskine Systems, a 130 strong company in the TT Electronics Group, manufactures uninterruptible power supplies and has reaped the benefit of adopting supply chain management as a key skill in the company. The company established a process of measuring the relevant costs, including internal management effort, and justified bringing back in house some manufacturing operations which were previously outsourced, including assembly. As a result, the company gained better control of its supply chain, improved security and its ability to meet tight delivery schedules’ (XX, p. 119).

Industrial dynamics, and the push – predominantly – to move production away from developed countries, where labour costs are so high that can not be counterbalanced by productivity gains raises a whole set of issues for enterprises. One of the key considerations here is the choice of country of destination. A number of factors may influence this decision. Historical and ethnic linkages may prompt some enterprises to move to relatively familiar contexts. One such example is the case of the UK clothing industry<sup>35</sup>. Production there gradually passed in the hands of ethnic minority entrepreneurs from the sub-continent. Thus, when the bulk of the production process was moved outside of the UK, Pakistan and Bangladesh (countries where entrepreneurs had family and kin) emerged as primary destinations. Existing structures that govern world trade may also impact upon the choice of country of destination. Indeed, there is a large body of empirical evidence which suggests that during the 1970s and 1980s it was the function of the MFA that determined the relocation of European production to its southern periphery (Frobel et al. 1981).

More recently, a key consideration in the choice of country of destination was the balance between price sensitivity (on the one side) and responsiveness (on the other). In cases involving relatively undifferentiated products with relatively predictable levels of demand enterprises tend to opt for the lowest (or near enough) country of production. In this case (as the example of the footwear industry highlights in Bazan and Navas-Aleman 2001) countries like India and most importantly China are primary beneficiaries of the diffusion of production. However, in cases where responsiveness is important then enterprises may opt for countries located closer to market. According to Mortimer et al (2000) the increasing importance of North Africa and CEE for EU (for US similar trends of sourcing closer to the market) is for basic clothing predominantly of CMT type and is led by the growing in importance EU discount retailers. Abernathy et al. (1999) argues that the trend ‘nearer to home’ is mainly due to lead-time

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<sup>35</sup> Discussed in Phizacklea (1991).

considerations and the rise of 'lean retailing', minimising the costs of holding inventory. There are some drawbacks: predictability of times of arrival requires DC to be closer to home, the implementation of the system requires considerable investment, additional working capital on the part of the suppliers. Therefore lean retailing is mostly used for basics which are easiest to forecast. (Gibbon 2001)<sup>36</sup>. Often a combination of destinations are chosen (as shown in Box 8) as part of sophisticated enterprise strategies.

#### **BOX 8**

'The case study company is a retailer selling a full range of branded clothing products... The products are sold exclusively through a major supermarket, of which the company is a wholly owned subsidiary. Striving to combine value and fashionability lies at the heart of the company's strategy... The philosophy promoted dealing directly with suppliers [in] .... Hong-Kong, China, Mauritius, Portugal, Turkey, Bangladesh... Turkey is a key source for this company, perhaps not in terms of volume but for more fashionable items commanding a higher price point and for which lead times are important ....Bangladesh is an important source market, but with its attributes very different to those found in Turkey. Bangladesh's appeal is based largely on very low labour costs, making it very hard to ignore for any company sourcing basics such as T-shirts... many of the Chinese supply chains operated by the company ... involve a double layer of intermediaries. The first layer, located in Hong-Kong, co-ordinates trade at a broad level, the second layer, located in China, is dedicated to monitoring quality' (Pop 2000:157-159).

One enabling factor in this process of decentralisation of the production process is the architecture linking the components that form marketed products. Component means a distinct portion of the final product that can be separated from other components. The interface between the components (i.e. how they fit in order to get the final product) is referred to in the literature as the product architecture (Henderson and Clark, 1990). 'This architecture may be more or less unilaterally defined, suggesting at the one extreme a strictly modular architecture comprised of hierarchically layered components fitting each other like (basic) Lego building bricks. This may be seen as opposed to integral product architecture ... [where] single components can not be created independently of other parts, as their functionality is tightly coupled to the functionality of other parts' (Andersen 2005: 17). It is often argued that labour-intensive industries are defined by modular production architectures that enables (but not initiates) the process of the decentralisation of production.

One important issue discussed in the external view of enterprise strategy revolves around the choice of patterns (or modes) of integration. The literature on transaction costs provides us with an understanding of the full complement of options confronting the firm: ranging from spontaneous contracting in the marketplace to hierarchical control through internalisation. Each pattern of integration possess a number of advantages and disadvantages that are discussed in considerable length in an earlier chapter.

Moreover, the accumulated empirical evidence suggests that whilst there are a multitude of patterns of integration no obvious regularities to emerge. It is impossible to sustain arguments of the type that in industry A, sub-contracting out constitutes the main pattern of integration. Such arguments are not sustainable even within the same country, as a multitude of patterns of integration exist comfortably next to each other. The specific characteristics of the enterprises involved and often the attributes of the entrepreneurs (e.g. their attitudes to risk) are instrumental in defining this diversity.

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<sup>36</sup> According to Gibbon (2001 UK clothing) distinctions made by clothing retailers are between production a) at home, b) in Turkey, the Mediterranean and CEE, and c) in the Far East and Indian subcontinent, with 'finer' in-region distinctions less relevant.

Of course, it is worth pointing out some suggestive contribution to the exploration of this issue. Schiavone (2003) distinguishes between two types of enterprise strategies regarding patterns of integration. The first revolves around the creation of new business ventures in lower-wage countries, and is termed entrepreneurial delocalisation. The second involve simply changes in the supply chain without necessarily the externalisation of part of the production process. This involves the creation of subsidiaries of the very same firm in foreign countries and is termed as productive delocalisation). This distinction has significant implications upon the nature and characteristics of the enterprise strategies adopted. In the latter case there is a much greater degree of alignment of interests, that may prevent independent action in lower-wage countries – though there are profound resource advantages concerned. Andersen (2005) adopts a similar – but by no means identical approach – when he explores the difference between offshoring and outsourcing. In both cases what is essentially argued is that there is a significant trade-off between risk and flexibility on the one side and control and standards on the other.

Relying extensively on a wide network of companies raises questions of first, migration of responsibility and ways of controlling standards and second, managing the diversity of contexts, locations and relationships. Thus, for example, the migration of bureaucracy leads to changes in negotiating, administering and monitoring contracts<sup>37</sup> (Mackenzie 2002), as well as putting in place mechanisms for assessing the quality and the work of a subcontractor before they are contracted and before they deliver the product (Assmann and Punter 2004).

Further, the problem of co-ordination becomes a central strategic task (Lee and Chen 1998) and it becomes necessary for companies to develop distributed management execution systems (Huang 2002). Humphrey and Schmitz (2001) address the question of governance by asking how are parameters set and then enforced, is it firms within the chain (e.g. the lead firm) or external entities that are enforcing them. The empirical evidence, however, does not offer a single and straight forward answer to the question about what types of relationships and governance mechanisms employed within the process of restructuring work best, as they are always socially embedded, and are simultaneously positioned within different, and often contradictory, discourses, structures of interests and priorities. For example, developing close relations or arms-length relations can both have advantages and disadvantages and can be useful in some cases, yet harmful in others. The ability to manage the inbound logistics and to cooperate with other companies appears to be essential for the success of subcontractors, and one of the positive consequences of such relations is that they can lead to knowledge transfer<sup>38</sup> (Deardorff and Djankov 2000). Thus, looking at Finnish manufacturing companies Lehtinen (1999) argues that there is an increased significance of long-term and commitment based supplier-customer relationships, while Lazzeretti et al. (2004) emphasise the importance of trust and informal credit for the industrial development of the Italian district of Prato.

Because developing a relationship with a new supplier usually takes a long time companies may prefer to follow their established partners wherever they decide to move and keep on negotiating the conditions of their relations rather than looking for new suppliers. Discussing the clothing sector in the UK Gibbon (2001) argues that there is a tendency to reduce the number of suppliers, while also increasing the expectations of the range of services and functions expected to be carried out. In contrast, long-term relations can also be harmful and partnerships between manufacturers and retailers may create binding on both sides, where buyers may be forced to buy things just because the producer has got the capacity to produce it (Gibbon 2001) and/or at non competitive prices. The latter is well illustrated by the decline of M&S in the UK and the difficulties faced by its suppliers. Further, the positive effects are never guaranteed, indeed, there are structural constraints to the inter-organisational learning process, while buyers would

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<sup>37</sup> Contrary to what is often believed this process does not necessarily lead to the dismantling of hierarchies but on the contrary to their reproduction.

<sup>38</sup> Looking at the experiences of small and medium companies in Singapore that are subcontractors to large multinationals, Chew and Yeung (2001) argue that SME are more capable in local technical specifications, standards, management styles and local culture, which enables SMEs to participate in costumers' product design.

also be concerned with future competition and thus would be cautious in transferring knowledge and technology to their partners (Lee and Chen 1998).

The variety of the observed relationships can further be extended into studying and conceptualising different forms of networks. Ponte (2005) distinguishes between four forms of co-ordination<sup>39</sup>: hierarchy, relational contracting (tighter forms, not easy to standardise, repeated interaction, understanding the mindset, ‘captive’ contractors), relational contracting (looser forms, standardisation is possible but needs some degree of customisation, ‘modular’ contractors<sup>40</sup>, contract manufacturing), market (homogeneous product, universally understood quality, etc.)<sup>41</sup>.

The diversity of possible outcomes from similar types of relationships<sup>42</sup> given different contexts leaves the question of what is a ‘good’ choice open<sup>43</sup>. However, being unable to predict and to firmly establish relationships of the cause-effect type does not mean that strategic choices are made totally in the dark. On the contrary, here we argue that it is possible to identify significant mechanisms, analyse the wide diversity of ways in which processes can work, and refine the existing distinctions, and that this is what practitioners often do in deciding on their strategies. To be more specific Sturgeon (2002) offers some useful distinctions. For example, he distinguishes between value or commodity chain and value or commodity network, where the first is just a sequence of productive activities while the latter is an integrated economic unit. Further, he discusses value threads (involving one product), supply threads, value chains (set of related products or services), and supply chains. Sturgeon distinguishes between different spatial scales (local, domestic (national), international, regional (multi-country trade bloc), global) and productive actors (integrated firm, retailer (sales, marketing, packaging, system integration), lead firm (strategy, definition, design, sales, marketing), turn-key supplier (complex parts and services, process R&D), component supplier (discrete elements).

Time is the last fundamental element of enterprise strategies in labour-intensive industries, in that each firm has a history comprised of significant events that occurred at specific points in time (Jones et al 2002). Acknowledgement of the time dimension is implicit in a number of studies emanating from different disciplinary settings (GCC, ANT, incremental models etc). Based on insights gained from these approaches we would like to distinguish here between chronological time and time sequences. Chronological time is the same for all firms. That is, all firms in a given area operating in the 1990s experienced the same macro-environmental influences, and passed through the same periods of economic growth and recession. Thus, chronological time patterns may emerge. Moreover, it is likely that the same enterprise may differ in its strategic decision-making over chronological time. Therefore, it is important to peg the firms’ strategies against a relevant historical backdrop. Whilst chronological time is shared,

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<sup>39</sup> Gereffi, Humphrey, and Sturgeon (2003) link the shape of the network to the degree of complexity of transactions, the possibility to codify transactions, and the capabilities in the supply-base and come up with similar categories. Thus, they distinguish between markets, modular value chains, relational value chains, captive value chains, and hierarchies.

<sup>40</sup> For example, ‘lead firms in the modular production network concentrate on the creation, penetration and defense of markets for end products—and increasingly the provision of services to go with them—while manufacturing capacity is shifted out-of-house to globally operating turn-key suppliers. The modular production network relies on codified inter-firm links and the generic manufacturing capacity residing in turn-key suppliers to reduce transaction costs, build large external economies of scale and reduce risk for network actors’ Sturgeon (2002). Similar to Sturgeon’s notion of modular relations and turn-key suppliers (2001), Andersen (2004) uses the notion of product architecture to refer to the possibilities of the modularisation of production for certain products. The concept is borrowed from complexity theory and has been discussed in more detail in Muffatto and Roveda (2002), Brabazon and Matthews (2003), Mikkola (2001).

<sup>41</sup> These criteria however are quite rigid and dwell on a distinction between ‘arm’s length markets’ and ‘large vertically integrated corporations’. Given this definition it becomes impossible to discuss different forms of formal/informal hybrids that occur on different levels of governance.

<sup>42</sup> Buckley and Ghauri (2004) offer a comprehensive literature review on the links between ownership and location strategies.

<sup>43</sup> Sacchetti and Sugden (2003) contrast the externalisation activities of large multinationals, which are concerned with flexibility, but also more control over governments, labour and subcontractors and argue that different networks would have different effects on socio—economic development.

time sequences are specific to each enterprise. They refer to the stages in the evolution of the firm and their implications upon the resources, skills and attributes of the enterprise.

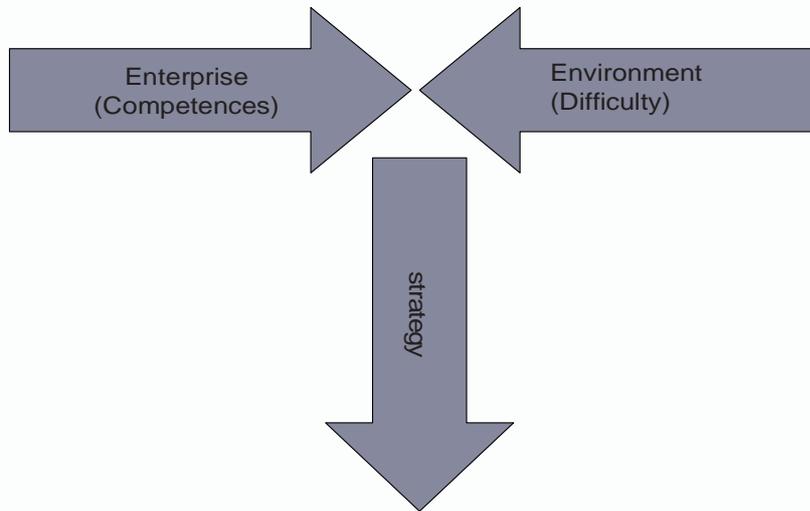
### *2.2.2 Remarks on the Evidence*

There is one apparent conclusion from the evidence presented in this Section: enterprise strategies are multidimensional. They revolve around a host of dimensions internal to the enterprise (see Figure 1) and also attempt to influence environmental factors (suppliers, customers etc). Moreover, it is often the case that the implementation of change in one dimension of the enterprise strategy will impact upon other. For example, functional upgrading may impact upon processes (new technological competences needed), as well as production (putting-out low value added elements of production) which in turn may influence both the space and morphology dimensions.

The evidence presented here also suggests that there is profound diversity of enterprise strategies adopted in labour-intensive industries. As anticipated, there are differences between enterprises located different countries or regions, as well as differences between enterprises operating in different industries. However, and more importantly, there are profound differences in the strategies adopted by enterprises located in the same industry and the same country. For example, Locke (1996) looks at cases of two Italian textile districts that developed different adjustment strategies. Further, adjustment strategies would be different in developed and less developed countries, for multinationals and for SMEs, across industries and types of networks, etc. Kalantaridis et al (2003) also identify a multitude of strategies adopted by enterprises operating in the clothing industry of Transcarpathia in Western Ukraine. This profound diversity raises a key consideration regarding enterprise strategies: i.e. there appears to be no single best strategy, regarding individual dimension (xe.g. product, process, function, production, space, morphology and time) and neither is there a single best mix of such strategies.

At the most elementary the decision of the strategy adopted by each enterprise will be influenced by two sets of distinct factors (see Figure 3). One set of factors involves those internal to the enterprise, whilst another set are external. Internal factors involve the notion of competence. The resource-based view of the firm has been important in this direction (Amit and Schoemaker 1993; Barney 1991; Peterraf 1993). The Resource-Based View of the firm suggests that differential performance can be attributed to a firm's possession of rare, valuable, non substitutable, difficult-to-imitate resources (Barney 1991). Building upon this basis, subsequent research efforts offer the concept of core competencies (Prahalad and Hamel 1990) and develop a broad framework for competence-based management (Heene and Sanchez 1997). As argued in the competence-based framework the management of an evolutionary process that contains both competence building and competence leveraging activities is essential for the success of the firm (Sanchez et al. 1996). To sum up, first, competence leveraging refers to the exploitation of an existing stock of competencies, and second, competence building can be used as an indication for the exploration of qualitatively new assets or capabilities. The establishment of a successful firm with dynamic corporate coherence requires the a business operation model that incorporates both of those processes (Chritensen and Foss 1997; Collis and Montgomery 1997).

**Figure 3. The Process of Enterprise Formation**



At the other extreme – stressing the importance of external influences – stands the environmental school. Advocates of this school view the enterprise as merely reacting to the environment that sets the agenda, which in turn reduces strategic decision-making to a mere reflexive mechanism. There are main four main premises of this approach (Mintzberg et al. 1998). Firstly, the environment, presenting itself to the firm as a set of general forces (such as industry, competition and market), is the central actor in the strategy-making process. Secondly, that the organisation must respond to these environmental forces, otherwise it will be ‘selected out’ – in an evolutionary type process of natural selection. Thirdly, as a result, entrepreneurial decision-making in the firm is reduced to exploring and understanding the difficulty associated with the environment as well as changes. It is this understanding of this evolving difficulty of the external environment that, according to advocates of this school, will subsequently ensure proper adaptation. Fourthly, enterprises will end up clustering together around successful ideal-type strategies (Hannan and Freeman 1977 and 1984). Evidence presented from the experience of labour-intensive industries raises concerns about this premise.

Thus, the key elements that emerge from this Section are:

- Enterprise strategy is multidimensional.
- Enterprise strategy may differ even between firms located in the same area and operating in the same industry.
- Enterprise strategy is influenced in part by internal factors. The concept of competence is important in enabling us to decipher these factors.
- Enterprise strategy is influenced in part by external factors. The concept of difficulty is useful in understanding the characteristics of the environment.

## 2.3 *From strategy to policy: key conceptual issues*

### 2.3.1 *On Success*

This sub-Section sets out to explore two key considerations for the purposes of our chapter. This chapter aspires to identify ‘successful’ enterprise strategies. We have dealt in the Section above with the multitude of strategies adopted by enterprises in labour-intensive strategies. However, we have not dealt with the question of success. One could argue that success – and its achievement – constitutes the focal point of the project. Learning how to succeed is a desirable outcome from a policy perspective. However, before setting out to learn how to achieve success it is worthwhile to explore what success is all about. Here we are going to deal with this issue by addressing the question of ‘whose success is it anyway’?

The question ‘whose success is it anyway’ has attracted hardly any attention to date in the accumulated body of empirical evidence exploring enterprise strategies in labour-intensive industries. A consequence of this neglect has been a failure to recognise tensions in the interests of economic agents within the region as well as within the enterprise. Thus, regions are viewed as entities with a commonality of purpose, whilst the same is the case regarding individual enterprises. However, regions are made of different stakeholders: economic and social groups, sectors and industries with often conflicting interests and different enterprises. Placed within this context, the question of ‘whose success is it’ becomes a key consideration. It is useful here to introduce an example from advanced industrialised countries. In many instances labour-intensive industries operated in regions where medium-to-high technology sectors demonstrated a considerable degree of dynamism. Within such settings, success in the case of labour-intensive industries would be linked with the survival of enterprises and the continuous employment of large numbers of workers. Within the same region, success in medium-to-high technology sector may be linked with increased employment levels – of the very same workers employed in labour-intensive industries. Thus, success in the former may be dependent upon failure of the latter. Similar tensions may become apparent within the enterprise. For the entrepreneur success may be viewed in terms of a declining cost basis, whilst for the employees success may be viewed in terms improved remuneration and conditions. Beyond this, there may be additional tensions about the meaning of success for the enterprise by different teams (e.g. production, design etc). Therefore, we believe it is important to acquire a more qualified view of success and the fact that there may be apparent tensions between stakeholders in both the regional and the enterprise level. This has a significant policy implication: recognition of tensions may lead to difficulties in the implementation of enterprise strategy, which in turn may undermine success.

### 2.3.2 *Between Prescription and Description*

The third, and fundamental conceptual consideration revolves around the challenge of reconciling the policy need for prescription with the research call for analysis. More specifically, on the one side (policy) there is an inherent need for solutions. This does not equate with crude and over-arching generalisations, but involves the identification of sets of actions that may be applicable on a large number of cases that could be identified in the process of implementing policy. On the other side (research), the body of accumulated literature points at the importance of path dependency at all analytical levels: country, region, enterprise, individual. To put it in another way, not two individual economic actors, businesses, regions or countries have followed identical paths of evolution. This disparity has consequential effects upon resource (both tangible and intangible) endowments and thus provides clear limitation on the strategy options available. The adoption of such an approach, more or less precludes by definition the degree of generalisability that is needed in order to provide even the most elementary policy-recommendations.

This fundamental tension has been identified and discussed extensively in the literature. More specifically, in a suggestive contribution to the debate Mintzberg et al (1998) identified the main

theoretical approaches to business strategy (identified in Table 1). They categorised these approaches into two substantive grouping. The first grouping comprises of prescriptive strategies, in which normative assumptions derive from the view that the main challenge for strategy development is to respond or adjust to the environment. The second grouping comprises of descriptive strategies, which focus upon enhancing our understanding of the results of empirical evidence).

**Table 2.1 Prescriptive and Descriptive Approaches to Strategy**

<b>Prescriptive</b>	<b>Descriptive</b>
Design	Entrepreneurial
Planning	Cognitive
Positioning	Learning
	Cultural
	Political
	Environmental

The importance of this divide has been underlined by competing views of strategy as a planned or emergent. Dominant theories in the field perceive the strategy process as a hierarchical design activity. From the point of view of the practitioner this view has the advantage of clear prescription. It offers the suggestion of strategy processes being manageable, in the most literal sense of the world. Although the actual decisions to be taken may not be easy to make, top management has a blueprint of steps to take, information to gather, and people to involve (Zook et al. 2001). The emergent view on the other side, carries with it the image of strategy processes being unstructured, random, chaotic and uncontrollable (Stacey 1995). Within this context, strategy instead of being a centralised, neatly delineated sequence of steps carried out by top management, an important part emerges from actions taken at lower levels of the organisation (Farjoun 2002). This means that emergent strategies processes are challenging to manage (Fenema et al. 2004).

In order to deal with the fundamental challenge of prescription versus analysis, we have decided to adopt an essentially Darwinian approach of evolution. The adoption of such an approach is not new: economists (Veblen, Mitchell), sociologists (Polanyi) and more recently management specialists (Quinn) attempted to draw parallels with Darwin's pioneering work. Individuals and enterprises (and one could argue regions or countries) adopt at specific points of time strategies or states of being. This is a time of coherence, when, as a result of the strategy adopted, there is stability in the direction of the unit of analysis. However, transformation is an inevitable part of evolution, when either as a result of external or internal factors the unit of analysis has to adopt change. Thus, the focus of our inquiry becomes the process of transformation, i.e. when, and how does the unit of analysis opts for change, and how does it decide upon the preferred course of action.

The enterprise is the subject at the heart of our inquiry, whilst deciphering the process of developing and implementing transformation strategies constitutes our main research question. The term transformation is used here, instead of the most commonly used in the accumulated literature mainly because it enables us to explore the actions of the enterprise beyond mere reactions to environmental threats. In this paper we perform a two-fold task. Firstly, we explore the existing literature, and secondly, set out the outlines of a novel analytical perspective. This is a bottom-up perspective, which is in line with the methodological approach adopted by the project, in sharp contrast to the top-down approach adopted in the bulk of the relevant literature (Gereffi 1994; Smith et al. 2002).

## 2.4 *The development of a microanalytical approach*

The analytical framework developed here draws upon the work of a line of economic sociologists, namely Burt (2004), Granovetter (1985) and Polanyi (1944), and an economist Robert Heiner (1983). The theoretical antecedents of both lines of study can be traced back to early institutionalists such as Veblen (1904, 1914), and beyond that Darwinian biology. Our point of departure is the interaction between internal and external influences in the process of strategic decision making. Continuing along the line of argumentation developed in the conclusions of the second Section of this report we view this process as dealing with a gap between the Competences of the enterprise and the Difficulty of the context (Heiner, 1983).

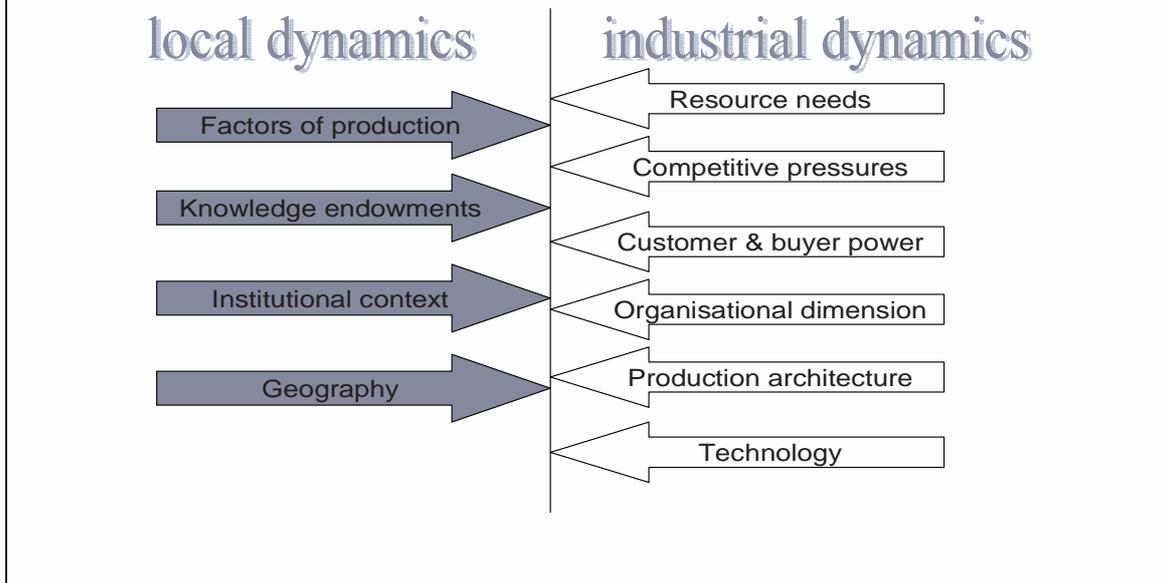
What is the cause of Difficulty in any situation? Essentially Difficulty is conditioned under the pervasive influence of ambiguity and fundamental uncertainty. Ambiguity is uncertainty created by missing information that is relevant and could be known. Thus, ambiguity is determined by information flows, itself the result of the prevailing institutional setting. Using as example, the case of post-socialist regimes, market institutions were introduced abruptly and superimposed upon remnants of the socialist era. This affected not only the pace but also the direction of information flows, leading to extensive information asymmetries (Meyer 2000). As a result, there is a relatively high level of ambiguity, which inhibit the advancement of new business relationships. Fundamental uncertainty however, revolves around relevant information that can not be known at the time of making important decisions. It derives from the fact that ‘the future is yet to be created [thus] surprises may occur both as intended and unintended consequences of human action’ (Dequech 2001: 8). Institutions are also important in conceptualising fundamental uncertainty, through their ability to define the boundaries of acceptable behaviour. Using the same example, post-socialist transformation also obscured the boundaries of acceptable behaviour, increasing the scope for opportunism, bribery and corruption (Nelson et al. 1998).

The next key consideration is how to operationalise the concept of Difficulty in the process of developing enterprise strategy. What are the dimensions of Difficulty and how could they be measured by researchers<sup>44</sup>? In responding to this question we have decided to deploy a simple divide between dimensions of the Difficulty of the context that originate from the local or the industrial setting (see Figure 4). A number of different elements are identified in each dimension. It is important to note here that what is of paramount importance is not only the two dimensions and ten elements of Difficulty but their interaction with each other as well as the interaction between Difficulty and Competences.

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<sup>44</sup> We would like to stress here that our aim here is to develop an analytical toolkit for the researcher rather than explore the actual processes used by entrepreneurs in the process of strategic decision making.

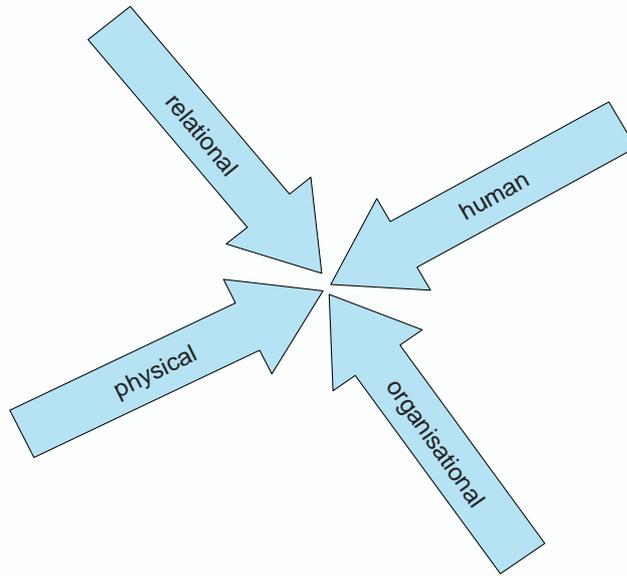
**Figure 4. Deciphering Difficulty**



The enterprise's Competences on the other side are influenced in part the totality of skills and attributes at its disposal, as well as access to resources (both tangible and intangible). Another influence of Competence is the firm's (or the entrepreneur's) position in relationship to the context. The position of an economic agent is a parameter of two variables: the degree to which the agent has internalised prevailing norms and customs, and the context. The latter may vary not only between economic agents located in different geographical locales, but also within the same locality. For example, in the case of a post-socialist regime, the specificities of the context varies profoundly in the case of a director of a former state enterprise and a young entrepreneur (for detailed discussion of these examples see Kalantaridis, 2004). Competencies are instrumental at empowering economic agents, but not equally so. The view advanced here is that economic agents involved in a relationship are able to establish these relationships in the first place because of their competencies that are useful to the other party. Even the weakest actors in a supply chain possess some competencies, and their replacement - more or less by definition - is not costless. However, the fact that all agents possess some power does not mean that their power is equal or even comparable. Therefore, a key element in our research is to examine the relative power held by each economic agent and how this is manifested in the emergent strategies.

This brings us to question: how best to operationalise the concept of Competences. In doing so, we have been informed by a large and influential body of theoretical work collectively known as the Resource Based View (see Figure 5). We identify four dimension: beyond the conventional (in the Resource Based View) physical, human and organizational, we add the notion of relational competences.

**Figure 5. Deciphering Competence**



The Competences and Difficulty associated with each situation, and the ensuing gap are enterprise specific. For instance, in the case of integrating enterprises in a CEE region to a global network of production: the Competences held by the local manufacturer may differ significantly from those of the parent enterprise in an advanced industrialised country. Similarly, their views may also differ as to where the Difficulty rests in the process of forming a linkage. The gap between Competence and Difficulty could be altered (widen or narrow) by changes in either parameters, putting opportunities within or outside reach. In the case of post-socialist regimes in CEE it was the move from plan to market that reduced the Difficulty of creating linkages with global networks of production and distribution. This, in turn, may affect the Competences of economic agents on both sides of the structural hole. The development of market institutions may further alter the Difficulty and so on. Thus, narrowing gaps on the systems level (e.g. harmonisation of legal or financial systems) may make visible (thus offering the potential to bridge) structural holes on the organisational level. At the same time, the collapse of the institutions that provide social cohesion in some contexts (for example former Yugoslavia) resulted in disintegration and civil war, thus also creating new structural holes.

This approach draws heavily upon the concept of the structural hole (Burt 2004). This is essentially a gap between individuals or groups of individuals, a discontinuity in the structure of information. Thus, ‘... people on either side of a structural hole circulate on different flows of information. Structural holes are empty spaces in social structure’ (Burt 2004: 7). More or less by definition structural holes involve opportunities. This is because, distance (relational rather than simply geographic) results upon profound differences in the resource endowments, both tangible (labour, capital and land) and intangible (information and knowledge), on either side of the hole. Thus, in our view structural holes are ‘relational voids’ that can partly be understood as (and be seen as the outcome of) gaps in information on both sides of the divide; and partly as a result of differential availability and price of resource endowments (themselves result of gaps in information). Structural holes may manifest themselves at different levels: the individual, the organisation (which is the focus of this paper), and system<sup>45</sup>. Thus, global integration may be

<sup>45</sup> The term system is used here in the sense of the prevailing framework (often created at the national – but sometimes at regional level) that regulates, standardises, monitors and enforces transactions. This framework created by states (national or regional), is tangled in a supra-national setting defined by organisations such as the IMF, the WTO, the World Bank, the EU etc.

viewed as a process of narrowing gaps, ‘bridging’ some structural holes - i.e. joining economic agents on different sides of each hole - or creating some new ones.

The gap between Competence and Difficulty (specific to each agent) does not only influence whether a structural hole may be bridged or not but also affects the nature and direction of the strategies of each economic agent, and subsequently the emerging governance structure<sup>46</sup>. This is on account of the distinct Competencies held by each enterprise, as well as their differing views of the Difficulty of the situation.

As already stated in the previous Section the approach advanced here is non-teleological and inherently evolutionary. This means that the gap between Competences and Difficulty is not unchangeable with the passage of time (both chronological time and time sequences). The passage of chronological time may result in changing degrees of Difficulty not least because of the strategies adopted by enterprises in previous time periods. Thus, the intensity of contextual Difficulties may alter, some of the Difficulties may disappear whilst others may emerge. Similarly, the passage of time sequences may also impact upon enterprises Competences. Thus, strategies taken by the enterprise in previous times may enhance or diminish enterprise Competences. The evolving set of enterprise Competences may impact its ability to deal with changing Difficulties calling for a process of continuous revision of enterprise strategy.

## 2.5 *Concluding remarks*

This chapter lends support to three main theses:

- Enterprise strategy is multidimensional. It covers a host of internal and external dimensions that are often interrelated. Thus, a decision to take action in one dimension often impacts upon others. The framework proposed in Figure 1 may enable us to describe the different dimension of enterprise strategy in labour-intensive industries.
- In order to understand enterprise strategies we have to explore the interaction between enterprise Competences and the Difficulty of the context. This approach takes us away from the unidirectional views adopted in the strategy literature (e.g. Resource Based View focusing on Competences whilst Porter focusing on environmental factors). Figures 4 and 5 may be used in order to decipher these two dimensions.
- Enterprise strategies are evolving. It is here that policy actions may be centred.

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<sup>46</sup> Defined here as emerging structures that co-ordinate economic relationships. They range from spontaneous contracting in markets, to hierarchical structures within firms.

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### 3 Social consequences of delocalization: Literature review and implications for research

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#### 3.1 Introduction

Delocalization is as an economic phenomenon, which refers to an international transfer of productive activities from one country to another, mainly as a result of international cost differences. The phenomenon referred to as delocalization (Leamer, 1998), vertical specialisation (Hummels, Ishii and Yi, 2001) or international fragmentation (Jones and Kierzkowski 1990) started in developed countries in the 1960s. Then first wave of global outsourcing began in the 1960s and 1970s with the relocation of production in shoes, clothing, cheap electronics, and toys (Gereffi and Sturgeon 2004). Later on other branches followed such as automotive parts, home appliances and recently routine service work, and more advanced ICT jobs. Not surprisingly, delocalization has caused considerable concern in the affected economies and has given rise to a vigorous debate about its courses and likely implication. Not surprisingly, the huge part of the debate centres on jobs, wages, and skills in different parts of the world. The phenomenon is becoming an issue important to such an extent that, for example, the weekly French financial newspaper *Les Echos* announced on 27 September 2004 that the government is making ‘the struggle against delocalization its new priority’. The rise of global outsourcing has triggered waves of consternation in advanced economies about job loss and the degradation of capabilities that could spell the disappearance of entire national industries (Gereffi and Sturgeon 2004). In spite of the growing body of literature on global value chains, which analyzes the structure of global production systems in different industries, there has been limited analysis of their social and institutional context, e.g. how they influence work, and the quantity and quality of employment (Hayter 2004). However, as Palpacuer and Parisotto (2003) argue the social and institutional dimensions of production activities are more location-specific than chain-specific. The issue is not entirely new and is linked to the extensive debate on the relationship between globalisation, deindustrialization and the labour markets<sup>47</sup>.

The aim of the report is to provide broad coverage of issues related to social consequences of delocalization. The first part focuses on the debate whether delocalization is a main factor behind observed changes in labour markets. Then types of social consequences are discussed, followed by examples of social and geographical groups affected. Finally, the long-term development paths of towns and regions touched by delocalization are considered.

In the second part of the report implications for this research are discussed. The importance of the context and factors behind delocalization is stressed, feasible alternatives discussed and research dilemmas posed.

Studies of social consequences of delocalization are conducted within at least two broad frameworks:

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<sup>47</sup> The literature on deindustrialization is immense. By 1985 there were above 800 entries in *Plant Closing: A selected bibliography* (quoted after Cowie and Heathcott 2003). The pillarstone of the debate is Bluestone and Harrison’s *The Deindustrialization of America: Plant Closing, Community Abandonment, and the Dismantling of Basic Industry* (1982).

1. contestation of globalisation as a process detrimental especially for countries/regions, which lose employment in labour intensive industries; this phenomenon is sometimes referred to as 'a race to the bottom' (S. Hayter 2004);
2. belief in an inevitable process of industrial restructuring, where decreasing number of industrial jobs in advanced economies is seen as a natural stage of industrial change, which enhances long-term regional/national competitiveness.

Both approaches to the social consequences of delocalization can be employed in the analysis.

One has to bear in mind that delocalization, or more general globalisation, cannot be understood in the simplistic logic of jobs gained or lost. Delocalization can mean various things. It embraces the issue of the relation between investment and place, de-urbanisation and urbanisation, changing competencies and capabilities and, as Cowie and Heathcott (2003) point out, the loosening of the connection between identity and work. Moreover, long-term perspective is crucial for understanding seemingly rapid changes, which may be part of long-term historical trends.

### **3.2 *Delocalization: a literature review***

#### *3.2.1 Does delocalization bring about important market labour effects?*

The sector, which moves abroad its unskilled-intensive phases of production and maintains the domestic production of its skill-intensive phases will experience an increase in the relative demand for skilled labour. If the industry experiencing fragmentation is large enough compared to the overall economy, this will also affect the equilibrium in other sectors through its effects on relative wages or employment, according to the labour market characteristics (Helg and Tajoli, 2004). Given growing inequalities in developed countries, there is an empirical question whether outsourcing and FDI are a strong enough phenomenon to account for significant labour market effects. The question fits into ongoing debate whether technology or trade is a main drive of labour market change in developed countries. A central element in the debate on global trade liberalisation concerns the effects on inequality and the relative demand for skilled vis-à-vis unskilled labour within the developed countries.

According to the traditional trade theory of comparative advantage, increasing North-South trade in manufactured goods will increase wage differentials between skilled and unskilled labour in the North (or unemployment, if wages are rigid downwards, as in Western Europe), whereas the opposite effect is expected in the South (Dølvik and Tørres, 2002). As a result, the developing countries will specialise in labour-intensive export goods, whereas the advanced economies will specialise in high-skilled production. In the latter group reduced demand for and wages of unskilled workers are expected, whereas in the former increasing demand for and wages of unskilled labour occur.

Most studies conclude that the effect of trade flows linked to delocalization is too small to account for OECD labour market changes in developed countries. For instance, a 1992 OECD study (quoted after Morcos, 2003) indicates that the net employment effects of changes in exports and imports between developed and developing countries have not been significant enough to account for OECD labour market changes. The study finds that domestic factors such as changes in the demand for domestic goods and increases in labour productivity were generally much more important in accounting for labour market changes. Lawrence (1994) focuses on the imports of U.S. multinationals as one measure of outsourcing, and argues that changes in these imports are too small to be a cause of domestic wage and employment changes. Krugman and Lawrence (1994) argue that flows of foreign direct investment through multinational firms are too small to account for observed wages and employment changes. According to them, a major reason for the relative decline in wages among less skilled US workers can be found in the low labour productivity in many parts of domestic services, where most low-paid workers are actually employed. Similarly, Rowthorn and Ramaswamy (1997)

argue that deindustrialization is principally the result of higher productivity in manufacturing than in services. The authors maintain that about two-thirds of the actual decline in the share of manufacturing between 1970 and 1994 can be explained purely by productivity effects.

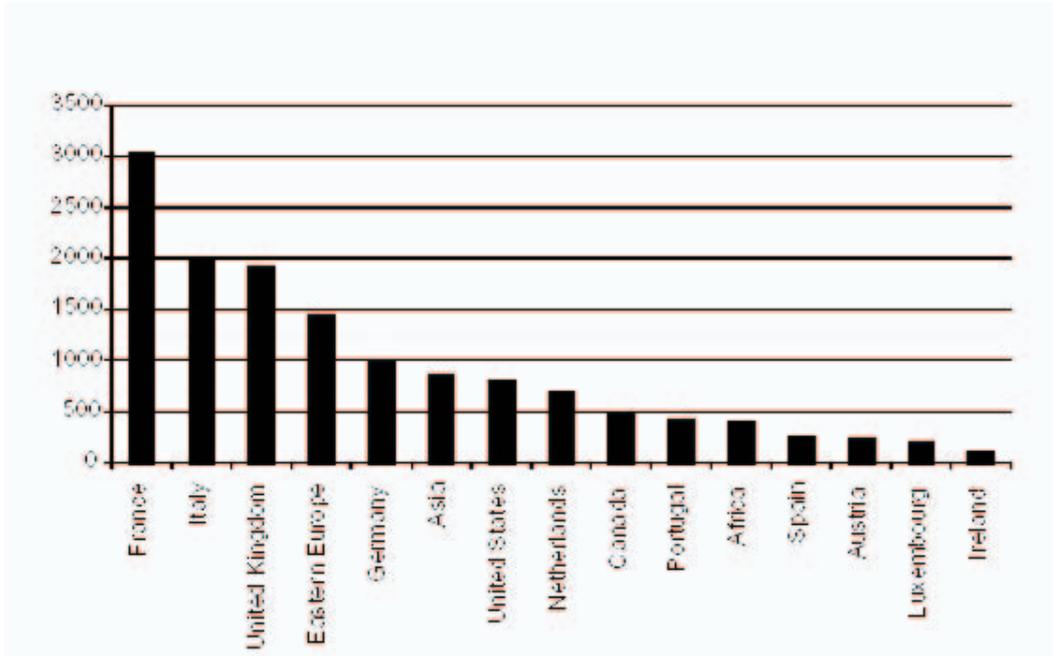
Konings (2003), who compared wage cost and productivity differentials between Belgium and Portugal, being the EU benchmarks for high and low labour costs, with those in the three leading emerging economies of Central and Eastern Europe, Poland, Hungary and the Czech Republic, concludes that low wage competition from CEE countries does not have a negative effect on jobs in Belgian manufacturing. Although the average labour costs in CEE countries are more than 7 times lower than in Belgium, at the same time the average labour productivity is more than 7 times lower in CEE than in Belgium. Thus the fear of delocalization towards Central and Eastern Europe because of the lower wage costs appears to be ungrounded, since the low wage costs are reflecting the lower productivity. All in all, the evidence suggests that employment relocation in response to labour cost differentials is not taking place between Belgium and CEE countries and only marginally between Belgium and Portugal. Also the findings of the German study done by Kinkel, Jung Erceg, Lay (2002) suggest that the relocation of production capacities does not necessarily imply the loss of jobs at home (German) location. They found no automatism between production locations abroad and cuts in employment at home.

Berman, Bound and Griliches (1994, quoted after Morcos 2003) use data on US workers in four-digit ISIC industries between 1973 and 1987 to investigate the role of outsourcing for labour market change. They argue that the magnitude of outsourcing (international subcontracting) is too small to account for the observed wage and employment changes in the US and therefore reject outsourcing as a possible explanation. As a result, they conclude that US labour market changes in the 1980s were primarily due to domestic factors (Lawrence, 1994).

Slaughter (2000, quoted in Feenstra and Hanson 2001) finds that FDI, was not an important channel for moving US jobs abroad. Between 1977 and 1989, employment in majority-owned affiliates of US multinationals fell as it did in the US parents of these plants. Riker and Brainard (1997) argue that affiliate activities in developing countries are complementary to rather than substituting for affiliate activities in industrialised countries.

A very interesting conclusion was made by the authors of the report *Relocation, an element of industrial dynamics (2000)*, based on an inquiry involving 3,000 Belgian companies. Taking the trade union inquiry as a basis, it was possible to determine that 28% of employment losses through collective layoffs in industry over the period 1990-1995 were due to relocation. In the service sectors, relocation was responsible for less than 10% of the collective layoffs. However, in many companies transfers of activities abroad did not lead to net job losses in Belgium, or, at least no more than in comparable companies that have not proceeded to relocations. Investment abroad has even a positive net effect on production in Belgium via an increase in exports and in any event fits in with the strategy of a number of successful Belgian companies. The authors oppose the view of relocation as the transfer of activities to poor countries because of lower wage costs. The majority of transfers of activities from and towards Belgium take place towards and from other EU-countries, and - more generally - other developed countries (Fig. 1).

**Figure 3.1** Destination countries for relocations with collective layoffs in industry in Belgium



Source: *Relocation, an element of industrial dynamics (2000)*.

A similar conclusion can be drawn from Brainard and Riker (1997) study of the effects of US multinationals on the labour market of the US economy. They find that labour in the US does compete with labour abroad via multinational production. However, their results indicate that substitution between labour employed by parents in the US and affiliates abroad are low. In fact, they argue that labour substitution is far greater between affiliates at similar levels of development. That is, labour within affiliates in developing countries competes with labour in other developing countries and labour within affiliates in industrialised countries competes with labour in other industrialised countries.

In another study, Riker and Brainard (1997) found that when employment shift takes place, it does so between offshore affiliates in less developed countries. Hence, the effect is not substitution between workers at foreign affiliates and workers in industrialised nations, but substitution between other low-wage locations (Gaston and Nelson, 2002).

Helg and Tajoli (2004) have used international trade data specifically related to international fragmentation of production to test if the shift in intensity of skilled and unskilled labour employed in Italy and Germany during the 1990s was related to the fragmentation activity. They discovered, using estimate of the equation measuring the shifts of the labour demand function, that the index of international fragmentation of production is consistently positive and significant for Italy, showing that part of the increase in the skilled-to-unskilled labour ratio in Italy is linked to this form of organisation of production. Instead, in the case of Germany they have not found a significant impact of International Fragmentation of Production (IFP) on the relative demand for skilled labour. Helg and Tajoli (2004) explaining these somewhat confounding results suggest that international fragmentation of production has different characteristics in Italy and in Germany. The latter has been involved in this practice earlier and to a larger extent than Italy, thus changes occurred in the past that might have affected the present organisation of production in Germany, which is currently, more skill-intensive than Italian production. As the industries most affected by IFP in Germany have a skilled/unskilled ratio much closer to the national manufacturing average, changes in those industries on average do not have a strong impact on labour demand.

Feenstra (1998) and Feenstra and Hanson (1996, 1997a, 1997b) support the view that the growth in manufacturing trade between developed and developing countries (in the context of global production) is the cause of the growing inequality between high-skilled and low-skilled workers in developed countries. Feenstra (1998) argues that by allowing for trade in intermediate inputs, globalisation has an impact on employment and wages that are observationally equivalent to the changes induced by technological innovation. According to Feenstra (1998): 'The decision of companies to source their production overseas will most certainly impact the employment of such firms at home, and can be expected to have different effects on skilled and unskilled workers. With firms in developed countries facing a higher relative wage for unskilled labour than that found abroad, the activities that are outsourced will be those that use a large amount of unskilled labour, such as assembly of components and other repetitive tasks. Moving these activities overseas will reduce the relative demand for unskilled labour in the developed country, in much the same way as replacing these workers with automated production. This means that outsourcing has a qualitatively similar effect on reducing the demand for unskilled relative to skilled labour within an industry as does skill-biased technological change.'

Feenstra (1998) maintains that the idea that globalisation has a minor impact on wages relies on a conceptual model that allows only trade in final goods, thereby downplaying or ignoring the outsourcing of production activities. Feenstra and Hanson (1996) find evidence that rising imports reflecting the outsourcing of production activities helps explain the reduction in the relative employment and wages of unskilled workers in the US during the 1980s. According to them, outsourcing accounts for 20 percent of the shift in relative employment towards skilled (non-production) workers in U.S. manufacturing during 1979-1990. In comparison, the increased use of computers and other high-technology equipment accounts for 30 percent of this shift.

Opponents of Feenstra and Hanson conclude that a shift away from unskilled workers and towards skilled workers in developed countries is a natural market-driven phenomenon underlain by the competitiveness of nations and the resources in which they are better endowed.

The debate presented here, which is sometimes framed as evaluating 'trade' versus 'technology' as alternative explanations for the falling real income of low-skilled workers is sometimes viewed as too simplified. For countries highly involved in international fragmentation, the distinction between 'trade effects' and 'technology effects' on labour demand might be artificial and inappropriate. Helg and Tajoli (2004) suggest that it is better to see IFP as a distinct – and to a large extent measurable – cause of shift in labour demand, possibly in addition to other forms of technological change and 'traditional' trade.

Another question is whether delocalization processes accelerate rapidly, or are rather an evolutionary process. The growing role of subcontracting is stressed by Hummels, Ishii and Yi (2001), who analyse input-output tables for 10 OECD and four emerging market economies and find that outsourcing accounts, on average, for about 20% of exports from these countries. Yeats (2001) uses SITC Rev.3 trade statistics in combination with outward processing trade data (OPT) and finds that trade in intermediates accounts for approximately 30% of total trade in the US. He does, however, note that this figure may be much higher for developing countries as those countries more and more focus on outsourcing from developed countries. Görg (2000), using Eurostat data on inward processing trade (IPT) for EU countries, shows that IPT in the 'peripheral' countries of the EU increased from 12 to 24% of imports.

Hijzen et al. (2003) claim that outsourcing is predominantly a phenomenon of the 1990s. The econometric results obtained in their study suggest that technical change, import penetration and outsourcing all play an important role in explaining UK wage inequality. The authors maintain that outsourcing (international subcontracting) may account for about half of the increase in domestic wage inequality in UK.

In turn, Wortmann (2000) argues that there has in fact been no radical shift in MNC growth and dynamics in the 1990s. Data on the foreign employment of West European MNCs 1976-1996

show no acceleration of growth, but a quite steady development over many decades. The new feature is quite naturally a strong rise in employment in subsidiaries in Central and Eastern Europe, which until 1989 was almost a closed area for Western companies. US based MNCs showed a similar stable pattern, though with a marked increase in employment in Mexico (cf. the NAFTA agreement) and in the Pacific Rim. Japanese MNCs had a somewhat higher growth in foreign affiliates, but with dominant expansion in Asia. The main expansion of MNCs was thus concentrated in the region of the home country, but notable growth occurred also in the periphery of that region (cf. CEE countries in Europe, Mexico in Americas, South East Asia for Japanese MNCs ) (Dølvik and Tørres, 2002).

Another side of the debate is a question whether the existing inequalities in economic performance and well-being will narrow or exacerbate due to delocalization in a long-term perspective. It is a long and well-known debate between the classical and neoclassical school against cumulative causation school. The observed migration of capital toward cheaper labour areas may in a long run decrease the wage inequality between countries. As low cost countries become more expensive and today high-cost regions will lower their cost, the equilibrium emerges. Against optimistic forecast by World Bank and OECD some scholars argue that the end product of this process will be the creation of new and sharper forms of uneven regional development and qualitative differentiation between regions, as well as a renewed widening rather than further narrowing of regional differences in economic performance and well-being (Hudson, 2002).

Several studies have tried to quantify statistically the impact of international trade between developed and developing countries on OECD labour markets including trade in intermediate inputs or international subcontracting. The overview of literature suggests however, that the implications of the current mode of globalisation for labour markets have been ambiguous and contradictory. A priori, it is very difficult to predict how fragmentation will actually affect relative wages (Hayter 2004). The debate was well summarised by Dølvik & Tørres (2002). They conclude that there is no unequivocal relationship between liberalisation of trade, FDI-flows, financial markets and the access to decent work around the globe. The current mode of economic globalisation is partial in spatial scope, contradictory in effects for different groups of countries, and asymmetric in terms of the social distribution of burdens and benefits. There are winners and losers both when speaking of countries and social groups within countries, showing that the outcomes are politically contingent and the overall balance of gains and losses is hard to assess. Judgements will vary with the standpoint from which they are made, and with the time-span taken into account.

Whether the answer for the significant role of delocalization on a global or national level is yes or no, it undoubtedly matters at a given regional and local scale. As Zimmermann (2001) puts it: 'Economists can with confidence argue that specialisation according to comparative advantage will maximise world welfare. One of the great ironies of the principle of comparative advantage is that the adjustment to a shift of comparative advantage can be extremely painful in regions which lose it, even while the gainers enjoy the ebullience associated with expanding output, employment, and profits.'

### *3.2.2 Delocalization: a race to the bottom or a race to the top?*

This part of the delocalization debate has revolved around the claim that freer trade and global competition, especially from low-cost economies, is a threat to employment in the North, particularly for low-skilled labour, and poses downward pressures on wages and labour standards (Lee 1996, 1997 quoted after Dølvik and Tørres 2002). Combined with the fear of rising outgoing FDI-flows, such dynamics have been widely expected to shift the power in favour of capital and undermine existing regulations and institutions of labour relations (Streeck 1998) – leading to growing flexibility, inequalities, and, ultimately, convergence towards the American model of liberalised labour markets (Dølvik and Tørres 2002, Lash & Urry 1987, Traxler et al. 2001).

As Hayter (2004) stresses that there are two main concerns: (1) the growth in manufactures trade between developed and developing countries is the cause of the growing inequality between high-skilled and low-skilled workers in developed countries, (2) the transfer of 'good' low-skilled manufacturing jobs in developed countries to developing countries is under way. The issue here is not only about the loss of jobs in developed countries, but also that these have been replaced with 'bad' jobs in 'sweatshops' producing for export in developing countries. This led to considerable controversy and allegations of 'unfair trade' and 'social dumping' (see Cordella and Grilo 2000). There is now also growing concern that this is not limited to low-skilled jobs and that even skilled jobs in developed countries are being transferred as a result of the outsourcing and off shoring of services.

A matter of worry is a perceived shift in corporate funding and ownership structures away from the 'Rhine-model' of production-oriented 'stakeholder'-capitalism towards Anglo-American 'shareholder'-capitalism (Albert (1991). As the main bulk of variable costs in the short run are related to labour, there are efforts to reap quick benefits by cutting staff, escaping collective commitments to the work-force, introducing more external flexibility through outsourcing. This may lead to the detriment of longer-term strategies for improving competitiveness through productive investment and development of skills, work organisation and functional flexibility. In many instances, even profitable firms have been closed down due to investors' search for more lucrative ways to dispose of capital (Dølvik & Tørres (2002). As pointed out by Streeck (1997), it is 'this deregulatory bias of globalisation that seems to be at the bottom of Albert's thesis that global competition will result in the perverse outcome of the less well-performing Anglo-American model of capitalism out-competing the better-performing "Rhine model"'. However, Traxler et al. (2001) conclude that there is no evidence that globalisation has propelled a general downward trend in labour standards or convergence towards the US model of labour relations in the industrialised countries.

Again, most of the studies, do not confirm massive negatives effects. Rodrik (1996) found no evidence of the 'conventional wisdom about low-standard countries being a haven for foreign investors'. In a recent study of US FDI flows to Europe, Traxler and Woitech (2000) found no evidence for the thesis of 'regime-shopping'. There is also limited evidence for Eastern Europe that investors seek countries with more flexible labour markets relative to those in their home country, based on measures of collective dismissals, the length of the notice period and severance pay (Javorcik and Spatareanu, 2004 quoted in Hayter 2004). Studies on labour standards show that there is no evidence that foreign investors favour countries with lower labour standards or that these countries have had better export performance (Hayter 2004). It must be remembered, that lower labour standards tend to reflect lower levels of labour productivity and do not mean lower unit labour costs for investors or comparative advantage in trade.

After extensive literature review Todd (1998) concludes that there is no evidence of a general trend towards production and investment being directed to locations with inferior wages and core labour standards. In contrast to the general 'race to the bottom' thesis, the predominant flows of foreign direct investment are going to areas with growing market demand, supply of skilled labour, and developed social and technical infrastructure. There is neither any evidence that countries with inferior core labour standards are showing superior export performance. Low-road strategies may provide short-term competitive gains but risk locking countries into low-growth trajectories that impede skill and productivity development. Instead of desperately seeking cheap location, we rather observe a continuous rationalisation within the group of multinational enterprises active in the European Economic Space, in which a diminishing number of companies are realising their value added. In this process production centres are scrapped in central areas, but also in peripheral areas (like Southern Italy), and the activities are extended elsewhere. Besides the closing of businesses there are, however, also entries or extensions of branches of multinational companies (in new sectors or not), certainly in the central areas (Relocation, an element of industrial dynamics 2000).

Although investment motives vary across industries and areas, labour costs are usually not the most important factor shaping investment decisions and tend to reflect labour productivity, while access to growing markets, skilled labour, and productive infrastructure in most instances are more influential factors. There is, moreover, some evidence that democracy and higher labour standards tend to influence FDI-inflows positively. Despite many examples of malpractice, the general ‘race to the bottom’ thesis finds limited support in the empirical studies (Dølvik and Tørres 2002).

### 3.2.3 Types of social consequences

Delocalization is linked to many types of social consequences. Not surprisingly these related to labour market gained most attention from scholars. The most literature covers implications of delocalization for labour markets in the advanced industrialised countries. Yet, social consequences of delocalization must be viewed from places of delocalization and places of location. In each of them positive and negative consequences may occur. Dell’mour et al. (2000) conclude that different labour intensive sectors are subject to different types of outsourcing. Every type has its social consequences. In addition, two modes of delocalization (FDI and subcontracting) produce different social effects (tab. 1). Moreover, the effects depend of the regulation of economy. There have been negative effects of deindustrialization in the US and the EU. While USA was characterised by stagnant earnings and widening income disparities, EU has experienced rising unemployment. Similarly not all developing economies involved in global trade benefited. While strong positive employment and income effects can be identified in a number of populous countries in Asia in particular, for countries in Latin America and Africa, the employment effects were not so favourable. It is because the impact of economic integration is heavily dependent on the quality of domestic institutions and policies.

The two main concerns in places of delocalization are:

1. Does delocalization contribute to higher unemployment in job-losing countries and regions?
2. What are alternative employment opportunities?
3. In places of location two salient questions are raised:
4. What sort of jobs appears in countries and regions attracting new employment in labour-intensive industries?
5. Is the labour intensive industry a path upward to sustainable and competitive economy?

**Tab. 1. Types of social consequences and suggested sources of information**

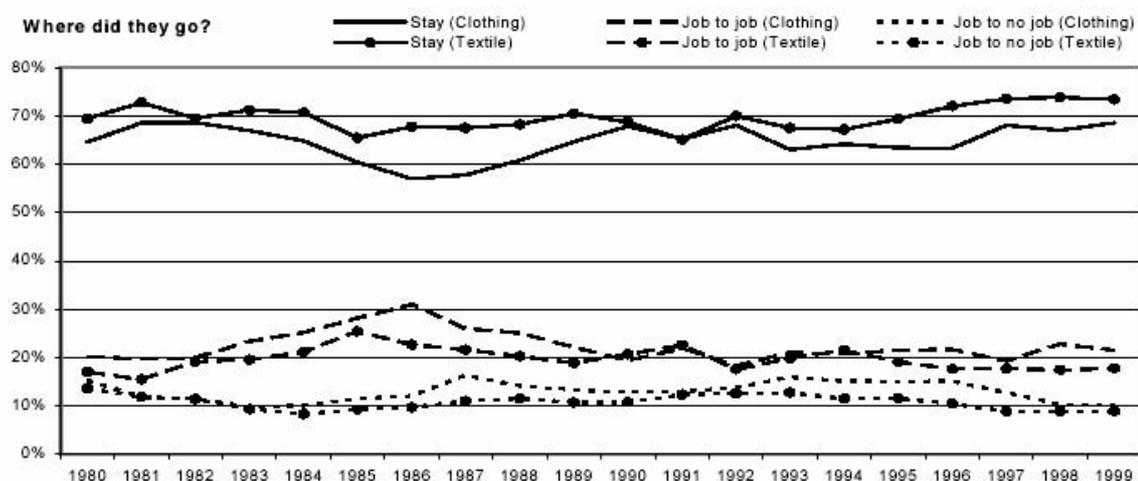
No	Social consequences	Source of information
1	Increase and decrease in number of jobs in LI industries	Secondary data
2	Changing qualities of jobs in LI industries	Secondary data; key informants; companies
3	Changing industrial relations in LI industries	Secondary data; key informants; companies
4	Broader employment trends and unemployment levels	Secondary data
5	Segmentation of labour markets	Secondary data; key informants; companies
6	Educational opportunities and aspirations	Secondary data; key informants; companies

7	Internal and international migration trends	Secondary data
8	Regional/local social well-being	Regional differentiation
9	Public attitudes	Secondary data: key informants, interviews
10	Spatial disparities	Secondary data
11	Psychological, social and cultural effects	Secondary data (literature)

Source: authors' elaboration

The masses of people expected to enter unemployment as direct results of the increased international competition and outsourcing strategies as the Olsen et al. (2003) conclude seem as nothing but a mirage founded by loose ideas about the evil of globalisation. Although many people have probably been suffering economically and socially in the face of the declining industry, but the great numbers of unemployed doomed to follow in its wake has simply not happened. Moreover, despite a concurrent fall in domestic production, the industry has managed to increase its productivity per employee significantly.

Olsen et al. (2004) discovered that the majority of the workers who left a job in the textile and clothing industry in Denmark between 1980-2000 entered employment in other industries – in particular the service sector and other manufacturing industries (Fig. 2). Moreover, the number of employees losing their job without being re-employed was surprisingly small – and until 1993 even smaller than the authors observed in the manufacturing industries on average. However, the textile and clothing industry as a whole shows higher share of people going on pension.



**Fig. 2.** Year to year employment flow in textile and clothing industry in Denmark

Source: Olsen et al., 2004.

According to Crestanello and Dalla Libera (2003), who examined delocalization processes in Vicenza, the exit of a large number of workers from textiles and clothing/knitwear firms did not have the negative social consequences some might have expected. However, unskilled women discharged from this industry have met greater difficulty in finding a new job. After five years, only 63% of them had found a new job, 8% were unemployed and 29% were inactive (Crestanello, Dalla Libera, 2003).

The strengths and effects of social consequences of delocalization are dependent on type of industry. Textile, apparel and footwear are the sectors most affected by IFP toward low-wage areas. Still, the industry belonged to the least attractive for workers. The vast majority of workers engaged in these industries are dependent workers. Moreover, one has to draw attention to the particularity of a considerable number of home workers, possibly paid on a piecework basis, especially to be found in the production of wearing apparel and accessories. The high fragmentation of the firms' structure, especially in the clothing sub-sector, is one of the reasons for the important presence of hidden activities (*Industrial Relations in Europe*, 2002). These sectors offered wages significantly lower than the industry average. Another case is the manufacturing of home appliances, automotive and partly electronics. These industries create more linkages; there are often big companies that offer a decent wage even for relatively simple work.

The dilemma discussed above was perfectly summarized by Cowie and Heathcott (2003). They stress, that we should 'proceed with caution to prevent a creeping industrial nostalgia from dominating the debate. That manufacturing jobs were not necessarily great jobs.' Ruth Milkman has shown in her book *Farewell to the factory*, for instance, that autoworkers lacked 'any desire to restore old industrial system that is now collapsing around them.'

A growing worry in developed countries is the phenomenon of offshoring of white-collar jobs. Hira (2003) labels this phenomenon as 'an increasingly controversial issue with serious implications for individual Americans and the future economic and technological competitiveness of the United States.' According to the Bureau of Labor Statistics at the U.S. Department of Labor (quoted after Hira 2003) unemployment among America's engineers has spiked sharply upward from 2.0% in 2001 to 4.2% in 2002 to more than 6.0% in the first quarter of 2003. Unemployment among electrical and electronics engineers reached 7.0% in the first quarter of 2003. (Hira 2003) stresses that these are unprecedented levels for each occupation. He believes that the continuing movement of manufacturing facilities and blue-collar jobs, and the growing willingness of major employers to move essential service functions and white collar jobs of all kinds to lower cost, offshore locations is a major contributing factor to the current unemployment crisis. The problem deserves in depth investigation, because there has been limited research on the evolution of the global production system in services and the employment effects in developed and developing countries (Hayter 2004).

Some of recent findings suggest that changes in employment at large plants and firms play an important role in wage inequality in local labour markets. Large firms pay higher wages, export more, have higher levels of productivity, and employ high-skilled workers (Glasmeier and Jensen, 2001). Larger firms tend to use more formalised hiring and promotion practices that often result in 'career ladders' and increased standardization in compensation levels for workers with similar characteristics. Smaller firms seem less likely to impose these standardized compensation practices (Glasmeier and Jensen, 2001). Again, the negative effect of job loss in a large measure depends on the role of the employer/sector on the local labour market, the structure and overall performance of the local economy.

Negative consequences of delocalization may include less favourable employment conditions and weaker bargaining power of local workforce and trade unions. One can point to shorter breaks, limited right for strike, lower wage rise, more part time, low paid, involuntary short-time work. Those still working in the industry may complain about tougher discipline and more arduous working conditions consequent on their loss of industrial muscle (Waddington and Paddy 2001). Some people may be pushed into shadow economy.

Negative social consequences go beyond workplaces. Decline in individual and family income may result in impoverishment, spread of social stress and pathology, loss of identity, disrupted family and social life and a worsening of the life chances of children. Waddington and Paddy (2001) point out that local schoolteachers and social workers referred to the possible impact of emotional insecurity as one reason for low scholastic motivation and educational underachievement. However, this problem was more commonly attributed to the lack of realistic

employment prospects for young people in the area. For many recent school leavers already condemned to unemployment or the apparent futility of 'dead end' youth training schemes, social exclusion was commonly translated into drug use and various forms of acquisitive and expressive criminality, ranging from burglary to stealing cars and 'joy-riding'. The highly public and 'threatening' presence of youths no longer responsive to the institutional authority of the police became the focal point of inter-generation conflict.

Mingione (1997) argues that prolonged joblessness has been concentrated among subjects whose personal and social characteristics entail the unacceptability of downgraded working careers, but who, at the same time, find no alternative work. In Germany, they are often adults near to retirement age and assisted in surviving by unemployment benefit and the minimum income subsidy. In the countries of southern Europe they are predominantly the young, even those with average levels of school achievement, maintained by their families.

Deindustrialization is also likely to have important implication for industrial relations in the developed world, and particularly for the role played by trade unions. Trade unions have traditionally derived their strength from industry, where the modes of production and the standardized nature of work have made it easier to organize workers. As deindustrialization continues, countries that operate centralized wage-bargaining arrangements seem likely to face serious challenges (Rowthorn and Ramaswamy 1997).

In stressing negative consequences, emphasis is given in particular to the fact that the decline in lifetime jobs has had a destabilising impact on employment systems. For example, Mingione (1997) claims that despite numerous job opportunities have been created in the tertiary sector, they do not reflect the traditional standards of social regulation and therefore entail a weakening of the mechanisms of social integration and a growing risk of exclusion. Again, the effects of delocalization on labour conditions depend on the extent and type of social regulation (Negrelli 2003). In particular, experiences with outsourcing in the United States show that even if outsourcing practices are not implemented with an explicit anti-union purpose, they tend, in any case, to exploit 'regime competition' in industrial relations, i.e. the possible savings on labour and wage costs, and/or the externalization of activities previously covered by collective bargaining – seen in the sharp decline of worker representation in the traditionally highly unionized automotive sector (Whitford and Zeitlin, 2002; Kochan et al., 1997).

Apart from direct social consequences, like job increase/decrease a group of indirect consequences may be attributed to delocalization. Some authors point out that increasing tax competition, together with the new doctrine in favour of a diminished role for the state, is widely believed to have reduced the fiscal capacity of governments. In many cases, this has led to a reduction in government expenditures vital to the poor such as those on health, education, social safety nets, agricultural extension services and poverty reduction (*A Fair Globalization: Creating Opportunities for All* (2004)).

At the local level, relocation generates changes in work organisation and in inter-firm relationships. Going abroad requires different organisational systems and tends to aggregate in a new way interests and advantages existing at a local level (Crestanello and Dalla Libera 2003). A firm that has moved its production to another country has no more direct interests in local vocational training for blue-collar workers. On the contrary, the interest for training policies increases in those areas to where the production has moved. Further the uncertainty caused in the local area by the process of shifting production discourages investment and the entry into this industry of young workers and entrepreneurs. In addition, a further element is that some technical competencies at a local level will disappear. The exit from this industry of some traditional professional figures, such as the skilled woman worker who knows the fabrics and the different working techniques and actively contributes to the product research, leaves a competence deficit that risks to compromise the capacity to create new products. In fact, the creation of a successful sample collection consists not only of the creative stage, but it has to consider also the industrialisation of the product, which needs deep knowledge of raw materials and working techniques in order to reduce the cost of the product. The disappearance of

experienced workers, who grew up in small artisan workshops and/or were trained on the job, obstruct the reproduction of know-how in domestic industry. The technical knowledge of the product and the production process are the basis of the success of this industry, as it enables workers to make sample collections, control production quality and organise the outsourcing. The risk of losing the specific advantages that many productive systems have in the labour intensive industries is real (Crestanello, Dalla-Libera 2003, Farrant and Wilkinson 2004). With time, the ability of the final firms in designing successful products could be compromised and give way to the birth of dangerous competitors in other countries.

Delocalization can contribute to loss of core competencies, and particular the ability to diffuse new technology to the region's industrial base. Second, and related, the incorporation of leading producers in large conglomerates broke the link between corporate and regional interests. As the parent companies retrenched with downsizing and plant closures vital elements are removed from what had previously been a coherent and dynamic productive system (Farrant 2003). The paradox here is, that company belonging to foreign capital/big corporations performs better, while it is more prone to delocalization (see *Relocation, an element of industrial dynamics 2000*). In contrast, small and medium-sized companies show lower competitiveness, whereas they are less inclined towards relocation.

On the other hand, there are also some positive effects of delocalization in West European countries, contributing to job increase. One of them is growth in other sectors stemming from access to new markets. Castanietti (2003), for example, claims that the massive penetration into some foreign countries by Italian clothing firms has involved development of trade and business relationships, which favoured the sales of other industries.

Several studies have shown a positive correlation between outward foreign direct investment and exports (i.e. *Relocation, an element of industrial dynamics 2000*, Crestanello, 1999). This virtuous circle can occur even inside the domestic delocalising industry, when a parent company uses its foreign affiliate as a logistic platform to export from the home country products complementary to those made abroad. This is the case of some clothing firms which invest abroad in order to produce there low costs clothing and discover then the opportunity to export higher quality products from home country (Crestanello, 1999).

Sometimes the foreign site allows the district firm to continue a low-end (i.e. low-skilled, low profit margin) activity that would no longer be profitable in home country, given prevalent wages and the absence of local customers. Berger and Locke (2000) deliver a good example from clothing industry in Italy. Let's take a firm that makes cashmere and silk yarns in Italy and 'regenerated cotton' yarn (i.e., from reprocessed rags) in Poland. There is little market in Italy for this yarn any more, and the operation is relatively simple and labour intensive. Wages in Italy are 11 times higher than the wages in their Polish plants; overall, labour costs amount to 30% of their costs in Italy and only 3% in Poland. Without the possibility of producing regenerated cotton yarn in CEE, the firm would have closed this line of production. By preserving it, the company has broadened its product range, thus buffering itself against perturbations in any single part of its line and widening its customer base (Berger and Locke 2000).

So far, we have discussed the issue from the point of view of places of delocalization. The emergence of global production systems has strong impact on places of localisation too. Location of labour intensive activities in countries and regions of periphery and semi-periphery brings about various positive effects, the most obvious are new jobs. According to Ghose (2003), the net employment created in developing country manufacturing industries has been larger than the net employment loss in developed countries.

In addition, we can find growth in productivity, knowledge spillovers, training programmes, upgraded skills and enhanced worker responsibility. This may also produce multiplier effects in the region, including creation of new indigenous companies. By drawing upon specialised suppliers, subcontracting and FDI can enhance, accelerate and facilitate economic development in developing countries. This process is conducted in a variety of ways:

1. employment creation and reduction in employment fluctuations,
2. access to international subcontracting routes thereby prompting regionally integrated industrial clusters hence boosting exports,
3. increased specialization of small and medium-sized companies thereby improving productivity and efficiency; industrial subcontracting enables SMEs to focus on the production of specific products or processes and hence to acquire a competitive advantage in a given range of activities over time as their technological and technical competencies improve (Morcos, 2003, Garrigós-Soliva et al. 1997).

As far as labour standards are concerned, the reading of the international literature suggests that globalisation has affected average wages and working conditions in a strong positive direction in countries that have succeeded in boosting industrial exports and attracting substantial foreign investment. No doubt, many problems remained, including those of bad working conditions (publicised by the high rate of factory accidents), but the overall picture is one of upward progress in those countries. Promoting decent work is elusive without employment growth.

From the point of view of the host country/region, especially when FDI is taken into account, the effects will be strongly dependent on the embeddedness of foreign investors. It is important whether the investment has a ‘cathedral in the desert’ character (Grabher 1994) or companies are more deeply embedded in the local/regional milieu. This includes relations within supplier networks, competencies of a given branch plant, income multiplier effects, etc. Company strategies and the competencies of foreign affiliates also matter here. They may differ in terms of high/low-value added, sophistication of products, non-production functions (R&D, design and marketing), etc. The position of foreign manufacturing affiliates can be entrenched or gradually upgraded over time.

Apart from more or less obvious social consequences of delocalization in terms of employment or social well-being, there is a group of various psychological effects. These effects are represented among others in public attitudes towards delocalization, foreign investment and foreigners. Most scholars argue that it is ‘wise to deindustrialize’ and relocation is often the least bad solution (*Relocation report* 2000). However, as jobs in services are now also being offshored and job insecurity grows, it is hard to persuade wide public that delocalization is a phenomenon related to economic progress.

### 3.2.4 *Who won and who lost: social and geographical characteristics of groups affected*

The economic benefits and social costs of globalisation are not evenly distributed among social groups. In many countries trade liberalisation and the relocation of production to lower-wage economies have adversely affected some groups of workers. However, there are serious difficulties in exploring the social consequences at the national level due to problems of separating the effects of delocalization from the outcomes of general trends in industrial dynamics and social well-being. Thus, researchers focus on studying the social consequences of delocalization at regional and local scale.

The strength and extent of social consequences of delocalization, negative as well as positive, differ in various places depending on regional and local-specific factors. Within core regions (e.g. large agglomerations with diversified economy) there are always certain social groups affected (women, low skilled workers), but the negative consequences are relatively short-term and do not contribute to longer adverse local/regional effects. The negative consequences leading to local/regional collapse occur mainly in semi-peripheral and peripheral regions/places over-dependent on labour intensive sectors. This is usually reinforced by the fact that majority of companies located here are stuck in low positions in global production chains.

In every region, there are certain groups, which were hit by delocalization heavily. These are usually low-skill blue-collar workers, ethnic minorities, poorly educated, single-income families supported by women confined to low-income part-time jobs. Authors of the report *A Fair*

*Globalisation: Creating Opportunities for All (2004)* point out, that adversely affected people include those associated with uncompetitive enterprises that have been unable to survive in the face of trade liberalisation or the entry of foreign firms. These enterprises include those previously highly protected by trade barriers, subsidised state-owned enterprises, and small and medium-sized enterprises that had a limited capacity to adjust to a rapid liberalization of the economy. While this has so far primarily affected unskilled workers, some skilled and professional workers have also been affected by developments such as the outsourcing of software development, the increasing trade in professional services and increased immigration of skilled professionals from developing countries. At the same time the people who benefited from globalisation include not only those associated (as shareholders, managers, workers or sub-contractors) with successful MNEs and with internationally competitive national enterprises, but also many women in developing countries. Globalisation has resulted in an improvement in their economic and social status. They include the millions of women workers absorbed into the global production system. This wage employment gave them higher incomes than in their previous situations – either interfamily servitude or a penurious and precarious existence in the informal economy. More generally, people endowed with capital and other assets, entrepreneurial ability, education and skills, which are in increasing demand, have benefited most of all.

When analyzing social and geographical distribution of the effects of delocalization processes, it is useful to adopt a value chain framework, which allows us to look at these processes from a different perspective. The overall picture will be more comprehensive and give us more insight. Then, we may notice that industrial upgrading, which typically involves some forms of workers' displacement derived from productivity gains (e.g. an effect of transition from manual to automated circuit-board assembly in electronic manufacturing) brings about some shifts in gender composition in certain industries and results in substantial job losses for women making up the bulk of hand assembly workers. Carrillo (after Palpacuer, Parisotto, 2003) noticed that the proportion of women employed in *maquiladoras* was diminishing as these local industries evolved from simple assembly to higher quality production and engineering activities.

### 3.2.5 *Alternative employment opportunities and geographical mobility of labour*

Global shift from manufacturing to services is seen a natural phenomenon and a sign of success of a given economy. Interesting questions arise about the role played by the emerging service economy in a changing society and about the prominence of service activities as the new motor of growth. In the case of host countries/regions, we may ask about the attractiveness of newly created job places in relation to other opportunities on the local labour market. Answering this question, Rodríguez-Pose (1994) points to different types of service growth in different regions. According to him, a precarious service economy has become a substitute for unemployment in the relatively lagging regions (old industrial areas and agricultural regions), but the new workplaces are not attractive nor well paid. Rodríguez-Pose (1994) stresses, that it is a very different tertiarization from the one occurring in core areas, where, to a certain extent, highly educated and dynamic individuals enter a productive tertiary sector, e.g. in Baden-Württemberg, Bavaria, Hessen, Lombardy, and Tuscany. Waddington and Paddy (2001), who analyse former coal-towns, point out that although numerous work opportunities appear in the tertiary sector, many of them are too unstable and poorly paid to match potential workers' life expectations and strategies.

It is vital to assess the following issues related to employment alternatives in order to capture social consequences of delocalization from the perspective of the job losing countries/regions:

- a) What are the alternative employment opportunities?
- b) What are their features in comparison to the jobs that were lost?
- c) Is local labour force doomed to deskilling, part time and 'sweatshop' activities?

Labour mobility can be an important channel for regional adjustment to rapid changes in economic activity. European economic integration in the context of the Eastern enlargement and monetary union has especially increased the importance of labour mobility as an adjustment mechanism (Akkoyunlu, 2001). Theoretically, labour mobility is crucial for coping with negative social effects of delocalization as well as for utilising employment opportunities in regions where new investment takes place. In a hypothetical economy with perfect factor mobility, regions would adjust to asymmetric shocks immediately. In the real world, there are significant obstacles that hinder labour mobility. Akkoyunlu (2001) points out that economic theory does not offer any definitive predictions concerning the labour market impacts of immigration. Whether the native population can expect gains or losses from immigration depends, among other things, on the size and the structure of the immigration flow and the labour market institutions in the receiving countries, that is wage flexibility. Most of the recent empirical studies on the impact of immigrants on the wage and employment of natives find only small negative effects; in some cases the effects are even positive. Winter-Ember and Zimmermann (1999), for example, show empirically that German wages and employment increase with the inflow of Central and East Europeans, so natives are affected positively by immigration.

Akkoyunlu (2001) emphasizes that:

1. the economic and demographic situation in the EU and CEE indicates that further migration from the latter is unavoidable after the accession;
2. migration between EU and CEE is beneficial and the reduction of mismatch between the migrants and natives will improve the inefficiencies in the labour markets.
3. immigration can successfully increase the flexibility of the labour market, provide incentives to slow down wage growth and thus allow more people to obtain gainful employment.

However, it is acknowledged that geographical mobility of labour force in many European countries is relatively low, which limits the scope for labour market policies. Understanding the mechanisms behind geographical labour mobility is thus important, as increasing mobility could cope to some extent with consequences of job losses in specific places. Identifying obstacles to labour mobility and their local/regional/national peculiarity could lead to workable responses necessary to resolve them.

In a broader sense, increased international labour mobility enabled by abandoning restrictions on workforce movement is perhaps one of the solutions for job-losing country to keep the labour intensive workplaces.

Another important issue, which should be considered in this place, is labour market segmentation and differential labour mobility within society dependent on educational attainment, demographic and racial characteristics (age, gender, race, minorities, and religion). In general terms, there is a question about job-seeking activities and migration processes, especially in the context of ageing Europe.

### *3.2.6 Development trajectories of towns and regions dependent on labour-intensive industries*

One of the salient problems concerning consequences of delocalization is the question whether towns and regions dependent upon labour-intensive industries move towards an absolute or relative decline in a long-term perspective or rather towards maintaining or even reinforcing their viability after a relatively short period of disturbance?

Two model paths may exist:

1) reduction in workforce → displacement of labour/unemployment → decline in services → out-migration → regional social and economic problems (a typical negative cumulative causation),

2) reduction in workforce → improved productivity → displaced labour absorbed by the service sector and new manufacturing companies → regional prosperity.

A duration, strength and extent of social consequences will be a result of these paths. However, another related question arises: do social characteristics of a given area stimulate or hamper long-term prosperity of the region? For instance, Rodríguez-Pose (1994) argues that the ability of the social sphere to adapt to rapid changes in restructuring economy determines to a great extent the possibilities of economic growth of a certain place. The problem of formerly successful areas, usually old industrial regions, is that they are strongly geared towards their industrial past in term of their techno-industrial, institutional and social environment (Hudson 1992). Thus, the notion of lock-in taken from evolutionary economics seems to be highly relevant to describe the lack of adaptability in these areas (Boschma and Lambooy, 1999). The notion of institutional sclerosis (Olson, 1982 quoted after Boschma and Lambooy, 1999) may also be applied here, because vested interests in the political-economic realm (conservative coalitions of large firms, labour unions and public authorities) may actively oppose the required changes, when their dominant positions are threatened. All this leads to a trap of rigid specialisation. The history (established practises and routines, institutions) often constitutes a filter for assessing new opportunities.

Different outcomes of delocalization are exemplified by the experience of Italian footwear districts facing globalisation and depending on specialisation in a certain type and range of products (Amighini and Rabellotti 2003). The evidence is that Italian footwear districts follow diverse competitive strategies. For example, high-quality producers in Veneto, who are highly export-oriented, outsource intermediate parts to a lesser extent, so that they are net exporters of intermediate goods. Besides, the quality of imported inputs is higher than the quality of parts imported by other districts. Thus high-quality producers are actually upgrading their production by delocalising low-value added stages of production abroad as a strategy to reduce production costs. At the same, they continue to perform high-value added operations domestically. These phases are either capital or skilled labour-intensive and therefore they can not be successfully carried out by foreign subcontractors (Amighini and Rabellotti 2003). By contrast, shoe producers in the low segments of the market, facing a very strong price competition from Asian countries, try to react by means of outsourcing of a large part of the production cycle abroad. Nevertheless, international delocalization as a strategy to reduce production costs is not likely to be enough to counter competition from low-cost producers, if not accompanied by product diversification and upward move in the value chain. As Amighini and Rabellotti (2003) show, Barletta District, specialising in a low-end of the market has exported its production model to Albania. This has resulted however in a strong reduction in local employment and the number of firms, because the loss of low value-added functions has not been followed by a shift of resources to other higher value added activities.

### **3.3 . *Research implications***

It should be acknowledged that there are no universal social consequences. The combined and interactive effect of the developments in trade, foreign direct investment, finance and technology has had a profound and varying impact on different economic sectors, types of enterprises, categories of workers and social groups. The same process will produce different effects depending on place, social group, type of industry and/or characteristics of enterprise. In other words, like any historical transformation, delocalization is uneven in its causes, timing and consequences (Fig. 3). One place deindustrialization might be just another place industrialization (Cowie and Heathcott, 2003). A long time perspective is needed to fully assess the true nature of some processes and consequences. Moreover, as delocalization may take different forms, e.g. foreign direct investment, relocation, subcontracting, etc., social consequences will vary accordingly. We need insight into both direct and indirect effects. The latter, for example multiplier effects, often have more profound consequences, creating vicious or virtuous regional cycles.

What do we know about the relationship between the delocalization and its social consequences is the fact, that the balance of negative vs. positive effects in a large measure depends on the role of the employer/sector on the local labour market as well as the structure and overall performance of the local/regional economy. The outcome is hinged on phases of production that are delocalised, in which industries and toward which countries delocalization takes place, and on how this will affect the overall composition of output.

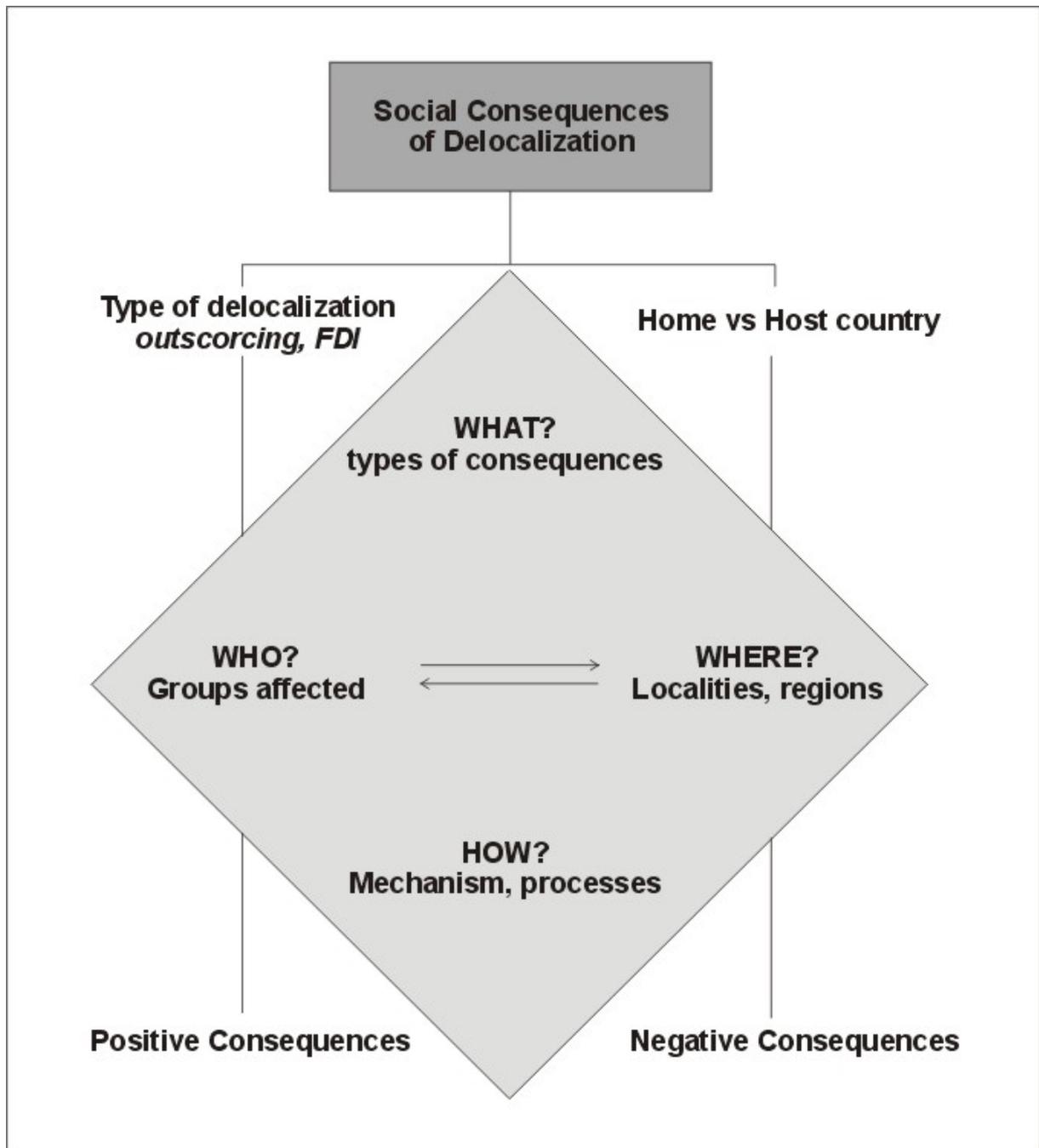


Fig. 3. Complex nature of social consequences of delocalization

Source: authors' elaboration

3.3.1 *Factors behind social consequences of delocalization: importance of the regional context*

The most important issue here is that the same process will produce different effects depending on contexts within which it operates (Fig. 4). Factors affecting social consequences can be put into three broad categories:

1. industry-related,
2. company-related,
3. place-specific.

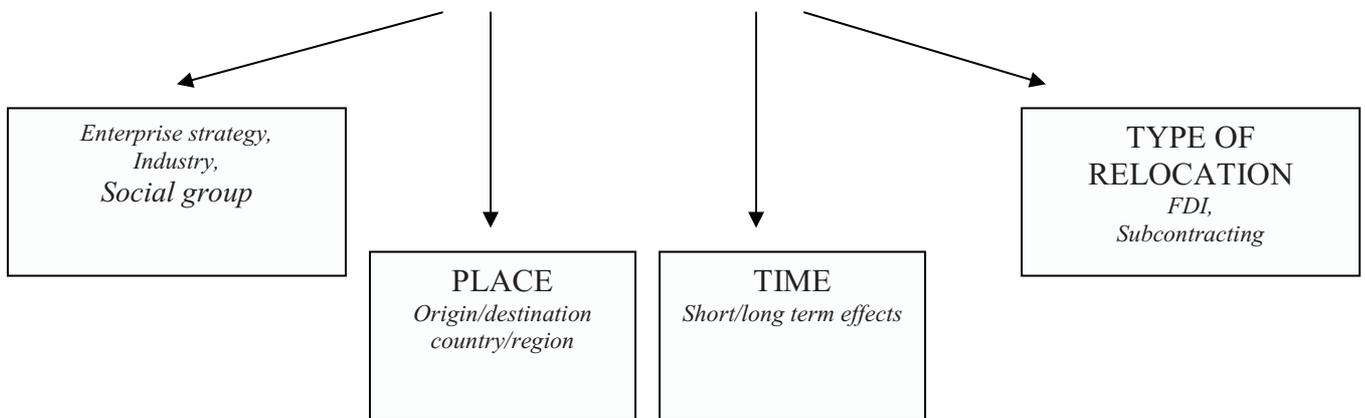
The importance of various characteristics of industrial branches is obvious. The same is true of company-related factors such as firm’s strategies, their position in global value chains, types of labour segmentation, etc. Strategies of transnational corporations in Central and Eastern Europe tend to be emergent rather than deliberate (see McGrath-Champ 1999).

All of the industry- and company-related factors are to be explored in depth in the project.

At the same time, general restructuring and relocation processes produce different outcomes in various countries, regions and towns, so the question of underlying place-specific factors arises. They may be associated with population size and structure, settlement network, social composition, industrial mix and accessibility of particular territories.

Two concepts seem to be particularly interesting for exploring complex relationships between companies and places (regions): embeddedness and localised capabilities.

**The same process will produce different effects depending on**



**Fig. 4. Some factors influencing social consequences of delocalization**

Source: authors’ elaboration

The pursuit of transnational corporations’ interests in various territories makes them embedded in a dense network of economic, social and political relationships. In the discussion of embeddedness of large companies it is not often realised that extensive local networks of stable relationships and non-tradable know-how constitute a vital element of sunk costs (Doma ski 2005). Accumulated sunk costs include initial set up costs, the costs of learning over time about particular environment, and the costs of building reputation, gaining acceptance among

government, employees, and other firms regarding their reliability as producers, employers and suppliers in each market (Wade 1996, 81). It is also emphasised that sunk costs include skills of local labour force.

The TNCs' investment is an immanently learning process, which takes place by their embeddedness in networks of local relationships. Learning and bargaining involves acquiring and combining of various tangible resources (including skilled and inexpensive labour) and intangible, non-tradable assets (knowledge, stable relations, trust, alliances and control) in order to build enhanced localised competence of the firm. Maskell (2001) argues that firm's competencies can be built on 'created localised capabilities', which make territorial entities differ from one another. This approach allows the exploration of the role of relationships with various local agents in the dynamics of foreign investment.

Firm's geographic embeddedness, expressed in its broadly defined sunk costs, is not just an outcome of its actions, but also a mediating factor that shapes the trajectory of the firm in a territory and social consequences of its activity. Last but not least, it has a considerable impact on constraining the possible relocation to cheaper locations.

### *3.3.2 Feasible alternatives*

The delocalization is of little usefulness, if the question of feasible alternatives is put aside. Although it may involve negative social consequences, it also has positive effects and is often the least bad solution. Thus, any evaluation of social consequences of delocalization of labour intensive industries has to take into account feasible alternatives. Two questions must be answered above all:

- 1) regarding places of delocalization: Could this activity stay here?
- 2) regarding places of location: Could 'better' activities develop/locate here (from the point of view of their social effects)?

### *3.3.3 Research questions and dilemmas*

All the discussion on social consequences of delocalization of labour intensive industries leads to a list of research questions, which can be addressed in the current project (see chapter 3). There is more extensive knowledge in some of these domains than in the others.

Moreover, there are two crucial dilemmas. First, how to find the way between the extremes of general, common knowledge and rich in detail, but specific, case studies? In other words, the project has to avoid the pitfall of easy, general conclusions, which would only confirm results of the earlier studies, for example concerning employment effects. It should provide new insight into the social consequences of delocalization on the basis of industrial and regional case studies, at the same time escaping simple comparative description of specific cases. What appears as particularly promising field of original input of the project are contemporary factors and mechanisms behind social consequences of delocalization in various national, regional and industrial contexts.

There is also another important challenge, which follows from the above: how to find causal links between general social/economic trends and individual social consequences? This can be achieved by combining the results of the empirical studies in particular countries with broader interpretations in terms of the theoretical concepts outlined earlier.

### **3.4 . List of research questions**

RQ1: What are the dynamics of job creation and job loss during the last years in the Europe, both in the aggregate and in particular industries?

RQ2: What are the mechanisms through which job creation and loss are linked through global value chain?

RQ3: Which countries and regions have been the beneficiaries and losers in the delocalization process?

RQ4: What are factors behind industrial upgrading or downgrading in different countries/regions?

RQ5: What are the costs and benefits?

RQ6: To what extent social consequences are dependent on type of industry?

RQ7: How does the delocalization affect employment, income and conditions of work at different points in the value chain?

RQ8: Who are the winners and the losers?

RQ9: What are the geographies of social consequences?

RQ10: What is the impact on the social well being of regions and localities?

RQ11: What are alternative employment opportunities and modes?

RQ12: What segmentation of the labour market has taken place?

RQ13: What are development trajectories of towns and regions dependent on labour-intensive industries?

RQ14: What factors are behind the regional development trajectories?

RQ15: What is typical for places dependent on labour intensive industries? In which of the regions successful adjustment is hindered by their social composition?

RQ16: Why have some of deindustrialized regions managed to transform their old industrial fabric into a flexible production structure, whereas others have not?

RQ17: What factors are behind positive and negative consequences?

RQ18: How are regional capabilities affected?

RQ19: What are feasible alternatives for social groups, countries, regions and localities?

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## 4 Public governance

Kaarel Kilvits and Alari Purju

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### 4.1 Introduction

The following chapter seeks to cover public governance problems and opportunities related to delocalisation problems of labour incentive industries. The public governance issues are treated at global, EU, national, local and sector levels. The main goal of this chapter is to summarise the objectives and experiences of policies applied by different agents. The policies have been applied in different fields. It is possible to distinguish between policies that form a general framework for entrepreneurship (a general legislation of business activities, taxes, social security costs and benefits) and policies that are focused to support particular fields or activities (foreign trade policy, innovation policy, active labour market policy, tools to promote investments or FDI in particular field). It is possible to use a matrix description of those policies, where different levels and policy areas have been linked together. However, we can assume that certain policies are more frequently applied and influential at particular institutional levels. The applied tools and achieved results are described on the basis of scientific literature. The research questions have been formulated for further studies in the framework of the current project. The chapter ends with results achieved through generalisation of findings based on the answers to interviews and analysis of results of policies adopted in countries covered by the current research.

### 4.2 Definitions

Governance is generally understood as a broad process affecting the collective decision-making roles and procedures, management and authority relationships of social and economic agents involving multiple jurisdictions and domains. Governance is about governing and therefore cannot be isolated from political responsibility in all areas in which delegated authority makes decisions.

There are several definitions of governance. The *Oxford English Dictionary* defines governance as “The action, manner or fact of governing; government”. Wolfgang Michalski *et al.* of the OECD Secretariat refer to “the general exercise of authority” (Michalski, Miller and Stevens, 2001). Daniel Kauffman of the World Bank describes governance as “the exercise of authority through formal and informal traditions and institutions for the common good” (Kaufmann, 2003). UNCTAD refers to “the way in which the main players in the society, governments, business and civil society work together to make the society better” (UNSTAD, 2003).

The EU body gives the following definition: “The term governance, in corporate and State contexts, embraces executive bodies, assemblies (e.g. national parliaments) and judicial bodies (e.g. national courts and tribunals). The term governance corresponds to the so-called post-modern form of economic and political organisations (European Union, 2005)”.

The main tools of governance are institutions creating rules of the game and enforcement means putting those rules to work. The governance is a very important factor in determining the value of human and social capital. The governance is realised on different levels and in different policy areas. In our study, the governance aspects related to delocalisation problems

of labour incentive industries are under consideration. The interconnection of governance levels and policy areas, taking into account the purposes of the current study, is described in Table 4.1 below.

**Table 4.1 Governance of delocalisation matrix**

Levels of governance/objects of governance	Sector level	Local level	National level	EU level	Global level
Subcontracting	+	+			
Position in value chain	+	+			
Product development	+	+	+		
Clusters	+	+	+		
Industrial policy	+	+	+	+	
Innovation	+	+	+	+	
FDI	+	+	+	+	+
Labour relations	+	+	+	+	+
Foreign trade	+	+	+	+	+
Subsidies/grants		+	+	+	+
Taxes		+	+	+	

Sign + in Table 1.1 means that the governance at particular level targeted on certain issues is considered to be important for the purpose of the current study. Within the framework of our approach it is assumed that different policies at different levels could be supportive to each other or there could be also contradictions and negative side effects of different policies on each other. For example, innovation activities at regional and national levels could support each other. On the other hand, there are several evidences that innovation policy measures and labour policy measures could produce mixed results and not support each other. One task of the current study is to analyse the problems emerging from parallel application of policy tools targeted at governance at different areas and to propose more useful policy mixes.

### **4.3 Global level**

#### *4.3.1 Internationalisation and governance*

Political, economic and technological processes are integrated in the world. The process called globalisation is linking more and more areas, activities and persons into the process of development. Those trends are related to change of values, ideologies, income levels and consumption patterns. For our study, the increasing trade, capital mobility and widespread diffusion of technology are the most influential factors of interdependence of countries, which is the basis for economic side of globalisation. Studies of different problems of internationalisation and globalisation of entrepreneurship have acquired an increasing

importance (Bollinger et al., 1983; Storey and Tether, 1998; McDougall and Oviatt, 2000; Doing Business ..., 2004; World Development Report 2005..., 2004).

The role of multinational enterprises creating spillover effects between private enterprises located within or outside the national borders is becoming increasingly significant. Alongside with transfers of technology inside large trans-national enterprises (TNE), adaptation to legal framework, to cultural differences are important factors that determine success of internationalisation (Juhansson and Vahlne, 1977, 1990; La Porta et al., 1998 and 1999, Djankov et al., 2002; Glaeser and Shleifer, 2002).

Such spatial phenomenon as geographical proximity has been considered important (Krugman, 1991). Agglomeration effects, related to territorial concentration of capital, are influential in determination of internationalisation path (Fujita, 1999; Krugman, 1991, 1995). There is a certain role for governments in bringing about agglomeration. Similarity of institutions is considered to be very significant (North 1990, Aoki, 2001).

Scholars have emphasised the substantial management costs for a firm when expanding from its home country system to another, less familiar environment. The market entry choices of the internationalising firm reflect a desire to avoid where possible any added complexity and additional costs related to novel institutional environment. One possible way of adaptation is to focus on those countries where legal system is the same as in the firm's own country. Several authors have described the ways of adaptation to those additional problems.

Oxley (1999) has showed empirically that firms adopt more hierarchical governance modes when the institutional environment weakly protects exchanges. Coeurderoy and Murray (2005) proved that new technology based firms in service sector enter countries with different legal environment later in their internationalisation process than high technology firms in manufacturing industries. That is because in sectors that are dependent on highly codified and formalised information, for example high-tech hardware manufacturers, limited access to local technical knowledge is likely to influence less the firms' foreign market entry decisions. Over time, the market acceptance of "best practice" manufacturing system is likely to be universal and not country specific. Conversely, for a service sector firm exploiting more tacit and idiosyncratic forms of knowledge, the locality in which that information is either applied or sourced would influence the value of that knowledge. This constraint inhibits the inception or scale of internationalisation of service companies.

An interesting political question concerns possibility and desirability of global governance. Taylor (2004) distinguishes between global government and global governance. Global government is defined as a group of supranational institutions, autonomous from nation states, with the legitimate right to the use of force to impose laws, rules and regulations. Global governance is an institutional framework by which global issues are addressed and hopefully resolved. It is not sanctioned through the use of force but rather through the agency of contract. Global governance includes a bewildering array of bilateral and multilateral treaties among nations, as well as rules and regulations of multinational corporations, numerous non-governmental organisations (NGO-s) etc. By this definition, for example, the UN is not a global government but a collection of institutions that assist in global governance.

The question is which forces could force the emergence of global government. Possible answers are: TNC-s, looking for more stable political, social and economic framework; people, looking for protection of national and human rights and enforcement the rule of international law in that protection. Also a powerful state could emerge as a global ruler. The nature of this global government would be very much dependent on the way of its creation. Here we will concentrate on discussion of the role of public governance through international organisations.

#### 4.3.2 *Role of international organisations*

The public governance structures play an important role in determining the path and speed of the internationalisation process. At global level, public governance is performed first of all by international organisations. The areas, approaches and attitudes toward global issues differ across organisations. Intergovernmental organisations (IGO-s) are an important form of international organisation. One characteristic for IGO-s is that their members (nation states) voluntarily accept a supreme role of international agreements over their own interests and internal laws.

The United Nations (UN) performs the following functions: 1) operational (mostly technical assistance); 2) regulative (creating the forum for negotiations and discussions about international economic, social and political problems); 3) supervision (surveillance and control over the fulfilment of UN Charter resolution by the member states). The United Nations Development Programme (UNDP) and the related *Human Development Reports* have produced vanguard contributions to the literature relevant to the current processes of globalisation. The objective of an integrated global economy does not simply relate to the promotion of economic development, *per se*. It is necessary to use the dynamics of development as a means, not as an end in itself, which is oriented toward the promotion of a human development strategy, a strategy that is controlled via a participation democracy.

The UNDP (1999, pp. 97-114) provides a good summary of policy directions related to “Reinvesting global governance – for humanity and equity”. The UN provides through its different subunits information and analysis about economic development in different regions and the FDI (Economic Survey..., 2004; UNCTAD, 2004). In comparison with other international organisations, the approach of the UN is more biased toward the interest in social and demographic issues. That interest very often effects also analysis of economic and business problems.

There are special organisations of the United Nations system concentrating on certain areas or activities. The United Nations Industrial Development Organisation (UNIDO) assists developing countries to monitor, benchmark and analyse their industrial performance and capabilities. Also formulation, implementation and monitoring of strategies, policies and programmes to improve the contribution of industry to productivity growth are the UNIDO’s tasks. Policy studies are prepared on key aspects of industrial governance. This organisation is relatively active in industrial governance, including governance of delocalisation in labour intensive industries. Industries in developing countries follow what UNIDO calls a strategy of linking, leveraging and learning (“the LLL strategy”) (UNIDO, 2005).

The World Trade Organisation (WTO) plays a central role in governing global institutional trade order. The WTO system consists of the General Agreement of Tariffs and Trade (GATT) together with 12 other agreements, the General Agreement on Trade in Services (GATS), the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS), the Dispute Settlement Understanding (DSU) and other agreements. The international trading order is supported by a powerful dispute settlement procedure.<sup>48</sup> This dispute settlement mechanism by which a member can be authorised to impose an economic sanction against a member in violation of a WTO agreement gives it teeth and this feature enables the WTO system to play a unique role in governance of the international trade system. At the same time

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<sup>48</sup> The WTO functions are related to administration of trade agreements, acting as forum of trade negotiations, settling trade disputes, assisting developing countries in trade policy issues, through technical assistance and training programmes, cooperating with other international organizations. The WTO is essentially not concerned with the behaviour of private businesses. It deals only with actions of governments. Thus the WTO is a regulator of the regulatory actions of governments that affect trade. A specific recommendation by the UNDP is (UNDP, 1999, p. 114): “The mandate of the WTO needs to be expanded to give it “antimonopoly” functions of the activities of multinational corporations including production, working in close collaboration with national and antitrust agencies”.

it should be mentioned that the WTO system is one of many other agreements that deal with the governance of international trading system.

The WTO is in a co-operative relationship with some trade agreements while there is tension and sometimes conflict between the WTO and other trade agreements. Also some WTO agreements penetrate deeply into the realm of jurisdiction and exert disciplines on domestic rules and regulations. This often creates tension between the WTO system and national sovereign (Matsushita, 2004). There is concern that despite the WTO operates on the principle of one-country-one-vote and, whenever possible, on consensus, there are “greenroom effects” and behind-the scene attempts by rich countries to set the agenda in advance (Basu, 2004). The risk of trade sanctions being used for protectionist purposes cannot be ruled out, nor can the risk of international labour standards being used as an instrument for Northern protection (Bhagwati, 1995). The impact of abolishment of import restrictions on textile and clothing, which boosted export from China, Bangladesh and other poor countries to the USA and the EU and political reactions against those developments on country, EU level and on international scene is one very acute example.<sup>49</sup>

Export subsidies are not accepted by the WTO, also the domestic content requirements and other performance requirements on enterprises that are linked to trade, quantitative restrictions on import, and patent laws that fall short of international standards are illegal. The countries that are not yet members of the WTO are often hit with more restrictive demands as part of their accession negotiations. Regional or bilateral agreements typically expand the range of disciplines beyond those that are found in the WTO.

Labour standards used to be a purely national matter. The globalisation of distribution of work brought also labour issues on international scene. The International Labour Organisation (ILO) uses labour standards to protect interests of weakest social groups.<sup>50 51</sup> The main method used by the ILO is to draft a convention and then to encourage countries to sign it – in this case signing means a commitment on the part of a government to enforce the terms of the convention.

The UN “Global Compact” is a rather similar voluntary agreement to uphold minimum labour standards, but unlike the ILO’s conventions, the signatories are not countries but corporations and multinational companies. The ILO and the UN work on the basis of self-enforcement by the signatories and rely on the power of publicity and social disapproval. In this sense, the enforcement mechanisms are different in comparison with the WTO, which, if it were to introduce a social cause in its agreements, would use trade sanctions and other forms of punishment as retribution for countries that violated the specific standards (Basu, 2004).

The importance of patents and licenses has risen. There are efforts – led by specific large TNCs interests – to alter the current status. Large (software) corporations have come up with

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<sup>49</sup> See for example debate about the influence of outsourcing on US economy (Bhagwati, Panagariya and Srinivasan, 2004).

<sup>50</sup> This agency seeks the promotion of social justice and internationally recognized human and labour rights. The ILO formulates international labour standards in the form of Conventions and Recommendations setting minimum standards of basic labour rights and provides technical assistance primarily in the fields of vocational training and vocational rehabilitation, employment policy, labour administration, labour law and industrial relations, working conditions, management development, cooperatives, social security, labour statistics and occupational safety of health. It promotes the development of independent employers’ and workers’ organizations and provides training and advisory services to those organizations. Within the UN system, the ILO has a unique tripartite structure with workers and employers participating as equal partners with governments in the work of its governing organs (ILO, 2004, 2005).

<sup>51</sup> The international community, acting through the ILO, has identified for core labour standards as the minimum for all countries, whatever their stage of development: eliminating all forms of forced or compulsory labour, abolishing child labour, providing equal opportunity and non-discrimination in employment and ensuring the freedom of association and the right to collective bargaining (ILO, 2004).

the notion of patenting not only a specific product, but also the whole process of producing this product.

The International Monetary Fund (IMF) and the World Bank (WB) are more narrowly focused on economic issues' approach. The conditionality of the IMF's stabilisation and structural adjustments programs and economic policy conditions of loans of the World Bank have been criticised, especially after getting ambiguous results in solving financial crises in East Asia at end of 1990s, dealing with poverty problems in Africa etc.<sup>52</sup> There have been several proposals to reform international financial and economic structures from inside and outside of those organisations. According to the revised Consensus, liberalisation, privatisation and global integration are still important but they need to be supplemented with and supported by reforms in the area of governance.<sup>53</sup>

The World Bank Group outlined a new strategy for tapping private initiative to reduce poverty. The main targets of that strategy is motivation of reforms through country benchmarking, enrichment of international initiatives on development effectiveness and informing theory (Doing Business..., 2004). The World Bank (2000) worked out system of parameters measuring institutional quality of governance<sup>54</sup>

The Organisation for Economic Cooperation and Development (OECD) comprises developed countries of the world and has played quite an important role, functioning as a forum of discussion, expressing views not directly dependent on those of the member countries or other regional organisations covering partly the same countries as the EU, for example. Its interests cover economic and social issues from macroeconomics to trade, education, development, science and innovation, to play a prominent role in fostering good governance in the public service and corporate activity, help governments to ensure the responsiveness of key economic areas with sector monitoring, help policy-makers adopt strategic orientations, produce internationally agreed instruments, decisions and recommendations to promote rules of the game in areas where multilateral agreement is necessary for individual countries to make progress in global economy (OECD, 2004).

Countries in our sample are members of listed international organisations and agreements. The impact of those responsibilities on investigated industries will be one goal for our research.

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<sup>52</sup> One of the best-known and most referenced lists of reform components labelled as the "Washington Consensus on Reform" is by Williamson and consists fiscal discipline, reorientation of public expenditure towards the building of human capital and infrastructure, tax reform, financial liberalisation, unified and competitive exchange rates, trade liberalisation, support of foreign direct investments, privatisation, deregulation and secure property rights (Williamson, 1994).

<sup>53</sup> See, (Fischer, 1998; Rodrik, 1999, 2005; Stiglitz, 2002).

<sup>54</sup> Those six indicators are: 1) political freedom and transparency of political decision making; 2) political instability and violence; 3) government efficiency; 4) regulations; 5) judicial rules and 6) corruption. The institutional quality of governance correlates positively with the degree of economic development.

## 4.4 *The EU level*<sup>55</sup>

### 4.4.1 *Discussion about the role of EU*

The EU represents an intergovernmental organisation with tendencies toward deeper integration in the federal form. In this sense, the EU is different in comparison with regional organisations, which have concentrated their efforts first of all on creation of free trade area without deeper integration efforts in other fields of policy making.

In discussion about the future governance models of the EU, two wide sets of problems have been brought out. The first one is related to overlapping jurisdictions and another concerns a principal choice between dirigisme and rhetoric versus laissez-faire<sup>56</sup>.

In the case of dealing with problems of delocalisation of labour, both sets of problems are important. The overlapping jurisdictions and regulations issues concern the impact of regulations in the field of social protection and labour market issues on the EU level and division of responsibilities between the EU institutions and national governments. The role of increasing EU legislation in social areas and national governments' choices between economic policy models is one example.<sup>57</sup>

It is possible to argue that those general problems are important while dealing with different governance problems of the delocalisation. Those general approaches biased toward more

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<sup>55</sup> The EU could be treated as a regional intergovernmental organisation. Such organizations are a possible response of nations to the process of globalisation. First, they are a "platform" established to enable an active participation of member states' economies in the global world. Secondly, they spread out a "safety net" against the threats coming from a turbulent intensification of the international exchange. Other examples are *North American Free Trade Area (NAFTA)*, the objectives of which are elimination of barriers to trade in, and facilitate the cross-border movement of goods and services between the territories of the Parties, promotion of conditions of fair competition in the free trade area, increase substantially investment opportunities in the territories of the parties; provision of adequate and effective protection and enforcement of intellectual property in each Party's territory, creation of effective procedures for the implementation and application of the Agreement for its joint administration and for the resolution disputes; establishment of a framework for further trilateral, regional and multilateral cooperation to expand and enhance the benefits of this Agreements (NAFTA, 2005); *Association of South East Asia Nations (ASEAN)* with the objectives: 1) to accelerate economic growth, social progress and cultural development in the region through joint endeavours in the spirit of equality and partnership in order to strengthen the foundation for a prosperous and peaceful community of Southeast Asian nations; 2) to promote regional peace and stability through abiding respect for justice and the rule of law in the relationship among countries in the region and adherence to the principles of the United Nations Charter (ASEAN, 2005).

<sup>56</sup> The problem of overlapping jurisdictions is connected to confusion about the allocation of powers between the Commission (the super-national body) and the Council (the quintessential intergovernmental body). Other side of the same problem is related to confusion about the role of EU institutions and national competences. The theoretical literature of federalism provides a clear principle of allocation of responsibilities between national governments of the EU: the latter should engage in those policy areas where economies of scale and externalities are large and heterogeneity of preferences amongst different countries is low. The second problem is the clash between dirigisme and laissez-faire. A dirigist and regulatory approach to the economy, with the heavy emphasis on "coordination" and "plans" has had so far a relatively limited impact, because the powers of EU institutions in many policy areas are still limited. ...The Constitution has tried to solve the first problem with mixed results. The second problem has to do with the "culture" and vision about the role of government. In this respect the Constitution adds problems....These views should not be taken as saying that the European integration project is intrinsically wrong. On the contrary, there are many benefits from internalising externalities and economies of scale that can be gained with a supernational structure. In fact, those areas where the two problems have been avoided have been a success for Europe....One is the European Central Bank and the common monetary policy... The second example is single market and competition policy. See (Alesina and Perotti, 2004).

<sup>57</sup> For example, there is documented a large increase of EU legislation in areas such as welfare and citizen protection that are quite far from the original mandate of EU institutions (Berglöf, Eichengreen, Ronald, Tabellini and Wyplosz, 2003).

market based or more intervention based policies determine also scale and scope of measures applied at the EU level and influence through harmonisation efforts national policies.

#### 4.4.2 *Documents on governance*

The European Commission established its own concept of governance in the White Paper of European Convergence (COM (2001) 428 final, 25 July 2001) and in the Council conclusions of May 2002. The White Paper describes how the Union uses the powers given to it by its citizens. In addition, the Commission has published a number of communications and strategic documents on the governance theme over recent years (for example, Communication on EU neighbourhood policies (“Wider Europe”, COM (2003) 104 final, 11 March 2003) and Communication on human rights in the Mediterranean region (COM (2003) 294 final, 21 May 2003). In these documents the term “European governance” refers to the rules, processes and behaviour that affect the way in which powers are exercised at the European level, particularly as regards openness, participation, accountability, effectiveness and coherence. These five “principles of good governance” reinforce those of subsidiarity and proportionality (European Union, 2005d).

In October 2003, the Commission adopted a Communication on governance and development (COM (2003) 615), which sets out a new, more pragmatic vision of countries’ effectiveness in eradicating poverty and promoting sustainable development in the world.

On the basis of lessons learned from the governance approaches adopted by the Commission and other donors, and taking account of these views of partner countries and their own experiences, the Commission Communication aims at identifying practical ways of governance.<sup>58</sup>

This will be the means by which the Commission will guide the EU’s approach to governance and development, identify the type of measures to be supported in different situations, and contribute to the international debate on these issues. A handbook will help translate this policy approach into practical cooperation.

The debate on European governance, launched by the Commission in its White Paper of July 2001, concerns all the rules, procedures and practices affecting how powers are exercised within the European Union. The aim is to adopt new forms of governance that will bring the Union closer to European citizens, make it more effective, reinforce democracy in Europe and consolidate the legitimacy of the institutions.

#### 4.4.3 *Innovation and the Lisbon Agenda*

Functioning interface between various partners in the innovation system has been given high priority in the EU already during the 1990s. With the adoption of the Lisbon Agenda in 2000, the European Union established for itself the ambitious goal of becoming the most dynamic and competitive economy in the world by 2010. Specific attention was given to interface between firms and research institutions and dissemination of new knowledge into the business sector. The starting observation of the Lisbon Strategy was that the existing EU arrangements

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<sup>58</sup> The principles of governance are related to following targets: building capacity for governance and increasing partner countries’ input into formulation of the relevant reform programmes; ensuring synergy and consistency between the various Commission and EU instruments and policies; reinforcing development partnerships on a regional basis with a view to achieving coordination between donors’ priorities and partner countries’ agendas by way of policy dialogue, as well as complementarity between fund providers; contribution to protection of human rights and spreading democracy, good governance and the rule of law (European Union, 2005d).

are not the globally most competitive ones.<sup>59</sup> The need to de-emphasize traditional redistribution, the urgency to lessen the role of funding for primary branches, the need to roll back welfare reducing protectionism in favour of information and communications technology development, flexibility and innovation has been very real.

Despite initial optimism, the first half of the decade has been dispiriting and targets established under the Lisbon strategy will be difficult to achieve. This is best illustrated by the commissioning of former Dutch Premier Wim Kok in the Brussels Council in April 2004 to conduct a study on the causes for lack of progress. Governments have failed to implement the policies required to achieve these targets and therefore, without radical changes, the strategy will fail to deliver its promises.<sup>60</sup>

Realisation of targets of Lisbon Agenda depends substantially from efforts of the EU member states and there are only limited tools to enforce governments fulfil respective criteria. The realisation of those targets, on the other hand, has important impact on global competitiveness of the European economic space.

#### 4.4.4 *Industrial policy*

Industrial policy is horizontal in nature and aims at securing framework conditions favourable to industrial competitiveness. The general principles of EU industrial policy date from the Communication “Industrial policy in an open and competitive environment: guidelines for a community approach” of October 1990 (Commission of the European Communities, 1990). Its instruments, which are initiatives, exploit their ideas and build on their opportunities. Three key factors of industrial competitiveness deserve particular attention: knowledge, innovation and entrepreneurship.

In December 2002, the Commission published its Communication on “Industrial policy in an enlarged Europe” to launch the debate on industrial policy (Commission of the European Communities, 2002). In order to address current fears about de-industrialisation, the European Council in October 2003 asked the Commission to assess the situation and to present solutions to counteract this trend in order to revive Lisbon strategy of making the EU the most competitive economy in the world by 2010.

Industry leaders and politicians have voiced their fears about the EU’s manufacturing base moving out of Europe to benefit from cheaper labour, lower social costs and more flexible regulation in the East. The Commission on 20 April 2004 published new Communication “Fostering Structural Change: an Industrial Policy for an Enlarged Europe”, which examines

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<sup>59</sup> The Lisbon Agenda contains a self-critical assessment of the global position of the EU and calls for structural reforms and investment into human capital and information and communications technology to revert existing trend, in the ten framework of a ten-year-program (Communication from the Commission: Innovation in a Knowledge Driven Economy, 2000).

<sup>60</sup> The EU (former) Commissioner for Enterprise and Information Society Erkki Liikanen said, that Europe’s industry is in confrontation with challenges that reflect partly technological shocks and partly the advancing process of globalisation. At least three factors have contributed to uncertainty: 1) the technological revolution associated with development of ICT technologies and concomitant enterprise re-organisation; 2) the on-going process of trade and capital account liberalisation has reduced barriers in international trade and investment and has expanded possibilities for locating production in areas different from the market where a product is sold as well as opportunities to act pre-emptively and position oneself in growing markets to exploit first-comer advantages; 3) international and domestic competition has intensified, leading to various adjustments and economic strategies on the part of enterprises to cope with a changing business environment. The challenge of competitiveness the EU is currently facing is, according to him, twofold: 1) for advanced nations, a challenge is determined by relative innovation and productivity performance; 2) for developing nations and for the new Member States, the challenge is based on relatively low cost and standardised technology that makes possible product imitation (Liikanen, 2004).

the competitiveness of European industry, assesses the existence and scale of the risk of de-industrialisation and proposes specific solutions.

The Commission recognises that the EU is facing a process of structural change at various levels, but points that “the ongoing process of resource allocation from manufacturing industry to service should not be confused with a process of de-industrialisation. In order to support the process of structural change in the EU, the Commission has outlined a set of specific measures, which cover regulatory framework, community policy and combines sector level policies”.<sup>61</sup>

The Commission will continue to examine the competitiveness of specific sectors each year and launch initiatives as necessary. For 2004 and 2005, initiatives are planned for the following activities: 1) an initiative in the mechanical engineering sector; 2) an analysis of the eco-industries sector with a view to taking certain measures; 3) the creation of a high-level group in the automobile sector; 4) study of the non-ferrous metals and the IT sector (Commission of the European Communities, 2004).

Most of the industrial policies are not carried out at EU level, but under the competence of the Member States. The open method of co-ordination, set up by the Lisbon European Council, offers a context in which national policy performance can be discussed, developed and improved.

One important question related to delocalisation issues is whether the European countries should implement policy measures to fight de-industrialisation, i.e. the decline of production industries both as a share of total output and in terms of employment levels? Mathieu and Sterdyniak described three possible general approaches to that issue: 1) de-industrialisation is a natural phenomenon and should not be opposed; 2) policy means should be targeted to important structural supply side issues like R&D, education and factors related to general competitiveness of economic environment like tax policy, burden related to welfare state; 3) the traditional view that specific support should be implemented in favour of unskilled labour, because their loss of jobs and increase of unemployment for that reason should not be tolerated (Mathieu and Sterdyniak, 2005).

Every approach requires different policies and roles of public governance agencies. Seemingly the process needs state intervention, but bias toward one or another approach would be determined by future developments and depends on industrial structure and development level of particular country. To find out interrelationships between policy bias and required public governance structures to realise it, is one task of the current research

The Commission estimates that EU enlargement presents unique opportunities to European business. Value chains can be reorganised across the continent to benefit from the current competitive advantages of the new Member States. This may enable companies to keep production within the EU that would otherwise have been transferred to Asia, and maintain their competitiveness.

Experts are divided over the impact of de-industrialisation on European competitiveness and employment. While many, including the employer organisation UNICE, underline the fact that the trend destroys jobs and value creation in Europe, others consider de-industrialisation a necessary evil to maintain the competitiveness of the EU's industrial base Through

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<sup>61</sup> Regulatory framework arguments support an idea that burdens on industry must be reduced to the bare minimum of what is strictly necessary to achieve objectives of regulation and a balance must be struck between industrial competitiveness and the need for regulation. Community policies arguments stress, that synergies must be better exploited to improve the policies' impact on industrial competitiveness. The focus should be on developing a knowledge-based economy and strengthening cohesion in an enlarged EU. Combination of policies at sector level means that the EU must continue to develop the sector dimension of industrial policy while ensuring that its sector policies are strengthening industrial competitiveness (Commission of the European Communities, 2004). .

outsourcing, goes the argument, companies will be able to keep costs down and thus boost growth, which will ultimately benefit and stabilise its European operations (UNICE, 2003, 2004).

Other economists argue that Europe's future is not so much threatened by de-industrialisation as by other aspects of delocalisation, including the migration of R&D activities to US, particularly in the high technology, research-intensive sectors as pharmaceuticals or biotechnology (Fontagne, 2005).

There are three critical questions for research and design of governance tools: 1) Should manufacturers be encouraged not to delocalise? 2) Should there be massive investment in research and development in an effort to maintain a technological edge and what are conditions for that? 3) Is it possible that delocalisation creates massive unemployment and social problems at that critical level that forces the EU to restore barriers to protect European industry?

#### 4.4.5 *Taxes*

The EU does not have a common policy for taxation as it has common policy for trade, competition, and agriculture. Its policy is one of co-ordination and harmonisation (or approximation) of national tax policies as much as necessary for the functioning of the internal market.

Tax harmonisation can be defined as a process of adjusting tax systems of different jurisdictions in order to achieve a common policy objective. Narrowly defined, tax harmonisation implies convergence towards a more uniform effective tax burden across EU Member States (Kopits, 1992). It can occur as a result of action at EU level by Member States, the Commission or other EU institutions (as the European Court of Justice, hereafter referred to as the ECJ or as the Court).

Harmonisation does not mean unification: differences in national law may persist if they do not violate EU law. Tax co-ordination is a wider term, which includes any policy action or measures undertaken to achieve an objective shared by a group of countries (Tanzi, 1989). The aim of tax co-ordination is to influence the tax practices of the Member States. Tax co-ordination might take the form of tax treaties between Member States, international agreements or legislative acts of the EU (Commission, 1992a, p.19).

The countries co-ordinate tax policies to achieve higher level of neutrality for investment decisions, which in turn contributes to more efficient allocation of resources. Although the harmonisation of tax burdens can also take place as a result of the interplay of market forces, it is often argued that government action in the form of tax policy co-ordination is necessary. By co-ordinating their tax policies states intend to achieve that the resources would be allocated according to their comparative economic advantage not according to the tax differentials. Harmonisation of the definition of tax base, which contributes to transparency of economic decision-making, can improve efficiency of resource allocation (Kopits, 1992, p. 3.).

Furthermore, it is argued that with a centrally coordinated tax harmonisation, rather than one enforced by the competition of tax systems, Europe would not have to give up its social welfare achievements and current levels of redistribution.<sup>62</sup>

The gradual reduction of market barriers has considerably increased mobility of factors, particularly mobility of capital. Portfolios have become more international, the number of

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<sup>62</sup> See (Sinn, 1990, pp. 489-504).

cross-border mergers as well as foreign direct investment has increased. As a result of liberalisation, globalisation and integration of the markets, the international spill-over effects of national tax policies have increased. Because capital can move more easily from one jurisdiction to another, the differences in tax policies can have an important impact on investment flows.

In the field of corporate taxation, differences in tax laws can cause double taxation or non-taxation of the cross-border income flows. Tax co-ordination can contribute to the elimination of double taxation or non-taxation. One important form of bilateral tax co-ordination is a double taxation agreement between the states. It is argued that co-ordination of the methods of providing relief for double taxation of income from cross-border investments decreases the tax barriers for cross-border investments and thus contributes to efficient allocation of resources and economic growth.

Most important taxes in the context of EU integration are the customs duties, the VAT, excise taxes, capital duties, and corporate taxes. Fiscal harmonisation began in the field of indirect taxes. Discriminatory customs duties and other taxes imposed on goods and services are considered the most important impediments to the free movement of goods and services in the EU market. To date, the major steps toward harmonisation have been achieved in the field of indirect taxation, most importantly, the abolition of customs duties, the introduction of the Community Customs Code and common VAT system as well as the harmonisation of the most important excise duties. The harmonisation of indirect taxes has been far more advanced than the harmonisation of direct taxes so that the room for further harmonisation in the former area is much smaller than in the field of direct taxation.

Taxation policy has a vital role to play in the European Union strategy. The 10 new EU members, most of which are from Eastern and Central Europe, have an average corporate tax rate of about two-thirds of the other 15 EU members. These relatively low levels are contributing to the delocalisation of industries and jobs from Western Europe to Eastern Europe. New members think low taxes are necessary for promotion of their economies so they can catch up with the West. Their model is Ireland, which for decades has aggressively employed tax incentives (Forbes, 2004).

Commission has established as one of its priorities in the tax field the creation of a common consolidated corporate taxation base in the European Union. But a common company tax base in the EU would not mean a common corporate tax rate. Commissioner Kovacs said in his speech: "I believe that tax competition is not bad by definition and I support a degree of tax competition between Member States to the extent that it forces governments to produce value for money" (Plenary Session of the Economic and Social Committee on EU Taxation Policy 12.05.2005).

The governance delocalisation of labour intensive industries through tax policy is possible but can be considered still as a tool applied at national level. The discussion between supporters of tax harmonisation and tax competition approaches is one important factor what will determinate future development of taxation level and structure<sup>63</sup>.

#### 4.4.6 *State aid provisions*

The EC Treaty prohibits State aid to undertakings (Articles 87-88), including fiscal support measures unless they qualify for one of the derogations from the general principle of incompatibility laid down in Article 87(1). Specific national tax measures possibly constituting state aid have to be notified to the Commission prior to their implementation. If the Commission prohibits the fiscal support measure but the Member State does not abide or if it has implemented a measure without prior notification, the Commission may take that State to the European Court of Justice.

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<sup>63</sup> See (Cnossen, 2002; Cnossen and Bovenberg, 1997; Mitra and Stern, 2004; OECD, 2004; Purju, 2004).

The question of whether a tax measure is restricting free movement within the internal market is a critical criterion.<sup>64</sup> An advantageous tax provision is the State aid if it is limited to certain geographical regions, or to certain sectors of economic activity.<sup>65</sup>

The Commission may decide that the Member State must amend or abolish aid what the Commission finds to be incompatible with the common market. Where aid has already been implemented in breach of these rules, the Member State must in principle recover, from the recipient, the aid illegally granted (with interest), irrespective of national time limits or other national legal impediments to recovery.<sup>66</sup>

Definition of state aid procedures is important in determination the possible state aid size and tools.

#### **4.5 National level**

The state's role in governing structural industrial problems such as delocalisation, has been widely discussed in economic literature. In the 1950s and 1960s, aid programmes and academic advisors propagated the idea of state bureaucracy as the lead agent for the transition to what was then known as modernisation (Stone, 1965). Aid agencies favoured large-scale projects of industrial development, which, in their turn, required the guarantee of government involvement (Esman, 1988). The state-led development was not only imitative but also built on a response to local circumstances. The case was made in re-structuring the economy towards "inward directed" industrial development on the basis of import substitution (Todaro, 1994). Until the mid-1980s, the role of the state expanded, in advanced countries faster than among developing countries. The statist model became to be subject to criticism. As Batley and Larbi defined, until the full force of the neo-liberalism perspective arose in the 1980s, this was not a matter of ideological opposition to the extension of the state as such. It was rather a question whether the states and public administrations of developing countries were structurally (not just technically) capable as the agent of development (Batley and Larbi, 2004, p. 3).

The immediate roots of the neo-liberal revival lay in the economic crises what followed the rise in oil prices in the early 1970s.<sup>67</sup> Many countries were slow to adjust to the new economic order and got themselves into deep difficulties of debt and inflation. They had to resort to the IMF and the World Bank loans, which were linked to certain conditions, the reduction of the role and scale of the public sector. That was accompanied with spread of new liberal view with a deeper scepticism about the capacity of state administration to play a developmental role under any circumstances.

That approach was quite important also in transition countries where creation of market economy started in the beginning of 1990s.<sup>68</sup> Partly in response to the response to the

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<sup>64</sup> See (Schön, 1999, p. 925).

<sup>65</sup> Even very broadly defined sectors may be caught by the State aid prohibition: the Commission decided that a 10 per cent tax rate (at variance with the general tax rate of 32 per cent) for the whole of the Irish manufacturing sector constitutes State aid because it excludes traders and services and favours export-oriented undertakings. See Case E-2/98, 'Proposal for appropriate measures under Article 93(1) (i.e. now Article 88(1)) of the EC Treaty concerning Irish Corporation Tax (ICT)', in OJ C395 of 18 December 1998, p. 19.

<sup>66</sup> The only justifications that the ECJ accepts for not recovering illegally granted aid are (1) absolute impossibility to recover the aid; (2) if from Community action the recipient may reasonably infer that everything is in order (justified expectations). See also (Terra and Wattel, 2001, pp. 197-198).

<sup>67</sup> Batley and Larbi mention, that the United Kingdom experienced the first structural adjustment programme when in 1976 it negotiated a loan from the IMF. In return it had to accept public expenditure cuts, divestiture of public enterprises, a floating exchange rate and restraints on money supply. These became the principal elements of the structural adjustment programmes that were later applied globally (Batley and Larbi, 2004 p. 5).

<sup>68</sup> In transition economies like Estonia, there was a very limited expertise in market economics for a number of spheres of economic policy in beginning of 1990s. The role of international organisations was for that reason extremely important in

experience of liberalization during the 1990s, partly due to impact Association Agreements and integration with the EU, the institutional side of reforms started to be more important. The goals of reforms were extended from freeing market forces and making economies efficient to addressing problems related to institutions like clear property rights, the rule of law, financial systems, accountability of government, effective and efficient public administration (Kohsaka, 2004; Rodrik, 2004).

In general approach to government roles, we can use division to indirect and direct roles described in economic literature. The indirect roles concern policy and rule making, enforcing and upholding law, maintaining competitive conditions, providing information. The direct roles are related to managing and provision of service delivery through different government agencies (Batley and Larbi, 2004, p 17).

Research questions related to governance of the delocalisation process are about a need to regulate the process (delocalisation, FDI); how to influence its consequences and how to alleviate its outcomes. Those questions could be in a more concrete way addressed in the framework of particular governance areas and tools.

#### 4.5.1 *Employment*

There is a big number of economic literature on labour market problems of the EU (Blanchard 2004; Boeri, 2000, Boeri and Terrell, 2000, Nickell and Layard, 1999, Svejnar, 2004). Blanchard presents the made up quote what is a fair presentation of the opinion of many experts and many organizations and states over-regulation of labour market.<sup>69</sup> In our approach we will concentrate on worker- firm relations and will not treat wider set of aspects related to other labour market issues.

Governments intervene in worker-firm relations on three main fronts: they intervene in the wage-setting process, they regulate working conditions and they control firing and hiring of workers. The government commonly regulates work hours and the cost of overtime; mandates vacations, holidays and sick leave; sets minimum wages; restricts child and forced labour; ensures non-discrimination; provides unemployment, disability and retirement income insurance, and in many countries health insurance, and sets and conditions for hiring and firing, unionisation and collective bargaining (European Union, 2005b; OECD 2003; World Bank Development Report 2005, 2004)

These interventions are theoretically justified by the ability of pure market conditions to deliver efficient and equitable outcome. At the same time, the government interventions need to strike a balance between several interests. There are not tensions only between the interests of firms and workers. Workers in the informal economy and the unemployed can have very different interests from those currently employed in the formal economy. There could be very special interests of particular lobby groups.

The World Bank study shows that from an investment climate perspective, labour regulations can be a major or severe constraint on firm operations in many developing countries. Regulations can reduce incentives to make new investments, adjust the organisation of work to take advantage of new technologies or opportunities, or hire more workers. Some curtailment of those incentives can be justified by social goals beyond those reflected in the

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formulating principles of legislation, regulations and in guidance general economic policy choices. Their representatives often preferred solutions that were not influenced by local lobbies but based on market solutions.

<sup>69</sup> Western Europe suffers from too many labour market rigidities, from excessively generous unemployment insurance, high employment protection, and high minimum wages. It is essential that countries putting in place new institutions do not commit the same mistakes (Blanchard, 2004, p. 129). However, Blanchard himself is more sceptical, saying that labour market s are far from textbook competitive markets and do not function well without proper institutions. And these institutions came into being in response to clear market failures...That... does not imply that the institutions we have today are optimal in any sense. ...Still, it is clear that simple slogans will not do. Economists owe countries in transition clear analysis of what institutions are needed today, how they should be designed and how existing institutions should be reformed (Cit.op.).

core labour standards including, for example, the promotion of workplace safety. But ill-conceived approaches can exacerbate poverty by contributing to unemployment and swelling the size of informal and unprotected economy.... Governments need to confront these difficult and often sensitive tradeoffs (World Development Report 2005, 2004, pp. 141-142).

One group of regulations we would like to study in context of possible impact on delocalisation, are those used in the World Bank study. Regulations concern hiring (especial issue is possibility and conditions of part-time contracts), conditions of employment (hours of work, leaves, minimum wage) and firing (grounds of firing, firing procedures, notice and severance payment, job security).<sup>70</sup>

#### 4.5.2 *Trade unions*

Trade unions have played an important role in labour relationships in Europe. The main play filed has been on nation level. Union coverage started to be lower in service economies in comparison of industry dominated economy. Trade unions in the former Soviet bloc countries have changed from institutions of Communist party control and distributors of fringe benefits to becoming representatives of workers economic interests (Svejnar, 2004).

There are powerful organisations on the EU level. The European Trade Union Confederation (ETUC) has called for the activities underpinning competition. Without that, market forces will lead to firms competing on the basis of low quality, low prices and bad and low-paid jobs, says ETUC, blaming industry for using existing problems as an excuse for pushing through a deregulation and the liberalisation agenda. ETUC has also called for more emphasis on social protection and sustainable development (ETUC, 2005).

Trade Unions in EU-15 countries have been worried about the generally low position of trade unions in the new EU countries. The active support and involvement of the ETUC in those countries have been seen as the main task.

In the context of current study, the role of trade unions in bargaing process will be investigated. There are areas like collective contracts, firing conditions and minimal wage where trade unions role should be compared in different countries.

#### 4.5.3 *FDI*

Delocalisation with capital contributions, i.e. creation of a subsidiary company or fusion-acquisition is very important. The company acquires a factory in other state and that factory starts to produce whole or part of its production. The delocalisation with capital contributions is the riskiest by far.

Foreign direct investment (FDI) is a category of international investment made by a resident entity in one country (direct investor) with the objective of establishing a lasting interest in an enterprise resident in another country (direct investment enterprise). "Lasting interest" implies the existence of a long-term relationship between the direct investor and the enterprise and a significant degree of influence by the direct investor on the management of the direct investment enterprise. This involves both the initial transaction between the two entities and all subsequent capital transactions between them and among affiliated enterprises, both incorporated and unincorporated.

Conventionally, a FDI enterprise is an incorporated enterprise in which a foreign investor owns 10% or more of the ordinary shares or voting power, or an unincorporated enterprise in which a foreign investor has equivalent ownership. Financial FDI data may be geographically based on the extent that TNC-s use strategically located holding companies to intermediate their investments (Nicoletti *et al*, 2003, p. 12).

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<sup>70</sup> See (Doing Business in 2005, 2004, p.35).

Over the past decade, the FDI intensity (defined as the sum of outward and inward FDI positions over GDP) has increased significantly in the European Union.

Most of the global FDI-s takes the form of ownership changes in existing enterprises (mergers and acquisitions, privatisation), with so-called “green-field” investments playing only a minor role.

Attracting FDI has become a central component of industrial policy in developed and developing countries. Image, brand awareness, and perceptions are major factors influencing the location of FDI. Companies make investment location decisions on the basis of their information pool and understanding of an area’s location “offer”. Investment promotion is therefore an essential component of attracting investment. There has been a rapid growth in the number of investment promotion agencies (IPA-s) across the world.

It is not enough for individual countries to simply engage in a race to attract foreign investors. Some form of “institutionalised confrontation” between host Governments, supranational Organisations and representatives from the TNC-s should be developed. The essential problem is that of guaranteeing and supervising the definition and implementation of the agreements stipulated between multinationals and host countries, especially in the face of consistent information asymmetries and imbalances in the negotiating power of involved entities. One could see such an institutionalised confrontation as a means to correct the negative effects of un-regulated multinational lobbying (Zanfei, 2005).

Investment promotion can be divided into following areas: 1) strategy and organization (includes setting the national policy context, objectives, structure of investment promotion, competitive positioning, sector targeting strategy); 2) lead activities (marketing; company targeting); 3) facilitation (project handling); 4) investment services (after-care and product improvement; monitoring and evaluation)<sup>71</sup>.

An investment promotion strategy involves the organised use of a range of promotional activities to enhance the capacity of a country to absorb FDI and thereby to increase level of investment and intensify linkages in a country. Most strategies use four different but interrelated sets of activities with varied emphasis depending on changing conditions: 1) activities to service existing, prospective and new investors (involves pre-approval services, approval services and post-approval services to existing, prospective and new investors. The key issue in investor servicing is policy effectiveness in reducing uncertainty for the investor; 2) procedures aimed at identifying and removing administrative obstacles and managerial impediments to the FDI (requires analytical techniques and subsequent management and legislative policy responses, the “road-mapping” to identify the administrative obstacles and managerial impediments is effective; 3) campaigns to enhance the image of a country (comprises effective communication about the location); 4) actions to generate and increase flow of investor’s projects (involves broad- or narrow-cast targeting as well as direct marketing to individual investors).<sup>72</sup>

The importance attached to each of these activities varies by country and over time, but at any given time most strategies include elements of all four activities. An investment promotion strategy should combine these techniques in innovative ways that suit the economic and industrial development requirements and the resources of an individual country.

There are several key issues that need to be taken into consideration in setting objectives for FDI promotion: 1) why does a government want to attract inward investment? It will

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<sup>71</sup> See (Loewendahl, 2001; IFC, 1997; Christodoulou, 1996; Young *et al.*, 1994; Dicken, 1990).

<sup>72</sup> See, for example, analysis and suggestions of international organisations concerning inter-relationships between the FDI and business environment (Doing Business 2004..., 2004; OECD, 2005; UNIDO, 2005; World Development Report 2005, 2004; WIIW, 2005).

influence the size, structure and priorities of the IPA (objectives may include creating jobs in poor regions, technology transfer, increasing competition, compensating for a weak indigenous base, filling-in supply gaps, developing clusters and providing partnering opportunities for local firms); 2) what are the national priorities for sectors? IPA-s have discrete resources and effective investment promotion is focused on key sectors or industry clusters; 3) is the objective sector size or sector positioning? Will the IPA focus on any type of project within the sector, or on projects that meet positioning objectives, such as developing a centre of excellence or a particular business activity in a specific sector.

The IPA-s the activities could be targeted on different aspects. Important questions are following: 1) will the IPA differentiate by the modality of FDI? Is the objective new green-field investment, expansions by existing investors, joint ventures, mergers and acquisitions or other types of strategic partnerships? 2) what is the role for incentives? Incentives can and do affect investment location decisions. However the emphasis on incentives varies considerably. Options include national, regional, or local grants, tax credits, research and development and other special purpose incentives, employment incentives, recruitment and training assistance and site or infrastructure improvements. Incentives can be up-front, or dependent on continuous upgrading of the investment project; 3) what are the roles and actions of stakeholders? Many IPA-s use their governmental network of overseas foreign offices for overseas promotion. There is also increasing cooperation between agencies.

Structure of investment promotion varies between countries. Whether operating at the national or regional level, IPA-s need to be sufficiently independent from governments, giving the agency greater credibility with investors and flexibility. List of key governmental links include: 1) for major investment projects, government ministers at the highest level may need to be rapidly mobilized to create policy certainty and demonstrate the seriousness with which the project is viewed; 2) investment promotion needs to be coordinated at the national and regional levels; 3) the agency must be strong enough to influence decisions affecting individual investments, as well as investment policy, and should have a voice in the policy making process. The agency should have an active say in tax policy, incentives, exchange rate policy and labour policy – all key variables affecting location attractiveness (Loewendahl, 2001).

There are two core elements to competitive positioning, research and market planning Those elements should be linked to sector targeting, what should identify sectors in which the host country is best placed to attract investment and which meet inward investment objectives. Important are after-care services referring the post-investment services that an IPA can offer to already existing investors (Loewendahl, 2001).

Product development refers to the supply-side policies that improve the competitive advantage of a location and its attractiveness for FDI. There are four main areas of product development relevant to an IPA (Loewendahl, 2001): 1) infrastructure and property development (domestic and international transport links and so on); 2) supply chain development in order to increase local sourcing and embed TNC-s into the local economy. Several agencies have established supplier associations focused on large inward investors. These are combined with measures to build up the capacity of the supply base through targeted investment, training and enterprise development and cooperation between focused suppliers; 3) innovation development, related to institutions and financial incentives to promote technology transfer. Innovation policy is widening to include support for new firm start-ups, university spin-offs, science and technology incubators and parks and promotion of an innovative, entrepreneurial culture; 4) skills development, related to the quality of personnel available. The effectiveness of policies to attract FDI and encourage links between inward investors, local firms and research institutes depends on that heavily.

One important research question is related to importance of those aspects of the FDI. What are the connections between different levels of governments and IPA-s? What is the TNC-s experience about contacts with the different level governmental offices?

#### 4.5.4 *Foreign trade*

There are two theoretical frameworks what are followed in current chapter to describe economic development and to investigate potential roles of public governance structures. The comparative advantage framework describes why nations have become more specialized while at the same time income differences have narrowed.

Another framework focuses on agglomeration forces that account for the way in which tighter economic integration can foster the clustering of economic activities within nations or wider regions. In evaluation the industrial location in the EU, researches try to explain how regional and national shares of various types of manufacturing vary with regional and national characteristics, where it is useful to divide the national characteristics into three broad groups: relative labour supplies, economic geography features and policies affecting industrial location.<sup>73</sup>

Those two approaches are very closely linked to institutional framework for foreign trade. At the same time, the external opening underpinned by the acceptance of multilateral and regional disciplines played a great role. Both multilateral commitments within the WTO and the EU-related rules had a similar role. They contributed to the quality, transparency and coherence of the legal and regulatory system as well as its efficient enforcement.<sup>74</sup> For companies involved in foreign trade, that means a very big role of particular agreements achieved in the framework of the WTO or the EU context. The sensitive aspects like import of textile products from Asia, outsourcing and subcontracting issues are more important in the framework of current study.<sup>75</sup>

#### 4.5.5 *Innovation*

Innovation development is related to institutions and financial incentives to promote technology transfer. Innovation policy is widening to include support for new firm start-ups, university spin-offs, science and technology incubators and parks and promotion of an innovative, entrepreneurial culture.

Comparative studies on innovation policy recognised that there is not easy to define who is responsible for innovation policy. In many cases, governments attribute innovation to the ministry with responsibility for economic affairs or industry... However, even where there are specific departments of ministries with a remit for innovation and technology policy, they do not play a role in co-ordinating innovation policy matters across ministries. Funding of industrial R&D and innovation is delivered on a sectoral basis (ministries of economic affairs, education, health, transport, regional development etc). The existence of government policy documents or even funding agencies and programmes are not guarantee of either the availability of government funding for innovation policy initiatives or the effective disbursement of funds (Innovation policy issues in six candidate countries, 2001, pp.13-16).

Other part of the issue is that comparative research across the countries has extensively reported that very big proportion of innovations have been made by TNC-s and there is important and persistent differences between foreign subsidiaries and domestic firms (Dunning, 1993). On those circumstances, it is important to investigate how innovation activities and tools are combined with innovation taking place in TNC-s and how much those big companies use research organisations in home countries.<sup>76</sup>

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<sup>73</sup> See (Baldwin and Wyplosz, 2004, pp. 242-265).

<sup>74</sup> See (Promoting Trade in Services, 2004).

<sup>75</sup> See discussion of those problems in (Gereffi, 1994; Geung and Mok, 2004; Kwan and Qiu, 2003).

<sup>76</sup> Study on Belgium shows that if there is competitive and internationally recognised academic community, TNC-s finance big part of research in academic institutions (De Backer and Sleuwaegen, 2004).

Governance of innovation policy is important in the framework of current study for the reason that companies heavily investing into innovation activities form a specific group of companies. They are large and international, very often subsidiaries of TNC-s. There is a linkage between the FDI, innovation, taking place in firms with foreign capital, and employment. Are those working places only needing third level (higher) education or do they create also low skill working places, possibly fulfilled by labour loosing job in traditional labour intensive industries? What are the governance structures suitable to manage those restructuring processes?

#### 4.5.6 *Subcontracting, outsourcing, off-shoring and offshore outsourcing*

Delocalisation without capital contributions by the means of subcontracting is the most widespread form. Subcontracting is defined as the manufacture of goods by one firm (the subcontractor) to another (the lead firm) based on the specification of the latter. Often there can be several layers of firms or intermediaries mediating the relationship between the actual production workers and the end product market. The lead firms normally exercise considerable control over their subcontractors in terms of price, quality and timing of the products they supply.

According to UNCTAD subcontracting is yet another form of investment, although a non-equity one (UNCTAD, 2004, p. 346): “Foreign direct investors may also obtain an effective voice in the management of another business entity through means other than acquiring an equity stake. These are non-equity forms of investment, and they include, *inter alia*, subcontracting, management contracts, turnkey arrangements, franchising, licensing and product-sharing”.

Outsourcing is the delegation of tasks or jobs from internal production to an external entity (such as subcontractor). Most recently, it has come to mean the elimination of native staff to staff overseas, where salaries are markedly lower. This is despite the fact that the majority of outsourcing that occurs today still occurs within country boundaries.

Off-shoring can be defined as relocation of business processes (including production/manufacturing) to a lower cost location, usually overseas. Offshore outsourcing is the practice of hiring an external organization to perform some or all business functions in a country other than the one where the product will be sold or consumed.

Governance of delocalisation labour intensive industries through subcontracting, offshoring and outsourcing is possible supply chain management (SCM). This is the management of upstream and downstream relationships with suppliers and customers to deliver superior customer value at less cost to the supply chain as a whole.

#### 4.5.7 *Value chain*

To better understand the activities through which a firm develops a competitive advantage, it is useful to separate the business system into a series of value-generating activities referred to as the value chain (Porter, 1990). The primary value chain activities are: inbound logistics, operations, outbound logistics, marketing & sales and service. The primary activities are supported by: the infrastructure of the firm, human resource management, technology development and procurement.

Position in value change has high impact on company's profits. Markets are very competitive concerning low part of value chain. There are less competition and higher profits in upper side of the value chain. Very questionable is existence of direct tools what support company's moving up along the value chain. We argue here for indirect measures related to business environment, human capital development etc.

#### 4.5.8 *Clusters*

There is a wide set of theoretical literature on basics of clusters (Humphrey and Schmitz, 2002; Porter, 1990, 1998, 2000; Roelandt and Hertog, 2002). Clusters could be treated as a national phenomenon or as a regional feature. The size of the country is one important factor what determines the role of cluster. In big countries like UK or Poland clusters are more regional features. In small countries they could be a national phenomenon. In tiny countries like Estonia, cluster approach works if the country as a whole is considered to be a part of some larger territorial unit like Scandinavia.

A large number of measures may fall under the heading of cluster policy. Among the various approaches are available (Andersson *et al*, 2004): 1) broker policies aimed at strengthening the framework for dialogue and cooperation by various relevant stakeholders involved in clusters, and not favour individual players; 2) demand side policies should seek to increase openness to new ideas and innovative solutions; 3) training policies, that may be targeted at upgrading skills and competencies which are essential for effective clustering of SME-s; 4) promotion of international linkages, that should be designed with a view to enhancing the interplay between foreign and domestic actors; 5) framework policies that should put in place an over-riding playing field marked by effective and consistent rules for inter-actor transactions.

Cluster policies have likewise become widespread since the early 1990s. The national approaches to cluster policy are very diverse in nature, as the policies are embedded in different business environments, cultural and institutional framework, as well as different governance systems. Some countries have a distinct cluster policy that aims to support national and regional clusters in different ways (Belgium, Denmark, France, Netherlands, Portugal, Luxemburg, UK). A national cluster programme has also been launched very recently in Sweden. Other countries have specific regional cluster instruments. In these cases, the promotion of clustering is used as an element of innovation and regional policies (Austria, Finland, Spain, Germany, Italy, Norway). Still other countries (Liechtenstein, Ireland) have neither a national cluster policy nor specific cluster instruments (European Union, 2002). Roelandt, den Hertog (1999) and Andersson *et al* (2004) provide overview for certain kinds of failures, and whether policy responses in general across countries.<sup>77</sup>

#### 4.6 *Local (regional) level*

Traditional locational policy addressed three issues: real estate is made available and infrastructure is improved; attraction of external investors is an important issues and

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<sup>77</sup> There is a long experience of application different policy methods in countries. So, for inefficient functioning of markets, policy response has been competition policy and regulatory reform (in many countries). In the case of information failures, policy response has been technology foresight (Netherlands, Sweden), strategic market information and strategic cluster studies (Denmark, Finland, Netherlands). In the case of limited interaction between actors in innovation systems, policy response has been broker and networking agencies and schemes (Denmark, Netherlands), provision of platforms for constructive dialogue (Austria, Denmark, Finland, Germany, Netherlands, Sweden, United Kingdom), facilitation of cooperation in networks (Belgium, Finland, Netherlands, United Kingdom). Institutional mismatches between (public) knowledge infrastructure and market needs has been responded by joint industry-research centres of excellence (Belgium, Denmark, Finland, Netherlands, Spain, Sweden), with facilitation of joint industry-research cooperation (Finland, Spain, Sweden), human capital development (Denmark, Sweden), with technology transfer programmes (Spain). Missing demanding customer was substituted by public procurement policy (Austria, Netherlands, Sweden, Denmark). Government failure has been addressed with privatisation (most countries), horizontal policy making (Denmark, Finland), public consultancy (Netherlands), reduce of government interference (United Kingdom).

facilitation of communication between the business community and public sector is considered valuable for creation of support to policy decisions.

As competition between potential locations for became more intense, local actors started to pursue a more ambitious approach which included at least one of the following elements: 1) the creation of roundtables, partnerships (including public-private partnerships) or alliances for local economic development in order to formulate and implement a strategy to improve the locational advantage or revitalise old locations; 2) the implementation of cluster initiatives; 3) the creation of dedicated local economic development agencies to co-ordinate and organise local level efforts

(OECD, 2001b; Wallis, 1996).

#### *4.6.1 Support to clusters on local level*

Specific regional policies to encourage investment in particular parts of a country form a major elements of the national policy framework in many countries. While TNC-s usually long-list countries rather than regions, it is at the sub-national level that TNC-s draw up a short list of investment locations for in-depth evaluation and the policies and facilitation of regional agencies often play a critical role in determining who wins a mobile investment project.

A regional cluster policy can be by definition a policy aimed to sustain existing clusters or to support the growth of starting up clusters. The cluster approach should allow the regional system to move from more traditional policies based on infrastructure building and technological support to a more comprehensive policy trying to improve the environment in which firms and local actors operate. The keyword for such cluster policies is the improvement of regional competitiveness.

The policy also emphasises the link of firms to the (regional) technological infrastructure of higher education and R&D institutions in which knowledge irrigates the regional economy. The policy in particular tries to bring new technology to regional networks of SME-s. More cooperation may demand attempts to change attitudes in both the technological infrastructure and in firms. Thus, regional located higher education, research institutions and technology transfer infrastructure should develop their competence and services to be more appropriate for local firms, and SME-s in particular should learn to use R&D when innovating.

Although the approach and phrasing differ, the national policies share a number of key objectives and characteristics. The cluster policy (and to some extent also cluster instruments) deals with broader issues as it is seen as mean to promote economic development and structural changes, often through enhancing (regional) innovation capacity. The policy often stresses the need to be global competitive in the “new economy”. The policy is based on improved business co-operation and networking, which may demand the stimulation of social processes (European Union, 2002).

Imbroscio and Williamson (2003) propose local policy responses to globalisation. With ownership and control held in a more collective or community-oriented fashion, such enterprises tend to anchor or root investment more securely in communities, providing a counterforce to globalisation. Six models are: 1) community-owned corporations (they are similar to traditional corporations save one crucial factor: they are owned primarily by citizens living in or strongly connected to the local community); 2) non-profit corporations (for example, in USA they account for over 6% of economy and over 7% of total employment); 3) municipal enterprise; 4) consumer cooperatives (they are self-help economic structures that provide quality goods and services to their members at a reasonable cost); 5) employee ownership (analysts see worker-owned firms as a means to bring democracy to the workplace or enhance employees’ incomes, but these firms also potentially can contribute a great deal to economic stability of communities); 6) community development corporations

(those are non-profit organizations dedicated to bringing about the community economic stabilization of a clearly denned geographic area).

Not all developing countries have a comparative advantage in labour-intensive industries. Many such countries have a comparative advantage in industries that are natural resource intensive rather than labour intensive.

If labour-intensive industries were more highly protected than other industries during the pre-reform period, then it is possible that trade liberalisation will tend to reduce the demand for labour as these industries contract.

#### **4.7 Sectors**

Sectors are target for public policies in the framework of industrial policy. That policy had different status among other economic policies depending on how deep is interventionist attitudes of the government. Horizontal industrial policy is targeted more the general conditions of economic environment and could be seen as more emphasized also in the EU. Hierarchical industrial policy has been targeting particular sectors.<sup>78</sup> Nevertheless it has been less used recently, it seems to be become important in the case of delocalisation. When sectors enter a decline stage growth becomes negative for a variety of reasons, including international competition (low-cost foreign competition pushing sector into decline). Within a declining industry, the degree of rivalry among established companies usually increases. Depending on the speed of the decline and the height of exit barriers, competitive pressure can become as fierce as in the shakeout stage. That makes companies in declining sector to look for state support.

The main problem in a declining industry is that falling demand leads to the emergence of excess capacity. In trying to utilize this capacity, companies begin to cut prices, thus sparking a price war. The greater the exit barriers, the harder it is for companies to reduce capacity and the greater is the threat of severe price competition (Hill and Jones, 2001, p. 103).

One reason for orientation to some sectors is related to the reason that for certain reasons the whole sector will be damaged by global foreign shocks. In that case, dealing with sector in crises is rational. Decline of several manufacturing sectors like clothing, textile, shipbuilding in European countries could be cases to investigate.<sup>79</sup>

It is common for investment promotion agencies to specify their priorities in the terms of sectors. By some authors, this leads to misdirection of industrial promotion efforts. The targets of public support should be viewed not as sectors but as activities (Rodrik, 2004). This facilitates structuring the support as a corrective to specific market failures instead of generic support for this or that sector. Rather than providing investment incentives for some sector, government programs should subsidize bilingual training, feasibility reports, infrastructure investment, adaptation of foreign technology to local conditions, risk and venture capital. One task of our research is to deal with this problem related to sector based approach for investment promotion agencies.

The role of industrial associations has been important in dealing with sectors problems. One task of our study is to look deeper on the role of those associations in different industries.

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<sup>78</sup> The special set of problems related to possibility of industrial policy concern economic restructuring in post-socialist countries. The dominating concept in the beginning of reforms was that creation of markets through price liberalisation, opening of domestic markets to foreign trade, ownership reform, inflow of FDI, development of financial system, new labour market relations are fundamental and there is no place for industrial policy. One important argument has been that changes were so massive and unpredictable that there were no resources to support declining industries with industrial policy tools. Only afterwards the role of institutions and more complex policy measures have been recommended. However, there were also voices arguing for industrial policy approach during earlier stage of reforms, see (Landesmann and Ábel, 1995).

<sup>79</sup> See (Aldcroft, 1994).

#### 4.7.1 *Electronics*

The impact of public governance on electronics industry and manufacturing in general varies from country to country. The main impact on manufacturing comes from overall economic policies. Electronics industry has been also influenced by policies in the field of technology, defence, education, trade and other economic aspects.

It is a specific industry because it employs a relatively big number of highly educated engineers, medium educated workers and people with basic skills. Another reason is that electronics industry is using relatively few materials, until nowadays not causing remarkable environmental problems and as an innovative industry giving high profits.

The first and most visible policy from promoting electronics and software industries in emerging economies is preparing of engineers and scientists. Educating of engineers in most of the technology areas requires substantial investments from universities and personal efforts from students. The number and quality of engineers are the concern of governments in highly developed and emerging economies. The USA and UK have used simplified visa requirements for programmers, engineers and other highly qualified workers (UNESCO, 2005).

Another area of government interference is support for research and development activities. Electronics industry is a knowledge-intensive activity and support to research can create a sustainable competitive advantage. Often the main creation centres of electronics industry are located in nearby universities and public laboratories and government grants help to raise the general scientific and technological knowledge in the area.

Closely related to the government research support is public procurement. Public procurement of military, space and aviation products has fostered technological development. In some countries public sector is still the owner or major shareholder in telecommunications. Purchasing of telecommunication goods can therefore be influenced by the public sector.

Last but not least, a major role in public policy is played by standardisation. Despite not being directly governmental activity, standards remain an important tool in trade practice. Bigger countries with dominating firms are in favour of common standards and weaker and smaller counterparts try to protect themselves by using different standards.

#### 4.7.2 *Software Industry*

Several aspects mentioned in the case of electronics are also true in the software industry. Software industry consists big number of small and medium size companies, there is possible to join networks from long distances etc.

OECD recommends avoiding protectionist response delocalisation in software sector arguing that efficiency gains and cost savings due to delocalisation underpin productivity growth and creation of new employment opportunity, both in home and host country. It is estimated that benefits are much higher than cost, therefore only limited adjustment in some cases may be welcomed (OECD, 2004).

#### 4.7.3 *Garment Industry*

Trade quotas and especially the adopted 1994 Multi-Fibre Agreement (MFA) have been major mechanisms regulating the world trade of clothing and textiles many years. It is also significant to point that while the regulation of trade has received most of the attention in the literature, regulation also concerns production and consumption of clothing (Messner, 2002; Humphrey and Schmitz, 2002). Thus regulations apply to the fields of product quality, environment, health, working conditions, ethics, and social responsibility.

Some of the relevant questions here would be: who is responsible for setting and enforcement of standards related to product, exchange relations, labour relations, environment, on what level do they operate (e.g. global-local), what are their temporal shapes and horizons; how codifiable and complex they are. How do all these processes interact and what can we say about value creation and distribution, risk distribution, strategies, innovation, sustainability.

While standards mostly operate on the national level, increasingly there also are international standards and codes of practice that were gradually being introduced since around the 1950s. They are being pushed forward by a diverse set of actors with different agendas, such as lead companies, trade unions, NGOs, and international organisations, which also play different role in setting, monitoring and sanctioning the compliance with standards. Some of the international standards that are relevant for the clothing sector include the ISO9000 for quality management, ISO 14000 for environment protection, SA8000 for social accountability, WRAP for socially responsible global standards for clothing manufacturing. Some of those are becoming increasingly significant and, for example, ISO standards, and often, SA and WRAP are requirements to get subcontracting deals with the USA and EU buyers (Yeung and Mok, 2004).

Research question is related to capability of different government agencies to have overview of those complicated globally regulated issues and advice local companies in particular field.

#### 4.7.4 10.7.4. Footwear Industry

The footwear industry is included together with clothing and textile industries in existing global, European and national trade policies. The Commission defined the priorities of EU trade policy for the footwear as following: to improve the market access; respect of WTO rules and disciplines; autonomous quantitative restrictions against China; fight against fraud. The policy research is aimed to link those tasks with governance structures and functions described above.

## 4.8 Conclusions

Governance is generally understood as a broad process affecting the collective decision-making roles and procedures, management and authority relationships of social and economic agents involving multiple jurisdictions and domains. The public governance issues are treated at global, EU, national, local and sector levels.

It is possible to distinguish between policies that form a general framework for entrepreneurship (a general legislation of business activities, taxes, social security costs and benefits) and policies that are focused to support particular fields or activities (foreign trade policy, innovation policy, active labour market policy, tools to promote investments or FDI in particular field).

Matrix linking together levels and fields of policies has been designed to clarify the future field of study of public governance issues. We assumed that certain policies are more frequently applied and influential at particular institutional levels. The particular policies at different levels could be supportive to each other or there could be also contradictions and negative side effects of different policies on each other. Innovation activities at regional and national levels support each other. There are several evidences that innovation policy measures and labour policy measures could produce mixed results and not support each other. The applied tools and achieved results have been described on the basis of scientific literature.

The globalisation process linking together more and more areas, activities and persons into the process of development, seems to be important factor in determination of trends at the level of the EU and national governments. For our study, the increasing trade, capital mobility and widespread diffusion of technology are the most influential factors of interdependence of countries, which is the basis for economic side of globalisation.

There is a discussion about the need and possibility of global governance. In our approach, we limited to discussion of roles of existing international organisations in dealing with global problems. The WTO and the ILO arrangements are important for industries covered by our study. Also the position of the EU in discussions inside the WTO has important impact.

In discussion about the future governance models of the EU, two wide sets of problems have been brought out. The first one is related to overlapping jurisdictions and another concerns a principal choice between dirigisme and rhetoric versus laissez-faire. In the case of dealing with problems of delocalisation of labour, both sets of problems are important. The overlapping jurisdictions and regulations issues concern the impact of regulations in the field of social protection and labour market issues on the EU level and division of responsibilities between the EU institutions and national governments. That issue is linked closely to the general choice between more market based or more intervention based policies and determines scale and scope of measures applied at the EU level and their influence through harmonisation efforts on national policies. Those choices will be made in policy process at the EU level. In the context of our study, we can evaluate assumptions and results of different approaches to delocalisation process.

The role of MNE-s creating spill-over effects between private enterprises located within or outside the national borders is very significant according to theoretical literature. The relationship between the MNE-s and different level governments is one important issue in internationalisation of economic activities. The critical areas where economic interests and public governance meet are the labour market regulations, the FDI related problems, conditions for foreign trade, innovation, industrial policy, taxation and state aid.

Subcontracting, outsourcing, off-shoring and offshore outsourcing, value chain and clusters are the specific concepts what describe different forms in which organisational and technological capacities have been matched together. One task of current chapter has been to clarify those concepts on the basis of theoretical literature and to formulate research questions for current project.

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## **Part 2**

# **Industrial analysis**



## 5 Footwear industry report

Institute of Geography and Institute of Economics, BAS

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### 5.1 Introduction

The geographical localization of the footwear industry is highly related with its characteristics - the branch is labour-intensive and price-sensitive towards low-price imports production.<sup>80</sup> Specialization in footwear industry can be risky since the branch is producing low added value products and the production can not be easily diversified – has limited possibility for reorientation to new products. ‘Right specialization is a blessing when demand is increasing but a trap to the regional economy when things go wrong in competing in external markets. Diversification on the other hand can be a safeguard protecting the regional economy of the volatility of the markets in a portfolio theory sense’ (Fotopoulos et al., 2004).

Two processes influenced significantly the development of the footwear industry in EU –the globalization and the EU enlargement. Footwear production in EU and the other developed countries was negatively affected by the strong competition from other low-cost producers (from Asia, in particular China) on domestic and export markets. The footwear industry is relatively larger in the new EU countries and the two accession countries (Bulgaria and Romania), so the new comers changed somehow the picture of EU footwear industry. The market pressure from low-cost production forced the developed EU countries to shift part of its production to the Central and East European countries and other regions. In the same time the EU developed countries oriented to more high quality products, which are more diversified and providing higher value added.

### 5.2 Basic data on the sector

#### 5.2.1 Footwear production

The pattern of EU production is described by steady decline, which was most obvious in 1999 with 6.1 per cent. This process continues and the decline in the next three years after 1999 was with another 14.5 per cent, Table 1.1.

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<sup>80</sup> The report used the following Internet addresses: <http://europa.eu.int/comm/enterprise/footwear/development.htm>;

<http://www.etc.ee/subcontracting/>; [http://europa.eu.int/comm/employment\\_social/social\\_dialogue/sectorial8\\_en.htm](http://europa.eu.int/comm/employment_social/social_dialogue/sectorial8_en.htm);  
[http://www.cecshoe.be/cecshoe\\_unclass/external%20trade/](http://www.cecshoe.be/cecshoe_unclass/external%20trade/);

<http://www.economagic.com/em-cgi/data.exe/ecb/STS-M-I2-Y-TOVV-NS5204-4-000-c7S4e-m>

**Table 5.1.1 Production, Export, Import and Apparent Consumption in EU 15**

<b>1000 pairs</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>%growth1999-2002</b>
Production	938,350	907,895	882,295	801,989	-14.5%
Exports (Extra-15)	236,280	245,897	241,198	223,245	-5.5%
Imports (Extra-15)	904,241	966,176	1,018,742	1,089,990	20.5%
Apparent consumption	1,608,810	1,628,129	1,659,839	1,668,735	3.7%

(Apparent consumption: production + imports – exports) *Source : Confédération Européenne de l'Industrie de la Chaussure*

The five observed countries are following this general pattern of change observed in Europe what concern the development of the footwear branch. However there are certain differences within former planned economy countries and the EU members (UK and Greece) from one hand and differences between the North and South countries.

The earliest decline of the footwear industry is observed in UK for quite a long time. According to Bradshaw (1985) the decline started in the 1950s and was marked by decreasing numbers of people employed, decreasing numbers of companies, as well as by decreasing profit margins. According to the British Footwear Association a quarter of footwear manufacturers made losses already in 1975, while in 1976 the value added in footwear manufacturing was 34 per cent lower than the average for UK manufacturing (Key Notes 1984). Between 1963 and 1977 the volume of footwear produced in the UK dropped by 33 per cent. The output continued to decline and was (in millions of pairs): 163 in 1975, 125 in 1983, 83 in 1998, 23 in 2003 (Key Notes 1984, 2004).

Going further the decline could have started even earlier than that and could be linked to the decline of Britain as a world power with easy access to external markets. Indeed between 1914 and 1955 the number of footwear companies in England and Wales fell from 1021 to 550 (Mounfield et al., 1982).

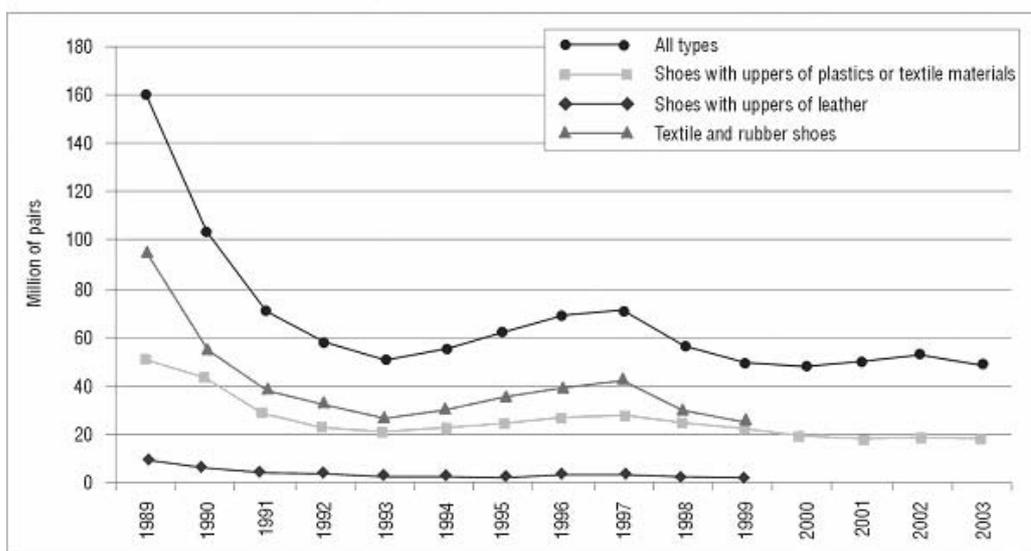
Greece has a little bit different trend compared to UK and this can be seen in the fact that footwear industry flourished in Greece between 1970 and 1985, exporting footwear products to Europe, the USA and Middle East, before started the sector's decline since the 1990s. Footwear production stands for 0.6 per cent of the total Greek manufacturing output. The index for leather manufacturing output in Greece is declining during the last decade, at almost 12 per cent annually (Trends, 2005: 215).

The development in Greece in general follows closely the worldwide trend of the developed countries. The first negative influence on the footwear industry was observed in 1986 when the crisis hit the national market, mainly due to:

- Increased imports from low cost third countries;
- Abolition of indirect financial aid from the state and adjustment to the competitive market economy of the European Union;
- Inability of the Greek enterprises to follow the technological evolution regarding production and distribution;
- Reluctance to adapt to the new international consuming patterns;
- And finally the negative national economic environment after 1977, when interest rates increased.

The three former plan economy countries (Poland, Estonia and Bulgaria) followed approximately similar pattern of development of the footwear industry. This can be described with a general process of increase of the production in the year of plan economy although with different speed and less than the average manufacture's rates.

The development of Polish footwear industry after 1960 can be divided into two distinct periods, with separating line in 1989. The production rose steadily from 1960s onward reaching its peak in 1989, Fig 1.1.



Source: Polish Chamber of the Shoe and Leather Industry  
Notes: data of production do not includes companies, with less than 10 employees.

**Figure 5.1. 1 Production of footwear by material of uppers**

Before 1989, Polish footwear market was producer dominated with demand far in excess of supply. Transition brought about profound changes in organisation and structure of the industry. The output fell from 160 million pairs in 1989 to 105 million pairs in 1990. The decline in production lasted till 1993, when 51 million pairs were manufactured, which constituted only 1/3 of output in 1989. The reasons for this decline were of internal and external nature. The latter were mainly the opening of the Polish economy to the competition of the free market, respectfully the loosing of the CMEA markets.

In Estonia the leather and footwear sector experienced a sharp drop until 1991 – 1993, then stagnated until 1995 and slightly grew thereafter, Table 1.2. This drop like for the other two former planned countries can be explained mainly by the fact of loosing the monopoly of the market of the former CMEA countries and in the case of Estonia mainly the market of the USSR. Specific for the country is that for the whole transition period, the production index was below the one of the average for the manufacturing.

**Table 1. 5.2 Estonian footwear industry, 1995 – 2003**

Indicators	Years	11995	11996	11997	11998	11999	22000	22003
<b>Number of employed persons</b>		22329	11833	11846	11887	11926	11940	11912
<b>Total footwear produced, thousand pairs</b>		11479	11156	11230	11128	11289	.....	.....

Source: Statistical Office of Estonia.

The observed worldwide decline in Europe and US somehow influenced the production in mid 80 –ties and this was most obvious for Bulgarian’s light industry in our case the footwear

manufacture, followed by steady decrease with starting of the transition period and opening of the economy, Fig. 1.2. However like in Estonia it is observed kind of stabilization of the production that start from mid 90 ties.

It can be maintain that the observed three times decline of the footwear production from 1989 is the sharpest for the observed three Central and East European countries. Since footwear industry was most developed in Poland it suffer more than the other countries. Transition brought about profound changes in organisation and structure of the industry. The reasons for these declines were of internal and external nature. The latter were mainly the results of Polish market opening to foreign production.

### 5.2.2 *Employment*

As in other European manufacturing industries, employment in the footwear industry has fallen steeply in recent years. Although the share of employment in total manufacture is less that one per cent for EU it is heavily concentrated in regions and sub-regions, which can be highly dependent on the sector.

In 1994 it accounted for 325 436 direct jobs in the EU15; since then it has fallen steadily, and in 1999 the total was under 300 000, four per cent down on 1998. Even so, the European footwear industry employs more than 288 000 persons directly. The figures for the 25 member states are the following, Table 1.3.

**Table 1. 5.3 Employment in Footwear industry – 25 member states**

<b>Years</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>
<b>Indicators</b>					
Number of firms	33,350	32,323	29,957	29,363	27,371
Direct employment	449,180	419,693	397,975	383,726	361,662

Sources: <http://europa.eu.int/comm/enterprise/footwear/development.htm>

As it can be seen the share of employment in the new member states is almost 50 per cent from the EU 15 – this percent will rise significantly if we count Bulgaria and Romania.<sup>81</sup>

The number of people employed in UK fall drastically for the footwear industry for half a century - from 112000 in 1950 to 6408 in 2003. (Bradshaw 1985; Key Notes 1984; Key Notes 2004). In Greece recent data show that the sector employees just over 3000 persons, which represents 1.3 per cent of the total employment in Greek manufacturing.

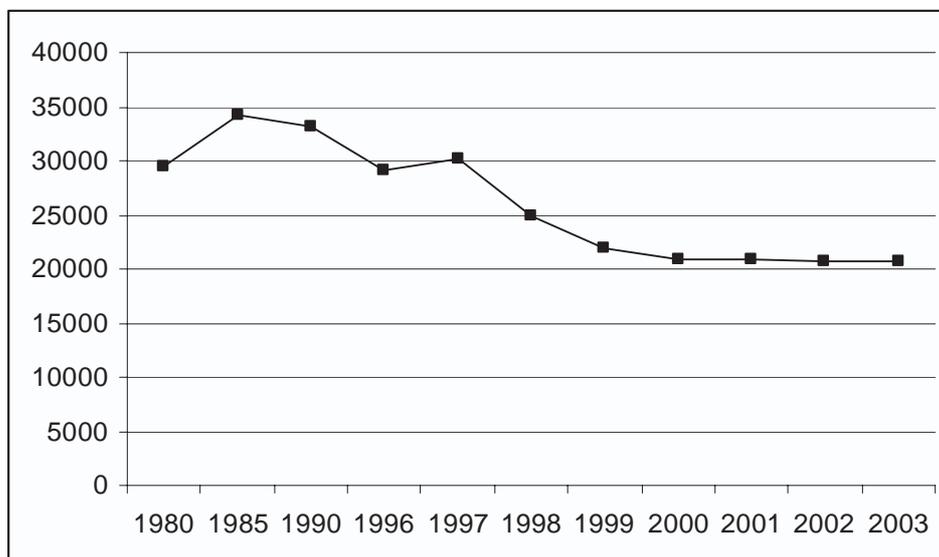
In Poland unlike to output, the employment in the footwear industry has been decreasing constantly after 1989. By 2003 the level of employment decreased by 75 per cent as compared to 19982. The fall in production was the main reason for the employment decrease at the beginning of 1990s. Later on, the fall was closely associated with the increase in productivity. Productivity in main footwear factories in Poland equals the European average (seven-eight pairs of shoes per day per employee). It gives the evidence of the progress gained from the 1980s, when productivity in the largest plants did not exceed two pairs of shoes per day per employee.

<sup>81</sup> Turkey that is a country always in accession has 325 000 persons employed in the footwear sector in 2001

<sup>82</sup> Industrial Statistical Yearbook 2004, GUS, Warsaw.

In Estonia it is observed kind of stabilization of the number of the employed in the footwear industry from 1996, Table 1. 2, however the share of employed in manufacture is declining.

In Bulgaria it is observed also stabilization of the employed in footwear industry (Fig. 1.2) but differently from Estonia the share of the employed in the footwear industry is raising.



**Figure 1. 2 Employees in manufacturing of leather and leather products in Bulgaria**

*Source: National Statistical Institute*

Thus we are coming to the fact that only in Bulgaria from the observed countries the employed in the footwear industry increased its relative share. It is the picture in Romania where the share of the employed in the footwear industry grows for the period from 3.7 to 6.2 per cent. Obviously the branch has different role in Southeastern countries like Bulgaria and Romania compared to Poland and of course quite different to the one it play in UK. This can be proved and from the fact that the coefficient of concentration<sup>83</sup> for Bulgaria and Romania are growing from one hand and showing higher levels compared the other labour intensive branches, these is especially obvious in the case of Romania.

#### 5.2.2.1 Share of footwear industry employed.

Within the overall EU manufacturing industry (EU-15), the footwear industry accounted for 0.9 per cent of employment. Footwear industry play different role as a share in the observed countries. In UK the share of the employed and production account to fairly less than one per cent from total manufacture employed and in Greece by 2003 the level of employment decreased by 75 per cent as compared to 1990. The picture in Poland and Estonia although not so sharp like in UK and Greece is definitely showing decline of the share of the footwear branch in total manufacturing, in Poland this share is 1.6 per cent with obvious tendencies for declining. For Bulgaria the share of the employed in the branch is 3.3 per cent in the beginning of transition and has increased with half percentage points in the last decade.

Speaking about changes of the manufacture composition and structural changes it should be underline that all these changes in Bulgaria are due to negative structural adaptations; in other words the changes are result of the different intensity with which decline the absolute employment in almost all manufacture branches. For example in Bulgaria the absolute increase of the number of employed in 2001 compared with 1990 is observed only for the 'Wearing

<sup>83</sup> Herfindahl index for absolute concentration and Krugman index for relative concentration (Totev 2004).

Apparel' branch – 6347 more person employed. For all other branches more or less the absolute number of employed decrease in 2001 compare to 1990. The observed negative structural adaptation in practice is showing to what extent given manufacture branches adapt to survive (like footwear industry) but still is not indicator for the real possibility of expanding the activity in these spheres. However one can generalize that the expecting role that the footwear industry will play in the manufacture development will be quite different in Bulgaria and probably in the other Southeastern countries compared the one in Estonia and Poland.

### 5.2.3 *Size and number of companies*

The footwear industry production is considered as one that is taking place mostly in small and medium-sized enterprises (SMEs). The European footwear industry consists of a large number of small or micro enterprises (some 20 employees), plus a number of large companies representing 20 per cent of all jobs. It is observed steady decline in the number of firms – for the years between 1999 and 2004 the number of firms decline with 18 per cent. Most of the enterprises are located in regions with little industrial diversity.

There are differences from one member state to the other in the 15 old EU member states. In 2002, some 12 600 companies operated in the footwear industry, employing about 260 500 workers. The size of the firms varies a lot; if in French and German businesses employ about 100 persons averagely, Spanish and Italian businesses employ about a dozen. The other member states lie between these two extremes.

In the new member states the average employed is close to the figures in Spain and Italy. Footwear company structure in CEEC is dominated by SME sized companies. Large companies inherited from the plan economy time as a rule face severe problems and are not competitive.

The picture of distribution of footwear branch by size of firms is showing tendencies of shifting the structure in favour of SME. In 2003 there were 250 footwear-manufacturing companies in the UK (345 in 2000). 150 of those companies had one-nine employees, 75 had 10-99 employees, and 25 had over 100 employees. They are approximately equally distributed across different turnover size bands with a slight dominance only in the £100,000-£249,000 size band where there are 60 companies or 24 per cent of all footwear companies.

In Greece the employed in the footwear industry accounts to less than 3000 in only 97 firms.

This process is obvious and for the former CMEA countries, in Poland which in 1989 was the fifth largest footwear producer in Europe by number of pairs manufactured (nearly 6480 companies are active in the industry that employ 40,000 people). Footwear production is today a domain of small private enterprises. Only 141 companies employ more than 50 people and 23 more than 249 people. Same is the picture in Estonia, there are two companies that employed more than 250 employees; five with employed between 100 to 249; 5 that have 50 – 99 16 with 20- 49; 12 10 – 19 and only 24 with one - nine employed.

Bulgaria is not making difference from these processes. However this shift in size of the firms is not so dramatic and the role of the branch as a part of the manufacture is increasing. In Bulgaria 25 per cent of the employed are working in four enterprises (with more of 1000 workers each) and 30 per cent are occupied in 21 firms with above 200 workers (by BEIS statistic, 2003). The processes of restructuring of the footwear industry have many features common to those in clothing industry. The footwear production was organized in several big enterprises (22 in 1989) with strong specialization by kind of production as women's footwear, men's footwear and children's footwear until their privatization. Then followed a production decline, work force reduction, sales of machines and creation of many new SME in the same locations. The obstacles, which the firms faced, were and are still available for many footwear firms, SME especially: disintegration of domestic inputs supply and marketing, low competitiveness, domestic market demand shrinkage, cheap Asian and Turkish imports). All this resulted in a continuous decreasing of the production and employment up to 1999 (Roukova, 2002).

#### 5.2.4 International trade: major players (countries)

Market access is the major problem for Europe's footwear industry since numerous parts of the industry have been destroyed due to unfair competition, closed export markets and high social costs.

Those sectors of the European footwear industry that have succeeded in exploiting their considerable competitive advantages (in particular in relation to quality, brand creation and fashion) are strongly competitive on international markets – despite the competition from low cost countries. The main EU export markets are countries where the average per capita income is high. EU exports to these countries are relatively stable. The distribution of exports between the EU's main export markets remained fairly stable. The largest export market is the United States (which accounted for 32 per cent of all EU exports in 2003), followed by Switzerland (13 per cent), Russia, Canada, Japan and Norway (approximately five per cent each).

**Table1. 5.4 Top 10 - 25 EU markets (1000 pairs)**

Top EU 25 markets (in thousands of pairs)	1999	2000	2001	2002	2003	share of exports	% growth 1999-2003
<b>World</b>	<b>228,207</b>	<b>236,848</b>	<b>226,835</b>	<b>214,270</b>	<b>181,454</b>	<b>100.0%</b>	<b>-20.5%</b>
USA	87,431	90,926	81,910	73,443	57,531	31.7%	-34.2%
Switzerland	24,788	24,917	25,553	22,831	22,820	12.6%	-7.9%
Russia	7,437	11,454	12,284	11,742	9,583	5.3%	28.9%
Canada	11,496	11,825	11,169	10,186	8,078	4.5%	-29.7%
Japan	11,515	10,734	9,906	8,778	7,999	4.4%	-30.5%
Norway	8,888	8,034	7,465	8,027	7,990	4.4%	-10.1%
Ukraine	5,338	6,400	5,477	7,746	6,031	3.3%	13.0%
Croatia	4,523	4,537	5,622	5,945	5,264	2.9%	16.4%
Cuba	872	951	1,041	951	3,538	1.9%	305.5%
Mexico	653	1,107	2,451	3,602	3,414	1.9%	422.8%

Sources: <http://europa.eu.int/comm/enterprise/footwear/development.htm>

However, similar to many other sectors, and as a result of the competition from low-wage countries (above all in Asia), exports fell from 228 million pairs in 1999 to 181 million pairs in 2003 (20 per cent negative growth).

The share of European producers in the European market is steadily falling from around 50 per cent in 1998 because of the constant rise of the import, Table1.5. In 1999, can be observed equilibrium between imports (904 million pairs) and production (975 million pairs). The main suppliers to the Community are China (which supplied almost half of the all EU imports in 2003 – 47 per cent), followed Vietnam (19.6 per cent), Romania five per cent, Indonesia (3.7 per cent) and India (2.9 per cent). In the same time the exports to the main countries supplying the EU remained negligible - and even fell from already low levels.

**Table 1.5.5 Top 10 suppliers (in 1000 pairs)**

<b>Top 10 EU-25 suppliers (in 1000 pairs)</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>share of imports</b>	<b>% growth 1999-2003</b>
<b>World</b>	<b>984,492</b>	<b>1,033,823</b>	<b>1,160,619</b>	<b>1,239,987</b>	<b>1,442,316</b>	<b>100.0%</b>	<b>46.5%</b>
China	367,695	384,239	415,855	468,704	676,097	46.9%	83.9%
Vietnam	196,148	211,925	275,312	284,028	282,798	19.6%	44.2%
Romania	42,941	51,046	60,988	66,505	72,013	5.0%	67.7%
Indonesia	66,948	66,911	66,105	62,552	53,074	3.7%	-20.7%
India	28,889	29,966	32,789	36,064	41,967	2.9%	45.3%
Thailand	35,442	35,973	36,393	37,428	34,964	2.4%	-1.3%
Turkey	15,775	14,139	20,081	25,893	30,883	2.1%	95.8%
Hong Kong	30,426	16,757	28,514	26,077	24,944	1.7%	-18.0%
Malaysia	6,991	10,145	14,925	23,076	24,754	1.7%	254.1%
Taiwan	58,256	61,424	50,493	39,824	22,942	1.6%	-60.6%

Sources: <http://europa.eu.int/comm/enterprise/footwear/development.htm>

Market access has become one of the priorities of European trade policy, and it is important that this priority is reflected in the negotiations on free trade agreements and in the framework of a new round of WTO negotiations. The competitive advantages gained by the footwear industry in some aspects over the last few years cannot be exploited unless European exporters benefit from genuine access to world markets - in both the provision of raw materials and the sale of finished products. The fact is that there are still many tariff and non-tariff barriers preventing European firms full exploiting their export potential.

In terms of international trade in 2001, the main exporting country from new member states are Poland (31 million), followed by Hungary (22 million), Slovakia (17 million) and the Czech Republic (12 million). The largest importing country is Poland (65 million pairs), followed by Hungary (43 million) and the Czech Republic (36 million) – import is exceeding the export and the tendency is like in the EU-15 member states.

In Slovakia, Bulgaria and Romania the export to the EU from footwear sector is of definite importance, while it is less relevant in the other new member states. While in Romania and Slovakia the sector exhibits growing surpluses, in Poland the trade deficit is continuously deteriorating. Compared to total manufacturing, however, the sector still shows a revealed comparative advantage, although it declined in many countries in the course of time.

Export shares grew only in Bulgaria and Romania, and fell in all the other countries. In general, however, export shares are larger than production shares throughout the region, reflecting the above-average export orientation of the leather and footwear sector and its importance for the economies of all CEEC. In 2003 Romania ranked the third place between ten top suppliers to EU countries (Table 1.5).

#### 5.2.4.1 Revealed comparative advantage analysis

Revealed comparative advantage values (RCAs) in relation to the EU for the leather and footwear sector were positive and stable for Bulgaria, Lithuania, Romania and Slovakia. In fact what concern only footwear industry the RCA-value for all CEEC together are positive.

The vision for EU footwear industry development is that the normal standard should be if EU manage to maintain around ten per cent of the world production and sales, which should be around 1.2 billion pairs a year. It is vital that the European footwear industry benefits from the globalization of trade in order to capitalize on its comparative advantages such as quality fashion design. Like any other industrial sector, to do this it needs markets, which are as open and reciprocal as possible.

### **5.3 Description of the value chain of the footwear industry**

Gereffi (2003) outlined the distinction between buyer-driven value chains and producer-driven value chains. In footwear industry, as a labour intensive one, the value chain is a buyer-driven model, where ‘retailers, marketers and brand manufacturers are strategic brokers in linking factories and traders with product niches in their main consumer markets...The profits came from combinations of high-value research, design, sales, marketing and financial services.’ (Gereffi *et al.*, 2003: 3). He paid attention on the need lead firms to be distinguished from not-lead firms. The first one control the access to the major resources. Gerrefi analyses the global value chain considering the contrast between standardized (mass-production) and differentiated (or-fashion oriented) goods as development implicators. The patterns and trade networks for these two types of production are very different. Standardized products are produced in a vertically integrated factories, another type – in a large number of small firms, shorter product cycles with extensive use of specialized networks for material or service inputs (Gereffi *et al.*, 2003).

EC reported that the specialized distribution plays a particularly important role in the European footwear sector and accounts for half of its turnover. There are some 80 000 sales outlets employing some 300 000 persons (about as many as the industry). A special relationship of service and trust has developed between retailers and consumers, in which children's footwear occupies a special place’ (<http://europa.eu.int/comm/enterprise/footwear>, 2005)

Only UK among the investigated countries obtains a top position in the footwear value chain. UK manufacturers produce specialist footwear such as safety and industrial footwear, manufacturing for the top end market: designer, hand-made formal shoes, and by positioning themselves at the top of the value chain in design. Thus although import penetration in the UK is 95 per cent, the market (with the exception of sports shoes) is dominated by UK brands. The substantially higher average price of UK exports indicates a movement towards production of specialized and designer footwear among UK manufacturers.

One of the specificities of the UK footwear sector is the complex retail distribution structure. Footwear is sold in specialist shoe shops which could be multiple or independent, in chain stores (such as Littlewoods, Next, etc.), in independent shops and chains clothing retailers, supermarkets, discounters, sports retailers, etc. (Bradshaw 1985; ICC1981; Key Notes 2004). Regardless of the variety of retail outlets the footwear retail market is dominated by multiple chains, with less than ten per cent supplied by independent retailers (BFA).

Production is the low-value added activity, which is the item of de - localization.

In the beginning of 1980s Greece was at the lowest levels of the value chain.

In an attempt to describe briefly the country’s position according to the value chain theory, one could say that Greece initiated from the lowest level, manufacturing only for the domestic market, advanced later on the value chain, becoming a subcontractor and exporting to other international markets (intermediary), but then failed to re-organize following the evolvments and the newly formed international environment. Recently, after the sector readjusted by declining significantly, it seems to have gained again a momentum to preserve a position somewhere in the middle level of the value chain. Thus, those latter efforts include both design and production, but also some supplies from low labour cost countries.

The majority of the exports were directed towards subcontractors in the USA, who had just spotted Greece on the footwear manufacturing world map. These trade links are thought to be

normal by the value chain theory, during the early development stages of a country, however, what Greece did not succeed in was that it remained dependent on those subcontracting relations, not attempting to build on them creating its own export structures, moving upwards the value chain. This may be explained if one studies the relevant data, since there is absence of any intermediary activity or of any design activity which would lead the sector upward in the value chain.

These deficiencies led to the decline of the sector, which is reflected in the low export volume during the 1980s. Furthermore, other factors influenced also the redirection of Greek footwear exports: firstly, the improved product quality of leather footwear (which was accompanied by an upward movement in the value chain), and then the notable decline of exports to the US, and the simultaneous increase of sales in West Germany and the USSR.

In the beginning of 1990s CEECs became very attractive for EU footwear firms.

Some of them were interested in subcontracting to Polish firms. (They were encouraged by differences in production costs.) But recently the share of outward processing trade in total output is not high (10-20 per cent). The main cause behind the decreasing significance of subcontracting was changes of exchange rates and growing labour costs (at a similar quality) in comparison to Asia. Subcontracting is often based on the design supplied by the contractor. In the same time Poland subcontracts production to other countries, aiming to improve its position in the value chain. Delocalisation of companies with indigenous capital does not seem to be significant. Over 90 per cent of the largest enterprises sell what was manufactured in domestic market. Subcontracting of footwear production to the Far East is remarkable in the case of some of the largest sales companies, e.g. CCC. There were some attempts of locating factories in Ukraine, Russia and Belarus. Such initiatives were oriented towards local markets of these countries.

Most of Estonian footwear enterprises are subcontractors to Swedish and Finish firms. Value-added of production is low.

Bulgarian footwear industry takes low position in the global value chain, producing parts for shoes, semi-finished products and shoes for the middle segment of the EU market.

#### ***5.4 Celebrated success stories (or failures) in the footwear industry***

##### *5.4.1 Success stories in the footwear industry*

The definition of 'the success' of the footwear firms are not very different from the other labour-intensive manufacturing firms. The assessment of success is connected with the firm's ability to adapt to the dynamic global economic environment, to create and maintenance appropriate vulnerability and quick-response to the changes of the both of international and domestic markets' requirements. The flexibility (in wider sense – of production and service manufacturing activities) and the optimization of linkages are the most important feature of the success.

Many factors reflect the footwear successful or unsuccessful firms' development in each of the investigated countries in 1980s and 1990s. They are different in EU countries - UK and Greece, with traditional market economy and CEE countries - Poland, Estonia and Bulgaria, which went through economic crisis and transition from planning to market economy.

The UK footwear firms de-localize the production developing their own capacity outside the UK (mainly the Far East, but also Morocco and Turkey), or outsourcing to the Far East, CEE countries and other low-cost labour countries. Leading companies in the footwear market are C & J Clark (manufacturer and retailer), Stylo (manufacturer and retailer), R Griggs Group (mainly manufacturer), Stead and Simpson Group, Studio Group, Holdings Ltd (retailer), Brantano (UK) Ltd (retailer), Shoe Zone Group. Most of the major UK footwear firms are both producers and retailers (C&J Clark Ltd and Stylo PLC), or retailers outsourcing from overseas. Only very few 'pure manufacturers' (as Dr Martens) operate in UK.

UK manufacturing is fragmented, which is a legacy of the dominance of small family businesses in footwear manufacturing and given the current conditions such companies are best suited for niche production, particularly in formal footwear, fashion footwear<sup>84</sup> and non-consumer specialized footwear<sup>85</sup> (Key Notes, 2004).

In Greece there is a turn by the firms to improve design and product quality, to follow fashion and consumer patterns. Therefore, the successful firms are those which produce higher quality – price footwear.

In Poland, Estonia and Bulgaria the successful cases of footwear firms are of small number. They are within the big firms mainly, which produce brand footwear (both foreign and their own). They distribute their production and some have brand shops, invest in new technology and product design, optimize the market linkages. Flexibility and fast response to the market, co-operation with Italian and Spanish designers and continuous reduction of production costs are the main the reasons for the success of Polish companies. Other important factors of success are the development and marketing of own brand name and maintaining own chains of retail outlets.

*Some of successful stories in footwear industry are:*

Wojas (Poland) is a good example of a successful company involved in production as well as in trade, one of the leading footwear producers in Poland. The company is one of the new firms operating on the site of the former giant state producer Podhale at Nowy Targ. The brand name Wojas is associated with high quality products on both Polish and foreign markets (Great Britain, USA, Russia, Lithuania, Germany, and France). Another good example of success is Ryłko. New opportunities for private producers triggered by the economic transformation and good name for Ryłko (established in 1950s) among customers enabled the company to build a modern factory.

In Bulgaria the cases are within the big firms mainly, which produce brand footwear (both foreign and their). They are Bulgarian firms - Flavia (Plovdiv), Record (Gabrovo), Kolev&Kolev (Sofia), Italian ones - Stara reka (Peshtera), Fortuna 2000 JS (Dupnica), etc.

Successful stories of delocalisation in Estonia are main companies, mostly producing footwear with leather uppers are Reester AS, Välk AS, Polaria AS and Festmark AS (all in Tallinn) and Samelin AS (Tartu).

The clusters are important for the success of both the footwear industry and the region itself.

The Northamptonshire cluster is the most significant in the footwear industry in Britain. The British Shoe Trade Federation is part of the cluster and the British Footwear Federation has recently re-located from London (DTI, 2004).

In Greece the concentration of footwear firms is in Athens and Thessaloniki, but in the region of Central Macedonia the firm interaction is greater than in Attica (Karabinis, 1990: 25; Vaiou et al., 1996: 90). It is a basic feature of this sector to forming informal clusters.

One of the features of footwear industry spatial development is the emergence of clusters of SMEs in proximity of a leading producer in Poland after 1990. This is especially obvious in Myszków- arki area (Krisbut), in Słupsk (Nord, Gino Rossi, Romano Mazzante), Nowy Targ (Wojas), and Kalwaria Zebrzydowska (Ryłko). Foreign enterprises are amongst the biggest companies in Poland in terms of employment and revenues. The largest are: Bama Polska in Gorzow Wielkopolski, Ricosta Polska in Zielona Gora, Romano Mazzante in Słupsk, Olip Group Polska in Kłobuck, Schoenfabriek Helioform International in Rzeszow, Emsold-Polen in Szczecin, Rega Szwecja in Ploty, etc.

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<sup>84</sup> In the early 1980s British retailers committed funds for the support of the development of UK freelance shoe designers in order to challenge the dominance of fashionable imports from the continent (ICC, 1981).

<sup>85</sup> Industrial footwear however is relatively small and only accounts for 4.7 per cent of the UK footwear market (Key Notes, 2004)

No footwear manufacturing clusters have been created in Estonia and Bulgaria yet.

#### *5.4.2 Failures in footwear industry*

The firms from UK and Greece, which have not enough capacity to manage with global market challenges go bankrupt easily. UK firms faced the dilemma to outsource their production or to replace their assets in overseas. Many Greek companies experience difficulties to transform their position from subcontractors to intermediators.

Most of the cases of unsuccessful strategies are failures of ex-state-owned enterprises, often influenced by unsuccessful privatization in Poland, Estonia, and Bulgaria. One of examples in Poland is the formerly leading producer Alka (Slupsk, Poland). But-S Company based in Lodz acquired the majority of Alka's shares in order to increase its production capacity. When difficulties with new orders emerged, But-S declared Alka's bankruptcy in 2004. Lack of success was most often triggered by mismanagement, e.g. collapse of Royce and Nowe Podhale (Poland) and failures in brand name and image development, for example the case with the firm Arcobaleno in Poland. Similar is the 'Garant' story (Kyustendil, Bulgaria).

Subcontracting from Poland to other countries is marginal. There were some attempts of locating factories in Ukraine, Russia and Belarus. Such initiatives were oriented towards local markets of these countries. The process of moving factories to Eastern Europe was partly a failure, because of the low labour culture of Ukrainian workers near Kiev. Some companies reported that heavy losses of material during production and bad worker practices outweighed savings based on low labour cost.

The footwear industry is not attractive (low payment for heavy working conditions) even for workers in the regions with high level of unemployment. For example in Bulgaria, in Kurdzhali district, an Italian firm built a shoe factory in 2002, but only half of the working places were occupied. In Greece the firms are facing the problem with a lack of skilled workers too.

Failures are observed in firms, which have produced sport's footwear as a result of the fast shift of this production to China and other Asian countries in the last years.

#### **5.5 What stages of footwear manufacturing are delocalised?**

The labor-intensive production processes of footwear manufacturing have been de-localized.

In the beginning of 1990s the EU footwear manufacturer incorporates the CEECs in vertical production schemes widely. Significant is the outsourcing of production of parts of shoes or semi-finished products. The production of standardized products shifts to China and to other Asian countries (Vietnam) in the end of 1990s.

The high value added activities as financing, design and marketing are carried out in the home locations. Recently some of these activities tend to be de-localized to host locations, but partially.

The UK footwear manufacturing is dominated by vertically integrated companies with an overseas network of suppliers.

The Greek manufacturers work under subcontracts and often they subcontract part of production to other SME in Greece. Lately, they have subcontracted production to the neighbouring countries (Bulgaria, FYROM and Albania).

CEECs are involved in the labor intensive activities as subcontractors. Similar to the above-described Greek practice, in Poland and Bulgaria the biggest firms subcontract part of production to a wide range of domestic SME. Nowadays this practice does not often take place in both countries, because the large companies do not fully utilise their production capacities.

## 5.6 Extent and form of delocalisation

### 5.6.1 FDI

The decline of footwear industry in EU 15 is not presupposing significant investments more over the footwear industry is not capital-intensive branch. Foreign direct investment plays major role into the new member state and candidate countries. However investments in leather and footwear sector are at the end of total manufacturing investments. Capital requirements are modest in comparison with other manufacturing activities.

The general tendency that can be observed is in obvious decreasing of the inward FDI for UK and Greece. For UK the investment in the combined sector of Textiles and leather peaked in the 1980s and 1990s is showing that if the annual investment are up to £659 million in 1998, they has been going down ever since to the current levels of £233 million in 2004\* (ONS 2005 Time Series). Inward investment in UK Textiles, clothing and leather sector 1991-2001 (in £ millions):

1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
772	223	1,667	429	556	1,125	743	797	1,887	3,926	-406

Source: UNCTAD FDI UK

FDI in Greece are negligible in the footwear industry 0.4 per cent of the total FDI in manufacture declining the footwear industry. Poland had not attracted much investment in footwear as compared to other CEEC, especially Czech Republic, Slovakia, Hungary. At present, Romania is the main recipient of FDI in footwear (Crestanello, Dalla Libera 2003), along with the Far East countries. These countries are the strongest competitors for Poland.

Foreign companies invested 31.4 million of USD in footwear in Poland until 2004. It represents 0.1 per cent of total FDI in Poland<sup>87</sup>. Foreign investment in footwear is among the lowest in Polish industry. More than five million USD was invested in only two factories, between one and five million USD in seven others. The majority of investment outlays came from Germany and Italy. In early 1990, the dominant motive behind the investment was an attempt to introduce company brand name to a Polish market. In the following years (1993-94) investment resulted mainly from cooperation with foreign trend-setting company (most often Spanish).

FDI in Bulgaria are not high for the entire leather, leather products and shoe-making branch as well, they account to approximately 3 per cent from whole FDI for manufacture. 'Most of the FDI to Bulgarian footwear industry comes from Italy in the form of take-over and joint ventures.' (Hanzl, 2001).

The attracting of FDI in the footwear industry of the former planned economy countries is showing that this process is mostly depended from situational factors. One example for that is the fact that Romania has attracted far most investments in this branch compared with its neighbour Bulgaria and one explanation for that is that Italian investors are finding less linguistic obstacles when investing in Romania

### 5.6.2 Subcontracting

As a reaction to the high cost of labour in the European Union, enterprises which have a cost-based strategy relocate part of their production – principally the manufacture of shoe upper leather without the inner sole attached — in low-wage countries such as those of Central

<sup>86</sup> FDI stocks abroad in the Textiles, clothing and leather sector were £37,897 million in 2001.

<sup>87</sup> Data are available only for investment over 1mln.

Europe, thus putting themselves in a position to offer competitive prices. The EU firms (EU-15) delegate certain parts of the manufacturing process to subcontractors in CEECs. Others prefer to relocate all production, for example to Southeast Asia, what have negative effects on European employment. According to analyses produced by the Confederation of the European Footwear Industry CEC, the number of jobs relocated comes to almost 17 000. Most of these jobs are a result of subcontracting. The major partners looking for subcontracting in CEECs are Italy and Germany.

Footwear industry subcontracting in new member states and Bulgaria and Romania has many advantages starting from better capacity utilization, regular sales and to saving time on marketing and distribution of the product or service in the target market. For local companies, subcontracting gives today an opportunity to sell their products on foreign markets and sustain employment – for example in 2003 24 per cent of the footwear industry in Estonia depends on subcontracting. However for Greece the negative breaking of the pattern of development of the footwear industry coincides with the first wave of outsourcing and/or subcontracting in the international footwear industry. The results for the sector were fierce competition from abroad, closure of many enterprises, decrease in employment and exports. As expected, these factors influenced also the balance of payments, and the effects are obvious in enterprises operating in the sector until nowadays (Karsaba, 1997).

### ***5.7 Why firms decide to delocalise their or part of their activities?***

The reasons for delocalisation are not mentioned in the national literature sources on footwear manufacturing in investigated countries. Nevertheless, they have been observed by individual researchers and have been discussed in key informants' interviews. Generally, the decision for delocalisation aims to improve competitiveness of the EU firms through decrease of labor costs. They have a significant share in the total production cost.

In 1990s the low labor costs in CEECs attract outsourcing from EU countries. In the last years the increase of labor costs in countries like Poland and Estonia redirected the delocalisation of footwear production to Romania, Bulgaria, and other non - EU states.

Brenton suggests that 'the labour cost considerations are important and can easily outweigh other factors such as proximity' (Hanzl, 2001).

### ***5.8 The pros and cons of delocalisation***

#### *5.8.1 For the firms involved*

The de - localization in footwear firms from home countries is estimated as a corporative development strategy, which copes with challenges of the global market through an increase of the competitiveness and profitability. The dynamics of linkages with retailers and marketers requires a competent management, which is crucial.

Among the positive effects for the host countries are: training in international production and marketing practices; improving labor productivity and quality; development of supporting additional activities; stimuli for developing of own products parallel to subcontracted production. Some negative effects for the host countries firms are worth mentioning: full dependence of the foreign or national contractors/middlemen; de-capitalization of the firms; short term development prospects, etc.

#### *5.8.2 For the employees involved*

The rate of unemployment among the workers increases in home countries as a result of delocalisation. The closure of enterprises and reduction of some activities make their skills in

footwear industry useless. They have to change their qualification, which is very complicated, taking time and resources.

The employees in the host countries like Poland, Estonia and Bulgaria are able to increase their labor skills, to learn and participate in implementation of new production and social practice.

### *5.8.3 For the countries involved (home and host)*

The delocalisation of European footwear industry began at the end of 1970s and during 1980s became much intensive. The footwear production was relocated from West European countries to South European countries like Portugal, Spain, Italy and Greece. In 1990s the shoe-making was outsourced from EU countries to CEE countries, North Africa, and to the Far East. The European map of footwear production and market was changed very fast during the last ten years (1995 -2005). The share of Asian (mainly Chinese and Vietnamese) shoes is growing at accelerated rates on EU market.

Hanzl paid attention to the geographical proximity and integration in footwear industry: 'Geographical location did play a role as well and neighbouring countries were also very often major trade partners (e.g. Slovakia and Czech Republic, Austria for Slovenia and Hungary). In the Baltic region, Russia and the Scandinavian countries were important export destinations. On the import side, main partners were again Italy and Germany, but China as well (cheap imports!), again with some regional differences, e.g. in the Baltics.' (2001)

The home countries kept their functions as such countries during the above mentioned period. In spite of decline of production and employment in the footwear industry UK continue to keep its position at the top of the value chain.

Transformations occurred in some of the host countries as Italy, Spain and Greece, which began to outsource or subcontract large-scale production to the CEE countries in 1990s. The negative pressure of global market changes in the footwear industry harmed very much these intermediary countries. On one hand they should manage with the competition with new subcontracting countries in order to keep the volume of orders, on other hand they should implement structural changes in order to develop their role as home countries. The problem is with the weak ability to respond to these challenges.

The effect for the host countries (Poland, Estonia and Bulgaria) is positive according to the creating of new working places, GDP, technological transfer, etc., but it is short-term. Competitive pressure of EU membership resulted in growing of labour costs and led to production decline in Poland and Estonia. The main problem for the host countries is the dependence of the export character of the sector and its low vulnerability of global political trade changes.

Both the European intermediary and host countries experience the negative effects of the Asian countries' competition.

### *5.8.4 For the regions involved*

The footwear production is regionally high-concentrated in the investigated countries, therefore it influences the regional development, although it has a relatively small significance in national economies.

In UK footwear production is concentrated in the East Midlands, especially Northamptonshire and Leicestershire, and in the South West especially Somerset, where C&J Clark Ltd headquarters and manufacturing units are located. Traditionally footwear was also produced in East Anglia, South Wales and the Northwest. The shoemaking in the UK was intended to serve the needs of the communities in which they were located and the legacy of these origins is that some of the firms are family businesses, even the leading firms (Bradshaw 1985; Key Note 2004 in the footwear industry such as C & J Clark, Dr Martens). The local orientation was also

a factor in explaining the restricted management capacity and abilities to operate in a global market (Bradshaw 1985; Interview Dr Martens 2005).

The Northamptonshire cluster employs 9,100 people, which is 52 per cent of the industry labour force, in about 200 establishments. Over 80 per cent of these jobs are located in just five local authority districts: Leicester, East Northamptonshire, Kettering, Northampton and Wellingborough.

The territorial distribution of the footwear firms shows that they are located in small towns in Poland, but in Greece, Estonia and Bulgaria they are in big towns. The creation of new firms and working places is very important for overcoming the unemployment problem in regions of the host countries.

For Greece regarding the geographical allocation, most of the enterprises were concentrated in and around Athens and Thessalonica, and a couple of few other regions of the country (Karabinis, 1990: 25; Vaiou et al., 1996: 90). The share of the production units established in Attica is 58 per cent and 25 per cent in Central Macedonia (especially in Thessalonica). The larger enterprises operate in Athens and Thessalonica.

The regional leader in footwear production in Poland is Malopolska (16 per cent of national output of leather shoes by pairs), followed by Pomorskie, Lubuskie and Slaskie (about 13 per cent each). The share of these four regions is as high as 57 per cent of total output. The biggest number of companies are found in Mazowieckie region. The bigger companies are concentrated in Malopolskie, Lodzkie, Lubelskie and Lubuskie regions. The latter represents an example of a small number of companies along with a high total output. It is due to operations of four companies, three of which are foreign-owned (Bama Polska, Helix Shoe, and Ricosta Polska).

The highest is the concentration of footwear firms in Tallinn (Northern region of Estonia). The share of other regions is relatively small.

In Bulgaria the figures of the spatial structure of footwear production show that 44 per cent of the footwear firms are located in the South West region and 29 per cent - in the South Central region (Bozhinova, 2003). These two regions have 45 and 30 per cent of the branch employment in 2002. The South Central region produces 45 per cent of all footwear (excl. sports footwear) in 2003 (NSI, 2004). The newly created SMEs are in the same regions and places where the big former state-owned enterprises were located. The industrial clusters do not exist anymore, however there is spatial concentration of companies of this branch in the districts of Plovdiv, Pazardjik, Kyustendil and Blagoevgrad. The shares of branch employment to the manufacturing employment on district level are significant for 3 districts: one with 15 per cent (Kyustendil) and two with 8 per cent each (Blagoevgrad and Pazardjik). The indexes of regional specialization (both absolute and relative specialization) are showing high levels for these regions.<sup>88</sup> The analysis outline that these levels, which are above the average are due to specialization in labour intensive industries (incl. footwear industry).

### ***5.9 How delocalisation is influenced by the existing governance structures***

The footwear industry is included together with textile and clothing industries in existing global, European and national trade policies. The patterns and intensity of delocalisation process in labour intensive industries fully depend on trade policy measures. Therefore political issues are considered in the analyses of their delocalisation.

After the Uruguay Round the footwear industry was integrated with textile and clothing into GATT/WTO. The Multi Fiber Agreement (MFA) from 1970s was replaced by WTO's Agreement on Textile and Clothing (ATC)(1995). ATC was based on ten - year transitional programme for the removal of quotas by 1 January 2005.

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<sup>88</sup> Herfindahl index for absolute specialization and Krugman index for relative specialization (Totev 2004).

Liberalization is to proceed along two paths: the first one concerns integrating of the above mentioned industries into the WTO framework and the other is related to the application of accelerating growth factors for MFA quotas. The ATC requires a gradual phase out of the quotas restrictions defined by MFA. Products covered by ATC are to be integrated in three stages under GATT rules. For each stage the percentage of each product is defined, and if any of the products come under the quotas, the quotas must be removed. At each stage the quota growth rates increase progressively (www.wto.org).

The tariff and non-tariff measures are elaborated and implemented. Environmental, social and healthy requirements are envisaged in many regulations.

MFA quotas created conditions for relocation and diversification of supply chains, which resulted in the so called 'quota geography' of production. Import restriction for some countries became an advantage for others. As a result, the competitiveness among the latter ones grew in significant degree. The MFA was implemented in order to afford an opportunity and reasonable duration for companies from developed countries (DCs) to adapt to the foreseeing liberalization of the market in 2005. The worldwide implemented outsourcing and outward production was developed by DCs in order to manage with quota restrictions and to improve their market positions. In this way they created unfavorable market competition for domestic producers with penetration of the markets by production from low labor costs countries, from Asian countries especially.

Under MFA and later - under ATC numerous multilateral and bilateral trade agreements were elaborated.

Adaptation of the EU footwear producers will change the linkages between them and CEEC's countries. The latter are main suppliers of parts of footwear and semi-finished shoes. But the well-established production links have a low effectiveness from the viewpoint of the competition on the global market. The policy efforts should target the optimization of these linkages. Another very important issue is the links with EU retailers and traders.

The priorities of EU trade policy for the footwear are defined by the Commission as follow:

- Improving the market access
- Respect of WTO rules and disciplines.
- China - autonomous quantitative restrictions
- Fight against fraud

*'In recent years, the sector has been confronted with a wide variety of fraudulent activities by which economic operators have tried to: circumvent commercial policy measures (such as quotas, or anti-dumping measures); unlawfully benefit from preferential tariff treatment (such as that granted in the framework of the Generalized System of Preferences, GSP); or*

*mislead EU consumers (e.g. by pretending EU origin of products which in reality have been produced elsewhere).*

*In order to fight against such fraudulent activities, OLAF has been carrying out investigations of alleged fraud cases for several years now. Moreover, the relevant services of DG TAXUD have taken various measures in order to ensure that shoes are classified in a uniform manner throughout the Community so as to avoid that trade policy instruments are circumvented by "mis-classifying" shoes under types of products which are not covered by those instruments.*

*One concrete result of the EU efforts to combat fraud has been the introduction of a surveillance system for footwear originating in Vietnam. The new licensing system does not*

*restrict the number of footwear that may be imported from Vietnam, but ensures that solely products manufactured in that country benefit from quota-free access and from the tariff preferences accorded under the GSP scheme. The validity of the system has been extended till the end of 2004.*

*Furthermore, in July 2003, the Council adopted a Regulation concerning customs action against goods suspected of infringing certain intellectual property rights and the measures to be taken against goods found to have infringed such rights. (1383/2003/EC, 22 July 2003).*

*The objective is to improve the working of the system concerning the entry into the Community, and the export and re-export from the Community of goods infringing certain intellectual property rights.*

*In short, the aim is to facilitate seizures by customs of counterfeit goods from outside the EU.*

*In each Member State, a right-holder will be able to apply in writing to the competent customs department for action by the customs authorities. The Regulation also fixes the measures to be taken by the competent authorities when the goods are found to infringe intellectual property rights. The Regulation shall apply with effect from 1 July 2004.' ([www.eu.int/enterprise/footwear](http://www.eu.int/enterprise/footwear), 2005)*

All attempts for softening of the negative effects on DCs' markets after liberalization were insufficient. The trade data confirms this fact– for example the import of Chinese footwear in EU countries grew up to 1000 per cent for some kinds of shoes (average growth is 700 per cent) for the first four months of 2005. Additional negotiations between EU and China will prolong the adjustment terms up to 2008.

The situation of national policies in the investigated countries is presented below.

Most important for UK footwear manufacturing is EU legislation such as anti-dumping, minimum wage, working hours.

Studying the footwear sector in Greece, one has to take also into account other important sociopolitical aspects, which took place during the last decades and affected this sector, among others. The nodal point was the entrance of Greece to the EU – entrance in the EMU 15 years later was a crucial point – and the interconnected shift of governance from Athens to Brussels. Before the Treaty of Maastricht was signed and during the GATT Round in the early 1990s, European industrial policy was very heterogeneous. EU encompassed at that time both developed and developing countries – Greece was considered to be in the latter group – and there was an ongoing debate about future industrial policies. Footwear manufacturing was considered to be a 'sensitive' sector, but there was no respective policy to protect it from competition coming from third countries. European tariffs were around 20 per cent – or as low as 4.6 per cent for certain footwear products – when Japan applied a 'special tariff' at 27 per cent, and a general tariff of 60 per cent. Respective tariffs in Brazil were 170 per cent, in Australia 134 per cent, in P.R. of China 100 per cent, and in S. Korea were reduced at 20 per cent, but other non-tariff restrictions were applied (Karabinis, 1990: 63). Therefore, it was extremely difficult for entrepreneurs to influence related legislation and policies, since they had first to lobby people in Athens, who then had to transfer their concerns and requests to Brussels. In plain words, Greece footwear manufacturing lost any previous beneficial treatment and was obligated to compete in the free market, without – or very low levels of – any subsidies or protectionist policy. In any case, this was and still is a changing environment, where manufacturers have to adapt in order to survive.

*Footwear manufacturing has to conform to certain international standards.*

*Since March 1996, according to Greek Regulation 9/95, all footwear should be accompanied by a special label, indicating the materials used.*

*Since January 1997, according to European Regulation 165/97, there has been a temporary anti-dumping tariff imposed on certain imports from China and Indonesia.*

*(Karabinis, 1990: 45; Karsaba, 1997: 58-59)*

The last regulation did not apply to athletic footwear (Karsaba, 1997: 58-59), which should be stressed as a distinguishing line between athletic and other (mainly) footwear. Although there are various scenarios to explain the latter, it may be implied that no tariff was imposed on athletic footwear from Asian countries, since they were the major subcontractors of international brand names (NIKE, Reebok etc), and there existed no equivalent European competitor (such as Adidas nowadays).

The role of regulations in footwear industry is highly important. In Poland, in the beginning of transformation the cancellation of the regulation according to which company owner must be granted a license of a master craftsman, fuelled emergence of many small companies. The suspension of supplementary charges to children's shoes manufactured in Poland led to a decline of production in this segment for few years.

In the last few years, the major policy issue are attitudes to imports from the Far East. After introducing compulsory surcharges for imported shoes, import decreased rapidly in 1999-2000. The downward trend was reversed in 2001 and the following year imports reached the levels observed in 1996 -1998, when there was no charge on China products. The growing imports, in spite of enforced charges, were a result of avoiding regulations by importers. The Chinese products were sold, for instance, to Vietnam, and exported from there to Poland. The regulations that make it more difficult to import from China were abolished in the beginning of 2003 as a result of accommodating Polish law to EU standards. That has immediately led to rapid growth in imports. Experts from the industry claim that the Polish market may be stabilized, when imports do not exceed 50 per cent of domestic production. At present the balance is as 60 to 40. There is a lack of appropriate custom regulations, which take into consideration high variety of shoes stock. The Polish Chamber of Footwear and Leather Industry presses on regulating the imports from the Far East. Joint action by Ministry of Finance, Labour Inspections, Customs Chambers have been undertaken to ensure monitoring on the minimal prices of the sensitive for the domestic producers kinds of footwear. Another key issue for footwear producers is the currency policy. The increase of value of Polish Zloty to Euro by 20 per cent during 2004 was a hard blow for producers and exporters.

The Estonian footwear industry is envisaged in the Economic Development Strategy, which focuses on following main key areas:

- Development of export, the image and competitiveness of Estonian products and services in foreign markets.
- Raising the competitiveness of companies through technological development and innovation.
- Development of human resources.
- Regulative and institutional framework of entrepreneurship, quality of public sector services.
- Support to fair competition.
- Access to capital.

In Bulgaria many regulations were elaborated so as the EU requirements for footwear production would be implemented by producers (for example measures for adoption of the Directive 94/11/EC - labeling of the materials used in the main components of footwear, etc.). At a national level a strategy for development of leather and footwear industry is being currently worked out in Bulgaria. This sector accounts for a very small share of the Bulgarian manufacturing and for that reason it is neglected (key-informant, 2005).

The national policy frameworks are still very weak in supporting national footwear industries. The effectiveness depends on the collaboration between stakeholders both on EU and national levels.

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## 6 Delocalisation in the electronics industry

Kaarel Kilvits; Rünno Lumiste

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### 6.1 Introduction

Electronics industry together with software play in the IT revolution the same role as using of steam power played two centuries ago in first industrial revolution. Electronics industry products are used in all sectors of economy and they change both working processes and home life of people.

Basic function of electronics products is processing and transmission of data. Electronics industry presents interest of all industrialised and emerging countries because it helps to optimize the functioning of other economic sectors, is significant for producing defence and security products, employs substantial number of workers and engineers and is primary tool for moving into knowledge economy.

Leading role in electronics industry innovation play large vertically integrated multinational firms. Major international firms are holding the proprietary know-how: patents, trademarks and control the distribution channels of electronics products. Among the important players are also specialized firms and universities. Electronics industries various sectors have fast changing consumer preferences. In sectors like digital cameras, LCD TV sets and mobile phones is harsh competition and consumers are willing to pay extra price for only innovative or customized products.

There is a huge competition in the world electronics industry from low cost countries (China etc.) for simple (cheap) products, as well as from developed industrial countries for high-quality products.

We live in an intricate era and harsh world. There is a cutthroat competition between economic unions, states and regions. Delocalisation (the shifting of work to low-cost countries) of electronics industry has been a difficult problem for the European Union during the past 10 years. Delocalisation is not always an option for countries/regions/firms. Firms realise that they must internationalise or they cannot be competitive.

Delocalisation takes place, as companies are forced to lower their production costs so as to stay competitive. It is not only labour cost, but also general production cost where labour is only one of the factors. Other costs are fiscal taxes, environmental taxes, energy, cost of land, cost of capital etc. Cost of labour is not only money paid per hour, but also pensions, health service contributions etc.

Growing globalisation and free trade are factors enhancing delocalisation. Factors that are shaping delocalisation, making it weaker, are security and transport. Not everything can be delocalized because it is not wise to hand over some technology to other country or it is too expensive because of transport. Transport is not only a simple cost of moving goods, but also the cost of time (some amount of capital is being frozen in tradable goods).

Delocalisation of electronics industry began in USA – they moved production to Asia and Mexico. European companies followed this trend. At first they were protecting technology, so only simple tasks were delocalized. Now everything went even to China. Chinese now are

easily copying design and technology and after a few years they will conquer the world not with delocalized by western products but with they own makes.

Productions are moved to China not only because of lower labour costs. Companies believe also in the large Chinese market. But outsourcing to China has also many problems. There are laws but they are not implemented and many companies are concerned about that.

A future direction for delocalisation of electronics industry is India – almost as large as China with better education, knowledge of English, better infrastructure, obeying property laws etc. Many engineers from India work in US electronics industry and they are a natural bridge to this country.

## **6.2 Classification of Electronics Industry**

The EU Commission has no official terminology for the term “electronics industry”. The official name of unit G.3 of DG Enterprise is: “Mechanical and electrical engineering and radio and telecom terminal equipment industries”.

A more general term can be found by using NACE (Rev. 1.1), Statistical Classification of Economic Activities in the European Community, more precisely Chapter 32 “Manufacture of radio, television and communication equipment and apparatus”, or any of the 3 sub-divisions:

- 32.1. Manufacture of electronic valves and tubes and other electronic components.
- 32.2. Manufacture of television and radio transmitters and apparatus for line telegraphy.
- 32.3. Manufacture of television and radio receivers, sound or video recording or reproducing apparatus and associated goods.

The office equipment including computers of NACE Division 30 constitutes a clearly distinct economic activity with its own manufacturers, product range, distribution channels, applications and associations representing that industrial sector, all different to those of general electronics.

Division 31 is electrical equipment. Within that Division, Class 31.61 represents electrical equipment for motor vehicles. Some electronic components for vehicles are found in that class too, as they are found in many other products.

Division 33 comprises all types of instruments (precision, measuring, control, optical, medical, clocks, etc.). They are all classified together under NACE 33 because their main function is being instruments.

There is no existing certain other classification or terminology that takes into account all electronic products from different NACE chapters (certain roof for term “electronics industry”).

Electronics industry by terminology is an industry where electrical devices that operate by controlling the flow of electrons or other electrically charged particles are used (Wikipedia, 2004). Theoretically and in rare cases, the same functions are possible to perform mechanically (or in combined form electro-mechanically). For example, it is possible to build simpler mechanical computers.

NACE 1.1 classification (adopted by European Union) system divides industries by the use of final products. For example, dairy industry, motor vehicle industry. NACE 1.1 classification and the European Union’s don’t distinct “electronics industry” as a separate activity. Manufacturing activities that use electronic components are classified into different manufacturing sections (Eurostat, 2004).

Classification of “electronics industry” in North America (USA, Canada, Mexico) seems to be more sophisticated and up-dated. Unlike the European Union, also intermediary products like manufacturing of semiconductors and capacitors classified into sub-groups (U.S. Census Bureau, 2004).

In our study we use also the following classification according to end use:

- Consumer electronics. Sometimes is divided into brown goods with strong electronic content (like DVD players) and white goods with smaller electronic content (like refrigerators).
- Computers and office equipment.
- Telecommunications.
- Automotive electronics.

In our study we also use the following classification by position in the supply chain:

- Contract manufacturing.
- Electronic component manufacturing.

We take into consideration the fact that very close (in the same networks) to electronics sector are also:

- Producers of industrial plastic parts (for electronics industry).
- Producers of industrial metal parts (for electronics industry).

In addition to the above, a number of products commonly recorded as electrical/electronics industry products are relevant to the study because of their close relationship to the electronics industry. These are:

- Electrical/electronic measuring equipment.
- Electro-medical equipment.
- Control and automation equipment.

Actual market activities often do not follow the statistical classification. Thus, only few companies may be strictly categorised in accordance with the classification. The production of many companies cuts across more than one of the subsections listed above.

For practical purposes, the following grouping has been used before for research of electronics industry (Estonian Ministry of Economic Affairs, 1995) and probably it is reasonable to use such grouping also in the current study:

- Electronic components.
- Assembly of electronics.
- Telecommunication equipment.
- Process and security electronics.
- Consumer electronics.
- Computers.
- Instruments (electromechanical/electronic).
- Distribution of components.

In many European countries, electronics industry is divided between four sectors (Statistical Office of Estonia, 2004):

- manufacture of machinery and computers;
- manufacture of electrical machinery and apparatus;
- manufacture of radio, television and communication equipment and apparatus;
- manufacture of medical, precision and optical instruments.

### 6.3 Main Tendencies of International Electronics Industry

The electronics industry as it is defined today is young compared to other industrial sectors. This industry started to develop only in the 1950s.

The electronics industry is more than other sectors driven by market forces. Products are produced where the costs are minimal. Investment in production equipment is affordable and equipment can easily be moved from region to region. Skilled labour is seldom used in actual production (as opposed to R&D) except for a few technicians.

The electronics industry typically consists of companies that have developed from producing mechanical parts to electronic parts. IBM, International Business Machines, is an example of companies that have moved from producing mechanical typewriters to electronic typewriters and to laptop computers with nearly no mechanical parts. Most of the electronics companies still have a mechanical element of their origin. Another way into the business is from research projects, either in software or hardware. The latter type of company is especially focused on production where the cost is minimal. The companies have typically no production but only R&D and sales, including marketing, distribution, etc.

The suppliers of components to the industry are more burdened with investments in equipment, which, moreover, cannot be moved easily. Know-how and skilled labour is very important in this sector. Custom-designed components like transformers, PCBs etc. are produced in smaller shops throughout the world. Conversely, components like resistors, dynamic random memories (DRAMs) and similar products are produced in large quantities in only a few factories worldwide. Custom-designed components like ASICs or some other integrated circuits where the initial investment is enormous are produced in highly specialised factories.

The selection of the electronics industry as one of four branches in current project was based on (MOVE, 2003: 13; Benner, 1998):

- its dynamic and increasingly global nature;
- the potential benefits it has offered in terms of skills and income generation;
- the implications for greater localisation of the production process as a result of recent technological change.

The existing literature suggests that the globalisation of electronics industry is leading to an increasingly diverse set of opportunities for countries and regions located in the Eastern and south-eastern periphery of the EU. These opportunities can be broadly grouped into three categories (MOVE, 2003: 13):

- foreign direct investments;
- subcontracting;
- trade.

Several developments in the electronics industry have made it easier to locate an increasing share of manufacturing processes elsewhere in the world. These included (MOVE, 2003: 13; McMillan *et al.*, 1999):

- the replacement of metallic parts by plastic parts, which are easier to produce and transport;
- the spread of standard integrated circuits and printed circuit boards has led to a substantial reduction in the number of components;
- the simplification and automation of the production process. This means that the quality as well as the quantity of components can be substantially improved, even with a workforce that has not been exposed to a long tradition of mechanical engineering.

Most of the foreign direct investments into electronics industry have gone to Asia. This decision appears to be driven by a number of factors (MOVE, 2003: 13):

- access to local markets;
- access to relatively cheap and skilled labour;
- number of logistical considerations.

During the 1990s, sub-contracting arrangement had become an important practice in the electronics industry. Firms prefer to focus their activities on specific core competencies, and purchase the other services and intermediate goods from other companies. In the electronics industry there are two distinct forms of sub-contracting (MOVE, 2003: 13; Ernst, 1997):

- The first involves the decentralisation of parts of the manufacturing process, as well as dispersal of support services. In this way the firm gets the best services at the best price and best quality. Moreover, the firm is able to concentrate more on improving its products and making them more competitive.
- The second type of sub-contracting involves production of final products. This is probably the least costly way for a firm to enter international markets. The manufacturer from the EU provides detailed technical blueprints and technical assistance in engineering and process technology and allows the contractor to produce according to specifications.

The growing global integration of the electronics industry is a result of technological change. The form of contractual arrangements is a key influence in the emerging changing geography of production in labour-intensive industries.

There are three types of such relationships (MOVE, 2003, 14):

- Contract manufacturing. In the context of labour-intensive industries this appears to be the most significant way of integrating formerly detached enterprises and regions in the European and global network of production and distribution. This means that firms in the country of destination focus on parts or entire production process, whereas other tasks – invariably involving greater content and value added – are maintained by businesses in EU members.
- The establishment of subsidiaries.
- The formation of joint ventures.

At a very abstract level, the proliferation of models of firms may be captured by the following taxonomy (MOVE, 2003: 14; Pitelis, Sugden, 1991; Wells, Rawlinson, 1994):

- Delocalisation of international sub-contracting. Firms may develop networks of international contractual arrangements, which tend to become governed by the international division of labour, and by a production factor price differential between countries. The strategic functions of the enterprise remain firmly rooted in specific territories but the mobile fringe of outsourced components moves frequently to run after cheap labour, and to use more flexible segments of the peripheral international labour force.
- Transnational Producers. This is a more radical pattern of global and European integration with the aim of not just reducing production costs but also of penetrating foreign markets (a case highlighted in the electronics industry).
- Globalised Producers. A deeper degree of integration may occur when companies decide to internalise the division of labour within a network behaving globally. As a consequence, one unified production network is created and individual units within each different country become integrated parts within a clear logic of specialisation and standardisation plus diversification of production.

In addition to those three general forms, we have the intermediaries for global buyers in volatile new markets (ex local producers become intermediaries developing new sources of supply and withdrawing gradually from assembly).

Innovation is not slowing down in the electronics industry. Innovation is continually pulled by the “Moore Law”, which describes the exponential increase in chip functions combined with their exponential cost reduction. This enables continual new applications for electronics, and continual price decreases that open up new markets. Innovation is becoming more diffuse. The major growth leader during the coming period will be automotive electronics (World Electronics Industry, 2005).

The structure of world electronics production by sectors is given in Table 6.1.

**Table 6.1. World electronics production by sectors, 2002-2007 (billion euros) and average annual growth rate (2002-03, 2003-04 and 2002-07), %**

Sector	2002	2007	2002-03	2003-04	2002-07
Consumer electronics	204.6	271.0	4.5%	6.3%	5.8%
Computers	370.6	492.9	7.1%	6.3%	5.9%
Telecommunications	195.4	267.2	1.4%	8.5%	6.5%
Avionics, Space, Defence	89.3	109.4	-0.9%	3.7%	4.2%
Automotive	93.4	154.5	9.9%	12.2%	10.6%
Energy, Industry and Services	188.2	246.3	1.6%	5.0%	5.5%
TOTAL	1141.4	1541.3	4.4%	6.8%	6.2%

Source: Electronics.ca Publications, 2005.

As we can see in Table 6.1, the biggest production sector of electronics industry in 2002 were computers (32.5%), followed by consumer electronics (17.9%), telecommunications (17.1%), energy, industry and services (16.5%), automotive (8.2%) and avionics, space, defence (7.8%). But biggest average annual growth rates in 2003-2004 were in automotive (12.2%) and telecommunications (8.5%). Same tendencies are prognosticated also for the period 2002-2007 (10.6% and 6.5%).

The structure of electronics production by regions is given in Table 6.2.

**Table 6.2. Electronics production by regions, 2002-2007 (billion euros) and average annual growth rate (2002-03, 2003-04 and 2002-07), %**

Region	2002	2007	2002-03	2003-04	2002-07
Europe	280.9	355.7	1.0%	5.7%	4.8%
North America	315.9	382.2	1.1%	4.2%	3.9%
China	186.3	360.8	21.5%	15.4%	14.1%
Japan	160.2	182.4	0.9%	2.3%	2.6%

Other Asia Pacific	154.0	187.0	-1.0%	4.8%	4.0%
Rest of the World	44.2	73.2	7.4%	10.6%	10.6%
TOTAL	1 141.4	1 541.3	4.4%	6.8%	6.2%

Source: Electronics.ca Publications, 2005.

As we can see in Table 6.2, the biggest producer of electronics production in 2002 was North America (27.7 per cent from total world production), followed by Europe (24.6%), China (16.3%), Japan (14.0%), other Asia Pacific (13.5%) and the rest of the World (3.9%). But the situation in electronics production is changing very rapidly. China has the biggest average annual growth rates (21.5% in 2002-2003 and 15.4% in 2003-2004) and a very big development potential. As early as in 2007, the electronics production of China will be practically on the same level with North America and Europe and continuing its fast development.

The structure of electronics market by region is given in Table 6.3.

**Table 6.3. Electronic products market by regions, 2002-2007 (billion euros) and average annual growth rate (2002-03, 2003-04 and 2002-07), %**

Region	2002	2007	2002-03	2003-04	2002-07
Europe	328.7	410.6	2.3%	5.0%	4.5%
North America	399.5	487.7	2.7%	4.6%	4.1%
China	93.5	210.8	17.4%	22.5%	17.7%
Japan	137.4	163.2	1.9%	4.3%	3.5%
Other Asia Pacific	91.3	141.0	9.3%	8.7%	9.1%
Rest of the World	91.1	128.1	4.7%	5.8%	7.1%
TOTAL	1 141.4	1 541.3	4.4%	6.8%	6.2%

Source: Electronics.ca Publications, 2005.

As we can see in Table 6.3, the biggest electronic products market in 2002 was North America (35.0 per cent from total world market), followed by Europe (28.8%), Japan (12.0%), China (8.2%), other Asia Pacific (8.0%) and the rest of the World (8.0%). But the situation is changing. The biggest average annual growth rates are in China (17.4% in 2002-2003 and 22.5% in 2003-2004) and other Asia Pacific (9.3% in 2002-2003 and 8.7% in 2003-2004). But in 2007, two biggest markets will be North America and Europe.

All trade statistics of electronics goods is based on United Nations COMTRADE database. Electronics industry goods belong mainly to 3 commodity groups (HS 8471, HS 85, HS 90):

- **HS 8471** – Automatic data-processing machines and units thereof; magnetic or optical readers, machines for transcribing data into data media in coded form and machines for processing such data, not elsewhere specified or included (computers).
- **HS 85** – Electrical machinery and equipment and parts thereof; sound recorders and reproducers, television image and sound recorders and reproducers, and parts and accessories of

such articles (electrical equipment, electrical components, electronics components, telecommunication, car electronics).

- **HS 90** – Optical, photographic, cinematographic, measuring, checking, precision, medical or surgical instruments and apparatus; parts and accessories thereof (in this group are photocopiers, cameras, medical apparatus).

The world trade volumes of electronics industry products by commodity groups are given in Table 6.4-Table 6.12.

**Table 6.4. World trade volume of electronics industry products, commodity group HS 8471 (in billion dollars)**

	1990	1995	2000	2003
Export	27.5	123.4	198.8	196.7
Import	29.8	137.5	218.4	217.6

Source: UN Comtrade, 2005.

**Table 6.5. World trade volume of electronics industry products, commodity group HS 85 (in billion dollars)**

	1990	1995	2000	2003
Export	162.6	631.6	983.6	938.7
Import	125.2	610.3	992.9	974.8

Source: UN Comtrade, 2005.

**Table 6.6. World trade volume of electronics industry products, commodity group HS 90 (in billion dollars)**

	1990	1995	2000	2003
Export	39.9	133.9	194.2	221.9
Import	35.0	131.6	191.9	226.2

Source: UN Comtrade, 2005.

As we can see in Table 6.4-Table 6.6, the biggest commodity group is HS 85 (69.2 per cent from exports and 68.7 per cent from imports in 2003).

TOP importers and TOP exporters of electronics industry products by commodity groups are given in Table 6.7-Table 6.12.

**Table 6.7. TOP importers of electronics industry products, commodity group HS 8471**

State	Volume 2003, in billion dollars	Share in world imports in 2003, %	Volume 1995, in billion dollars	Volume 2003/1995, %
USA	53.0	24	35.4	148
Germany	17.8	8	13.4	133
Netherlands	17.0	8	8.2	207
Japan	15.9	7	10.4	153
UK	15.2	7	11.9	128
Total	217.6	100	137.5	158

Source: UN Comtrade, 2005.

**Table 6.8. TOP exporters of electronics industry products, commodity group HS 8471**

State	Volume 2003, in billion dollars	Share in world exports in 2003, %	Volume 1995, in billion dollars	Volume 2003/1995, %
China	41.0	21	2.3	1783
USA	21.6	11	23.1	94
Netherlands	17.6	9	7.7	229
Singapore	15.7	8	19.5	81
Germany	12.3	6	7.4	166
Japan	8.3	4	17.2	48
UK	9.6	5	11.5	83
Total	196.7	100	123.4	159

Source: UN Comtrade, 2005.

**Table 6.9. TOP importers of electronics industry products, commodity group HS 85**

State or economic union	Volume 2003, in billion dollars	Share in world imports in 2003, %	Volume 1995 in billion dollars	Volume 2003/1995, %
USA	161.0	17	116.0	139
China	103.9	11	32.4	321
Hong-Kong	74.6	8	19.4	385
Germany	68.0	7	47.9	142
Japan	48.0	5	45.4	106
Singapore	45.1	5	19.3	234
UK	42.0	4	43.0	98
S. Korea	38.5	4	17.3	223
Mexico	37.2	4	26.7	139

Malaysia	35.7	4	32.5	110
NAFTA	224.4	23	155.0	145
EU	273.4	28	187.2	146
TOTAL	974.8	100	610.3	160

Source: UN Comtrade, 2005.

**Table 6.10. TOP exporters of electronics industry products, commodity group HS 85**

State or economic union	Volume 2003, in billion dollars	Share in world exports in 2003, %	Volume 1995 in billion dollars	Volume 2003/1995, %
USA	112.5	12	91.9	122
Japan	104.2	11	108.5	96
China	89.0	9	19.0	468
Germany	80.7	9	56.8	142
Hong Kong	71.6	8	38.3	187
S. Korea	55.0	6	38.1	144
Singapore	54.8	6	40.3	136
Mexico	41.0	4	20.3	202
Malaysia	39.6	4	29.4	135
UK	36.0	4	31.1	116
NAFTA	166.7	18	121.7	137
EU	279.0	30	196.8	143
TOTAL	938.7	100	631.6	149

Source: UN Comtrade, 2005.

**Table 6.11. TOP importers of electronics industry products, commodity group HS 90**

State	Volume 2003, in billion dollars	Share in world imports in 2003, %	Volume 1995 in billion dollars	Volume 2003/1995, %
USA	39.4	17	23.0	171
China	25.1	11	3.3	761
Germany	17.0	8	12.2	139
Japan	15.0	7	9.0	167
UK	12.4	5	8.0	155
France	11.6	5	8.2	141
TOTAL	226.2	100	131.6	172

Source: UN Comtrade, 2005.

**Table 6.12. TOP exporters of electronics industry products, commodity group HS 90**

State	Volume 2003, in billion dollars	Share in world exports in 2003, %	Volume 1995 in billion dollars	Volume 2003/1995, %
USA	44.0	20	27.4	161
Germany	29.0	13	19.0	153
Japan	27.6	12	26.0	106
Netherlands	13.5	6	6.8	199
UK	11.9	5	8.4	142
France	10.3	5	7.0	147
Hong Kong	9.2	4	4.8	192
China	10.5	5	2.4	437
TOTAL	221.9	100	133.9	166

Source: UN Comtrade, 2005.

As we can see in Table 6.7-Table 6.12, the biggest importers are USA, China, Hong-Kong, Germany, Japan etc. The biggest exporters are USA, Japan, China, Germany, Hong-Kong etc.

#### **6.4 Electronics Industry in the European Union**

EU companies compete worldwide in all market segments. The EU is an important producer of electronic goods, accounting for about a quarter of world production. It is also an important market (the world's largest computer and office equipment market and the second largest telecommunications and consumer electronics market after the US (European Commission, 2004).

The European Union electronics sector includes the following subsectors:

- Computers and office equipment.
- Telecommunication equipment.
- Electronic components.
- Consumer electronics.

European Union trade in electronics sector is dominated by imports, particularly from US and Japan. Together, these two countries account for half of total EU imports of electronics. In recent years, the electronics trade balance has been increasingly negative. Trade in this sector is fully subject to WTO rules.

**The electronic components industry** represents a vital input to other industrial sectors, in particular to the computing, automotive, telecommunications, consumer electronics and defence industries. The average value content of electronic components in the finished electronic products is 20 per cent. It also plays a vital role as a motor for innovation (European Commission, 2004).

Components are divided (European Union, 1994):

- Active components: semiconductors, microcircuits, valves, tubes and optoelectronics components.

- Passive components: capacitors and resistors and other magnetic and ceramic components; electro-mechanical components (printed circuit boards, connectors, relays, switches, keyboards and other functional devices).

**Semiconductors**, and particularly integrated circuits (ICs), are the most strategic component segment. Semiconductors occupy a special place in electronics industry. Semiconductor devices as diodes, transistors, microprocessors, thermistors and integrated circuits can be found everywhere in electronic products, in DVD players, televisions, automobiles, washing machines and computers (Lynden *et al.*, 2001). Semiconductor products constitute the hearth of electronic devices.

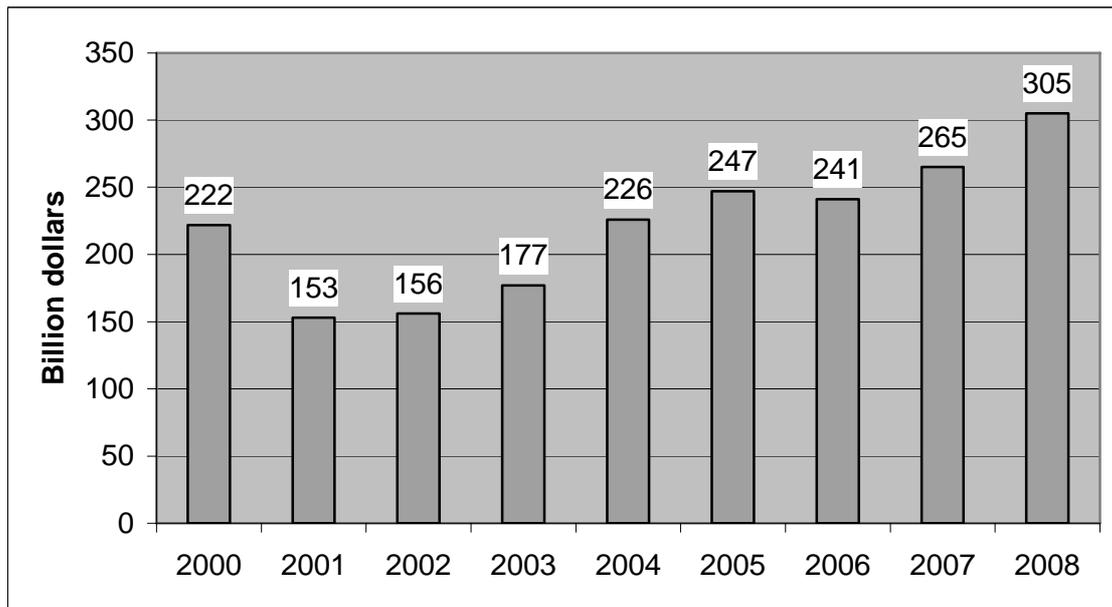
Semiconductors can be divided into the following categories (Investopedia, 2005):

- **Memory:** Memory chips serve as temporary storehouses of data and pass information to and from computer devices' brains. The consolidation of the memory market continues, driving memory prices so low that only a few giants like Toshiba, Samsung and NEC can afford to stay in the game.
- **Microprocessors:** These are central processing units that contain the basic logic to perform tasks. Intel's domination of the microprocessor segment has forced nearly every other competitor, with the exception of Advanced Micro Devices, out of the mainstream market and into smaller niches or different segments altogether.
- **Commodity integrated circuit:** Sometimes called "standard chips"; these are produced in huge batches for routine processing purposes. Dominated by very large Asian chip manufacturers, this segment offers razor-thin profit margins that only the biggest semiconductor companies can compete for.
- **Complex SOC:** "System on a Chip" is essentially all about the creation of an integrated circuit chip with an entire system's capability on it. The market revolves around growing demand for consumer products that combine new features and lower prices. With the doors to the memory, microprocessor and commodity integrated circuit markets tightly shut, the SOC segment is arguably the only one left with enough opportunity to attract a wide range of companies.

Major players in semiconductor manufacturing are:

- **Intel** – Intel is inside more computers than any other chip maker. Intel commands about four-fifths of the PC microprocessor market. Intel's market share has been traditionally high but with the growth of wireless applications it's share has constantly declined (in 2004, Intel made 13.8 per cent of semiconductors in the world).
- **Samsung Electronics** – second largest and fastest growing semiconductor company with market share of 6.9 per cent.
- **STMicroelectronics** – the largest analogue chip maker in 2001 (ranked by Dataquest).
- **Texas Instruments** – one of the top makers of analogue chips and digital signal processors.
- **Taiwan Semiconductor Manufacturing Company** – world's largest maker of chips, and pioneer of the foundry model in which chips are made to order for companies that don't have factories of their own.
- **Applied Materials** – the world's largest maker of the complex equipment used in semiconductor production. Makes 16.5 per cent of the world semiconductor production equipment.
- **Tokyo Electron** – second largest maker of equipment for semiconductor production – makes 10.5 per cent of world semiconductor production equipment.

World semiconductor production forecast to 2008 is given Figure 6.1.



**Figure 6.1. World semiconductor production forecast to 2008.**

Source: Gartner, 2005.

Semiconductors continue to attract the highest levels of investment and to absorb system functionality previously provided by other components. As chips perform increasingly more functions, the semiconductor component in electronic systems will increase still further.

The European market has also grown with enormous speed, and it now represents 20 per cent of the world semiconductor market. This growth has been stimulated primarily by increased demand for PCs, but also by the growing demand for digital mobile phones, other telecommunication equipment, which rely more and more upon semi-conductor technology, and for automotive electronics.

The EU trade balance is negative for the entire electronic components sector, as well as by component segments, with the exception of electromechanical components. Semi-conductors represent approximately half of total EC imports of electronic components, 85 per cent of which concern ICs. In this particular segment, however, recent increases in production mean that the EU is set to move towards a positive trade balance in the near future.

American and Japanese companies control the microelectronics sector where they impose worldwide standards, while Japanese firms are very strong in especially the electronic memories market, particularly in the DRAM segment.

The European semi-conductor industry is fairly concentrated. As is the case throughout the world, upstream integration with the telecommunications, computing and consumer electronics sector is a general feature in the European semi-conductor industry. Joint ventures and co-operation even with traditional competitors are the rule in such a rapidly changing and volatile industry, which at the same time demands very high investment costs.

**Computers and Office Equipment.** This industry manufactures different categories of products: hardware, peripherals, software and office equipment. Computers and office equipment are divided (European Union, 1994):

- Hardware: portables, notebooks, microcomputers, minicomputers, work stations, mainframes and network equipment.
- Peripherals: printers, disks, monitors, keyboards, and CD-ROM payers.

- Office equipment: electronic typewriters, electronic calculators, electronic cash registers, electronic accounting machines and dictation equipment.

It is difficult for a firm to hold a leading position in more than one segment of the market. This is partly due to the fact that the market is highly competitive and requires rapid innovation. Standardisation, downsizing and the merger of IT, video and telecommunications is forcing major restructuring in the sector (European Commission, 2004).

The US is the leading producer at world level, followed by Japan and Europe. American and Japanese companies dominate the world computer and office equipment market, but American companies set the world-wide standard in the sector. The leading European companies are Siemens, Olivetti and Bull. European companies account for 9 per cent and 15 per cent of world hardware and peripherals production respectively. European software is highly competitive in the face of stiff competition from Japan and the US.

The overall Community trade balance for the computer and office equipment sector is negative.

**Telecommunications equipment** is divided (European Union, 1994):

- Public switching.
- Transmission.
- Terminals.
- Private switching.
- Data communication.
- Mobile communication.

This is a sector that has experienced considerable changes in recent years, and is likely to continue to do so. If the “Information Society” into which we are moving is to be truly universal, it will have to rest upon a fast, user-friendly and cheap telecommunications network. The technological changes that are designed to bring about greater speed in the transmission of information include new digital transmission and switching techniques and the growing use of optical fibres, satellite and wire-less channels. “Intelligent” networks are being developed by the use of microelectronics and application software in each individual network unit. This should provide for a dynamic, flexible network that is also easier for the user to manage. Developments in the miniaturisation of equipment and the growth in the use of wire-less communication techniques is also likely to increase the ubiquity and mobility of end-user systems (European Commission, 2004).

These developments have necessitated corresponding changes in the structure of industry. Major operators have been forced to diversify as the boundaries between sectors have become increasingly blurred. Many telecommunication firms are today involved in both telecommunications and electronics production.

European manufacturers are very competitive in the telecommunication equipment market where North American and Japanese companies are also very strong, however. They are also leaders in technological innovation, producing technologies such as ISDN (Integrated services digital network), which allows for the communication of data, video and voice over a numeric fixed network, GSM (the mobile pan-European technology), and DECT (digital European cordless network). This is of enormous importance in the current environment, as the ending of the traditional privileged relationships between indigenous manufacturers and operators through the International Market Policies of the EU, and the direct investment by Japanese and American firms in manufacturing plants within the community are all intensifying competition. Increasing competition has also necessitated alliances between different companies. GSM, for example, was the result of co-operation between the European public network operators.

The EU has consistently shown a positive trade balance in this sector. Exports are concentrated principally on network equipment (41%), switching, radio and transmission equipment.

**Consumer Electronics.** This sector covers the following product categories: audio-visual products for domestic use (audio equipment, TVs, VCRs, cameras etc.), accessories for this equipment, and “brown goods”, i.e. cable terminals and pay-TV decoders.

Traditionally this sector has been concerned with hardware, but software is becoming increasingly important owing to the sophistication of products. In addition, there has been a gradual merging of consumer electronic equipment with equipment of other sectors in recent years. Industry is currently trying to pursue new product areas such as home office and telecommunication equipment (European Commission, 2004).

The consumer electronics world market is dominated by Japanese suppliers and to a lesser degree by Newly Industrialised Countries (NICs), such as Korea, Hong Kong and Singapore, in the low value added consumer products segment. Both the US and the EU are net importers of consumer goods.

While the Japanese dominate the market in magnetoscopes and camescopes, European companies are relatively well positioned in the colour TV market. They control a major share of the world television set market and offer the most comprehensive range of models both in screen size and technical specifications. This is a segment of the market in which European firms enjoy technical leadership and a large and geographically widespread market share.

In 1995, EU electronics industry was located primarily in Germany, followed by France, the UK and Italy. Since 1991, the electronics industry has been in a phase of crisis caused by the economic recession and problems very specifically linked to the electronics industry such as the increased global competition and the dramatic drop of prices and profit margins.

While outsourcing accounted for 21 per cent of total assembly and box-build activity in Europe in 2000, it is forecasted to account for over 40 per cent by 2007. Western Europe is expected to lose further ground as companies migrate manufacturing to low cost countries, with China and Eastern Europe as the main beneficiaries (Reed Electronics, 2003: 8).

The European Union foreign trade of electronics goods (commodity groups HS 8471, HS 85 and HS 90) with countries outside EU in 2003 is given in Table 6.13Table 6.15.

**Table 6.13. European Union foreign trade in electronics industry goods, commodity group HS 8471, with countries outside of EU 2003, billion dollars**

State	Export	Import	Balance
Russia	0.9	0.003	0.897
Norway	0.7	0.1	0.6
Japan	0.5	2.9	-2.4
Switzerland	1.4	0.3	1.1
China	0.2	6.8	-6.6
USA	2.1	5.7	-3.6
Singapore	0.2	3.4	-3.2
TOTAL	42.9	68.2	-25.3

Source: UN Comtrade, 2005.

**Table 6.14. European Union foreign trade in HS electronics industry goods, commodity group HS 85, with countries outside of EU in 2003, billion dollars**

State	Export	Import	Balance
US	18.1	20.9	-2.8
China	7.4	22.5	-15.1
Switzerland	5.6	4.4	1.2
Russia	4.9	0.1	4.8
Malaysia	4.0	7.3	-3.3
UAE	3.9	0.7	3.2
Hong Kong	3.8	36	0.2
Singapore	3.7	4.4	-0.7
Japan	3.4	19.5	-16.1
Turkey	3.0	2.6	0.4
S. Korea	2.3	8.0	-5.7
TOTAL <sup>1</sup>	276.7	273.4	3.3

Source: UN Comtrade, 2005.

<sup>1</sup>Including also intra EU foreign trade.

**Table 6.15. European Union foreign trade in electronics industry goods, commodity group HS 90, with countries outside EU in 2003, billion dollars**

State	Export	Import	Balance
USA	16.5	18.6	-2.1
Japan	3.8	6.7	-2.9
Switzerland	2.4	4.8	-2.4
China	2.0	3.5	-1.5
S. Korea	1.7	0.4	1.3
Russia	1.3	0.05	1.2
Norway	1.0	0.6	0.4
Singapore	1.0	0.6	0.4
Hong Kong	0.9	0.6	0.3
TOTAL <sup>1</sup>	93.5	81.4	12.1

Source: UN Comtrade, 2005.

<sup>1</sup>Including also intra EU foreign trade.

As we can see in Table 6.13Table 6.15, European Union foreign trade balance with countries outside EU in 2003 is negative.

#### 6.4.1 *Electronics Industry in the United Kingdom*

United Kingdom electronics production ranks seventh in the world. The pattern of the UK electronics sector has been strongly influenced by state policies (UK Country Report, 2005; UK Key Interviews, 2005).

There are few major UK companies that are global players in the electronics industry. Most of the UK electronics companies are small. The majority of the electronics companies in the UK are involved in the computer hardware, control and instrumentation products, and communications equipment.

The UK electronics industry is fragmented institutionally and across regions, with different associations covering different aspects of electronics. Thus, while it is possible to talk about UK cluster there are also UK specificities:

- There are regional specialisations.
- UK strategic electronics is significantly narrower competitors with strong capabilities in defence electronics, communications and information services.
- The industry has a structural problem – compared to the US, as there is a severe lack of middle-sized, R&D intensive IT and electronics companies.
- Is a very open economy with a strong inward investment, but also a strong regional dimension.

Electronics industry is one of the sectors that attract most inward investment in the UK. Electronics industry is also high on the list of industries to which government support is offered through regional support schemes.

UK electronics industry was initially outsourced to Eastern Europe, but is increasingly moving towards Southeast Asia and China in particular. The majority of raw materials and process suppliers have moved out of the UK, as most of their high volume customers are in Eastern Europe and Far Eastern countries. Component manufacture remains in the UK for low/medium volume specialised products.

Trends in the United Kingdom are different from other European Union countries. It is cheaper and easier in the UK to get rid of employees and it is also easier to shut down companies in the UK.

There is also a general perception among investors that there cannot be a future for electronics industry in West Europe. While there is interest in developing R&D facilities in the UK there is little interest in manufacturing.

UK is generally oriented towards R&D and design. The UK has benefited from major inward investments and although many of the large (non-UK) companies have relocated their manufacturing, their training and R&D facilities remain in the UK. However, because of the nature of the electronics industry where there is close interrelationship between research, testing, prototypes development and production, keeping some production capacities is essential.

#### 6.4.2 *Electronics Industry in Greece*

Greek firms that operate in the electronics industry are SMEs and they are mainly commercial companies rather than manufacturing ones. Many of them are affiliated to large international – mostly European – firms. Nevertheless, there exist various Greek companies manufacturing electrical and electronic devices, connection, distribution and protection points, plugs, fuses, switches or time switches, bulbs, medical equipment (mostly expendables and small devices), and audiovisual apparatuses. Of course, there are also large enterprises operating in electronics

industry, located in different parts of the country. Most of them, however, are found in and around Attica, Macedonia and Thrace. The norm in the electronics industry in Greece is dual: to operate as a subcontractor of other established international firms and to manufacture own label products not only for the domestic market, but for foreign markets too (Greek Country Report, 2005; Greek Key Interviews, 2005).

Greece has no major comparative advantages in electronics industry as compared with other countries, either DCs (they produce high-quality products) or UDCc (they produce cheaper products).

Some Greek electronics companies decided to go for cheap labour so as to stay competitive. They relocated to low labour cost countries (e.g. Bulgaria, China etc.).

Some other Greek electronics companies decided to follow the path that is based on the idea of having specialised labour, doing R&D so as to produce high value added products. They even dream to become R&D centres for other firms in the region.

Some Greek electronics companies realised that a way to stay competitive is to move into new products (Greek Country Report, 2005; Greek Key Interviews, 2005).

#### *6.4.3 Electronics Industry in Poland*

Before the transformation of 1989, Polish electronics industry was concentrated in a few large state-owned enterprises evenly scattered all over Poland. After opening of the Polish economy to broader international competition, these companies were unable to compete and most of them were liquidated. At the beginning of 1990s, there was an inflow of foreign direct investment. There were 7,300 registered enterprises in electronics industry at the end of 2003. Most of them are (94 per cent) were small firms with 9 or fewer employees. Only 114 companies have more than 49 employees. Production growth has been due to the rising productivity (by 50 per cent in 2000-2003), achieved especially in large TNCs (Philips, Thompson).

There is also some R&D in Poland, especially in telecommunication industry (Siemens, Lucent, Motorola).

About 85-95 per cent of electronics production in Poland (depends on sector) is made for exports.

Poland may compete with Asian countries in short-series manufacturing and in local technical knowledge (Polish Country Report, 2005; Polish Key Interviews, 2005).

#### *6.4.4 Electronics Industry in Estonia*

Estonian electronics industry is largely consolidated, heavily export-intensive and based on foreign capital. The Estonian electronics industry is actually part of the larger Nordic electronics industry cluster. The main branches of Estonian electronics industry are exactly the same as those of Finland and Sweden. Electronics industry network flagships generally consist of Finnish and Swedish companies, which have subsidiaries, affiliates and joint ventures in Estonia. Estonia, like other CEE countries, has competitive advantages mainly in labour-intensive industries rather than in capital and technology intensive industries. Most of the Estonian electronics industry acts as a “lower tier” supplier, its main competitive advantages being low cost (“price breaker”), speed, and flexibility of delivery. Although Estonian electronics industry has been relatively successful in modernising and making them effective, almost none of this change has grown out of local value-chains. Value added productivity gains made by Estonian companies will not stay in Estonia (Estonian Country Report, 2005; Estonian Key Interviews, 2005; Kalvet, 2004).

#### *6.4.5 Electronics Industry in Bulgaria*

During the 1990s, the electronics industry was modernised and technological collaboration with the developed industrial countries was accomplished. The electronics industry is one of the leading branches in Bulgaria (Bulgarian Country Report, 2005; Bulgarian Key Interviews, 2005).

The electronics industry is one of the few branches in Bulgaria that during the privatization attracted big foreign companies (ABB; SCHNEIDER, HYUNDAI, SPARKY, EPIQ). One of the greatest green field investments LIEBHERR and FESTO are made in Bulgarian electronics industry.

Over 60 per cent of the production of the electronics industry is made for export.

### **6.5 Description of the Value Chain in Industry**

Global production networks – a major organisational innovation – combine rapid dispersion of the value chain across firm and national boundaries with a parallel process of integration of hierarchical layers of network participants.

The electronics industry is truly global market. It is now common to have an original equipment manufacturer (OEM) located in Europe with suppliers in Asia and customers all over the world. Electronics manufacturers are also shifting from traditional, vertically integrated structures to disaggregated, horizontal competition. And those manufacturers face mounting pressures to produce more innovative products, faster, at lower price points, with higher quality, all while increasing revenues and extending their existing distribution channels.

Many electronics executives are attempting to manage these challenges by treating their ecosystem as if it were one virtual enterprise, with the ultimate goal of being fully transparent within the value chain and synchronised at every point in time.

There are three types of supply relations, based on the degree of standardisation of product and process (Gereffi *et al.*, 2003; Sturgeon, 2003; Sturgeon, Lee, 2001):

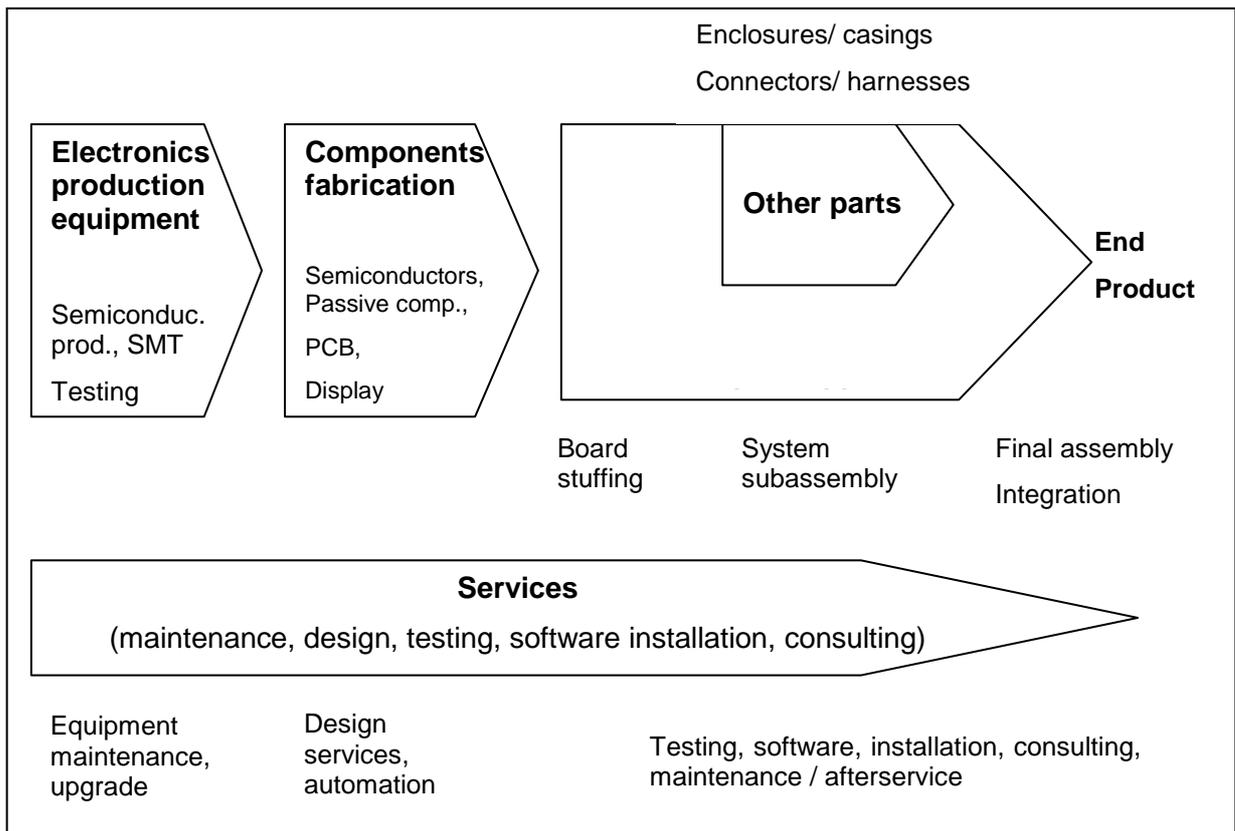
- The “commodity supplier” that provides standard products through arm’s length market relationships.
- The “captive supplier” that makes non-standard products using machinery dedicated to the buyer’s need.
- The “turn-key supplier” that produces customised products for buyers, and uses flexible machinery to pool capacity for different customers.

Electronics industry supply chains present constant changes and responses to the technological challenges. Supply chains of electronics industry are changing constantly. Even for the same type of product there could be different supply chains. Particular construction of supply chain depends on industry sub-group, geographical location and time period.

As a notorious example from PC industry we can bring the Dell Computer who previously by mail orders and now by internet orders delivers the computers directly to end customers. Differently from conventional firms Dell method was not to use warehousing and retail companies in delivery process.

The consumer electronics supply chain still consists of large integrated firms who produce almost entire product with the exception of some key components. Based on intellectual capabilities/patent portfolio, financial capabilities, business strategy and the availability of technologies consumer electronics firms build the products from own or sourced components.

A typical modern supply chain in electronics industry in 2004 is given in Figure 6.2.

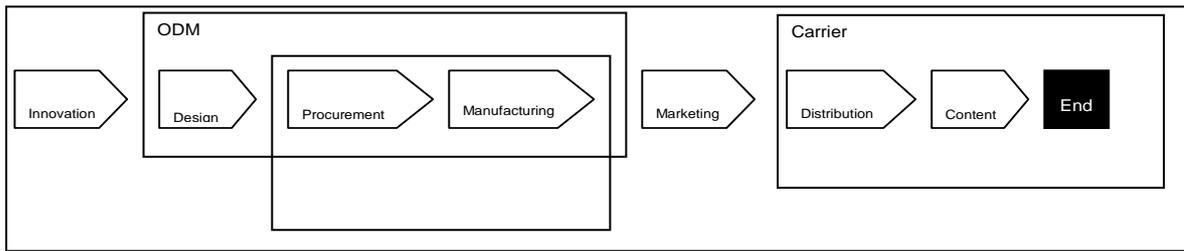


**Figure 6.2. Supply chain in electronics industry in 2004.**

*Source:* Booz Allen Hamilton and IFC, 2001.

Supply chains in telecommunication present different example of consumer products. Supply chains in wireless communication could be considered as the most dynamic and setting the example for whole electronics world in 2005. A strong telecommunication boom in the 1990s forced the OEM (Original Equipment Manufacturer) firms to use subcontractors for extra capacity. During this period, EMS (Electronics Manufacturing Service) firms learned the sourcing and assembly operations and built up the production capacity. New EMS firms had very different backgrounds. Some of them were the daughters of integrated firms (Lohja-Elcoteq, IBM-Celestica), some were start-ups (Solectron), some were electronics firms who specialised in offering manufacturing services. What is common is that almost all of them made IPO in the mid- or early 1990s and most of them had a rapidly growing turnover in the 1990s. Big changes in the telecommunications supply chain happened with the burst of IT bubble in 2001. OEM firms were forced to lean up their personnel and to relocate their production. EMS firms who had to build up substantial production capacity had to specialise, optimise their production capacity and also to relocate their production in cheaper labour countries. Beginning of the new century has been followed by the extension of services offered by contracting firms. Contract manufacturers have added product design services in their portfolio (Figure 6.3). Firms are newly called ODM-original design manufactures. From telecommunication markets ODM firms are now pushing to medical instruments and industrial electronics markets (Electronics supply and manufacturing, 2004).

A typical modern value chain in telecommunications industry in 2005 is given in Figure 6.3.



**Figure 6.3. Value chain in telecommunication industry in 2004.**

Source: Infineon AG, 2005.

A factor influencing the supply chains in electronics industry is that several firms use shared technology platforms between different products. They use similar components and technologies for different products. For example, there is a substantial technological closeness between computer monitor made by LCD (liquefied crystal display) technology and LCD TV set. Companies strong in LCD technology (Samsung, Sharp, Philips) use it in several applications (TV-s, monitors, video cameras, mobile phones).

Change of roles in the supply chain causes harsh competition between different actors. In some external cases ODM firms can even pass OEM firms by offering products directly to the consumers (end users or telephone companies). For example, ODM firm, BenQ, offers mobile handset to retail customers.

Changes in the supply chain cause concentration of retail outlets for matured products like home electronics. For example, the US biggest retailer Wal-Mart is also the number one consumer electronics retailer. With the expansion of supermarkets the competition between specialised home electronics stores and general supermarkets is expected to increase (Forbes, 2005).

### 6.6 Celebrated Success Stories (or Failures) in the Electronics Industry

**Korean Electronics industry.** Biggest success in recent electronics industry could be considered South-Korean electronics industry and especially Samsung Electronics and LG Electronics. Within the decade Samsung Electronics and LG Electronics have established themselves as innovative brands and are very close or already recognized as quality brands. Among the success factors are balancing well between the innovative spirit and corporate efficiency, collaboration with universities, big investments and launching certain very successful products.

Constant innovation has been followed also by very good economic results. When several European, US and Japanese electronics firms saw substantial decline of profits or losses LG electronics and Samsung Electronics recovered faster from global downturn and gained market share.

Korean firms have also been very successful in internalisation and delocalisation. Both Samsung Electronics and LG Electronics have moved substantial part of their production into China, Vietnam, Indonesia, Malaysia, Mexico and Eastern Europe. At the same time company has well managed intellectual property. Research units have been established in major developed consumer markets like US, Japan and European Union (Brooke, Hansell, 2005).

**Elcoteq Tallinn AS** is a subsidiary of Elcoteq Network Corporation, the biggest electronics manufacturing services company in Europe, with headquarters in Finland. Its main business areas are production of terminal products and communications network equipment. Elcoteq's customer list includes Nokia, Ericsson, ADC, Allgon, ABB, Danfoss, Kone, Vaisala, Viterra, and Andrew Corporation. Elcoteq's largest plants are situated in Hungary, Beijing and Tallinn. Elcoteq Tallinn AS mainly manufactures electronic subassemblies such as electronic parts and

accessories for mobile phones, but also provides engineering and after sales services. The company is by far the biggest player on the Estonian electronics industry landscape – it accounted for 83 per cent of total Estonian electronics exports in 2001. It was also the biggest Finnish company in Estonia and the biggest exporter in 2002, contributing 15 per cent of Estonia’s total exports. As most of the production is subcontracting work, Elcoteq Tallinn’s sales and performance has been substantially reliant on large-scale subcontracting orders. There have also been discussions in the media about the possibility of Elcoteq’s headquarters being moved from Finland to Estonia, mainly due to differences in corporate income taxation schemes. However, analysts do not expect this to happen and are currently questioning how long Estonia will remain an attractive place for volume manufacturing as compared with China, especially in the light of increasing salaries. Turnover: 2002 - 35.4 mill EUR; 2001 – 39.2 mill EUR; 2000 – 37.6 mill EUR.

### 6.7 What Stages of the Electronics Industry are delocalised?

Economic geography shows clear distinctions in the electronics industry patterns. The main company headquarters are located in North America, European Union, Japan and Taiwan. Moreover, there is a clear physical concentration within the countries. North-American headquarters of electronics companies, financial companies and R&D units are located in major metropolitan areas in California, north-eastern region and Texas. In the European Union, the major electronics firms and universities are located on the line from Greater London to Northern Italy. This area covers Southern part of United Kingdom, north-east of France, Benelux, Rhine river, Southern Germany, Switzerland, Austria and Northern Italy. Relatively well has developed the electronics sector also in Nordic capitals: Stockholm, Copenhagen and Helsinki. Major Asian electronics centres are Tokyo (Kanto region), Osaka (Kansai region), other industrial centres of Japan, Singapore, Taipei, Hong-Kong, Beijing, Shanghai and Bangalore (India). In major rural centres are also located regional headquarters of multinationals from other continents.

Manufacturing, distribution, service and sales of electronics goods show a wider economic reach than headquarters and research functions. Each of the above-mentioned high development areas also has a manufacturing region. For example, electronics firms from major industrial centres in the European Union source from local (own-country) more distant peripheral regions, Poland, Hungary, other Eastern Europe countries and from Iberian Peninsula (Barcelona). Companies supplying to multinationals are tending to be in Eastern European metropolitan areas and transport centres. For large US electronics firms the primary locations for local supply are firms in US Mid-West, Mexico, Brazil. Japanese, Korean, Taiwan and Singapore firms primary supply chain partners located in the mainland China, Malaysia, Indonesia and Thailand.

Electronics production is not separable from knowledge creation. Links between universities and firms are various. In all cases research laboratories of global firms are situated in the same regions with well-known and highly ranked universities. First of all, universities and colleges provide firms with managers and engineers, university professors are participating in company boards (for example, Cisco and Nokia 2004), there is also all-level job migration between firms and universities, contract research and several other types of activities.

Location of primary electronics developers is given in Table 6.16.

**Table 6.16. Location of primary electronics developers.**

Location	Main firms	Public and education organisations
ASIA	Sony	Big network of public and private universities
Japan	Matsushita	

Tokyo Osaka Nagoya Other big industrial centres	Toshiba	
Taiwan, China Beijing as development base + 2 particular places Chang Jiang/ Yangzi River (Shanghai region) and Zhu Jiang (Pearl River) Delta Hong-Kong, Dongguan	Most of the multinational firms use China as production platform.	Jiao Tong University, Fudan University and big number of other universities
India, Bangalore	Most of global IT industry leaders + local firms	Indian Institute of Science, Indian Space Research Organisation, Indian Institute of Information Technology
South Korea	Samsung, LG	Seoul National University and other universities.
Singapore	Flextronics	Local universities + collaborative arrangements with global top universities.
Israel	Semiconductor development facilities of international firms (many of them US origin)	Israel Institute of Technology., <u>Hebrew University of Jerusalem</u> , Weizmann Institute of Science
EUROPE United Kingdom France	Alcatel, Thompson	Sophia Antipolis, École Polytechnique, Oxford University
Netherlands Germany (especially Southern part) + Austria + Switzerland	Philips, Siemens, Infineon, STM	Max Plank Institute, Fraunhofer Society, Eindhoven University of Technology
To lesser extent Stockholm Helsinki Copenhagen	Ericsson Nokia Elcoteq	Helsinki University of Technology, KTH
USA North East	IBM	MIT, big number of universities and colleges

Texas	Texas Instruments, EDS	Big number of universities and colleges
California (Silicon Valley)	Intel, Cisco, AMD, Apple, Solectron, Sanmina-SCI	Stanford University

*Source:* Ranking of universities, 2005.

There were relocations of firms in the electronics industry from DCs to less developed ones. For example, companies of the United Kingdom went to China, German ones to Czech Republic and then to Poland and French ones to Spain.

After the world electronics industry went through its worst crisis ever during 2001-2002, the growth in 2003 was four per cent but would be over six per cent annually over 2002-2007. This is slower than the past long-term trend. It is a combination of persistently slow market and production growth in developed countries (Europe, USA, Japan, Korea), and strong growth in developing countries and particularly China.

This growth pattern will be very similar in all the main electronic product families, with growth rates that will all be close to the industry average.

This will lead to a new geographical pattern by 2007. Europe, USA and Japan (with the “dragons”) used to account for over 90 per cent of world electronics production and market. Today this is no longer true, and by 2007 China will become a mayor player, with production at the same level as Europe and North America. China and the rest of the world will account for 40 per cent of world production, North America and Japan only 60 per cent.

Markets will still remain more concentrated in the richer countries (nearly 70 per cent in Europe, North America and Japan). This means China and other developing countries will be increasingly exporting to the richer areas of the world. However, “delocalisation” of production to these areas is dominantly pulled by the size and growth of the local markets (World Electronics Industry, 2005).

Outsourcing influences almost every actor in supply chain. Most affected have been manufacturing workers in developed countries. However, efforts to graduate more engineers in China and India have given results and caused the transfer of production engineering jobs to offshore. Less are influenced by off-shoring service people like people in installing, maintenance and fit (Contract Manufacturing Consultants, 2005).

Outsourcing of all or part of manufacturing operations has been common practice for most of the electronics firms since 2000. Hard competition has pressed OEM firms to use design capabilities of manufacturing service firms. Over the period 2002-2005 R&D budgets of most electronics multinationals decreased. This decline of research budgets forced the OEM firms look for outside development capabilities. At the same time, manufacturing service firms established design bureaus and hired hardware and software development engineers. Often the new designers and researchers are situated in emerging economies like India, Taiwan, Russia, China and Ukraine. ODM firms are more actively using engineers in emerging countries than OEM firms. The process of innovation outsourcing has caused conflicts between brand owners and manufacturing service firms. Managing of the intellectual property comes more and more important also for EMS firms (Outsourcing Innovation, 2005).

### **6.8 Extended Form of Delocalisation**

Electronics industry does not use only traditional methods of delocalisation of industrial activities like outsourcing to foreign countries. Like every pioneering industry it creates also new forms of supply chain and uses new methods. The second factor is that electronics industry introduces for consumers totally new product groups and in this case we should speak about

absolute and relative delocalisation. Production of fax machines is ceased in one place and production of photo-printers will be started in the same or other location.

There is no single preferred method or model for delocalisation in electronics industry. The most common are: establishing the subsidiaries abroad and transferring parts of the supply chain to subsidiary, creation of joint ventures and outsourcing to electronics manufacturing service (EMS) or original design manufacturers (ODM).

Choice between different methods depends both on company preferences and economic environment. Establishing foreign manufacturing subsidiaries is commonly practised by almost every multinational firm. Outsourcing of manufacturing and some design activities is preferred by companies who do not own manufacturing capabilities in particular field (Microsoft in case of game console Xbox) or want better cost bases (Nordic telecommunication firms: Nokia, Ericsson) (Purchasing, 2005). Outsourcing has even created a special electronic manufacturing service (EMS) industry with the size close to 80 billion dollars in 2003 (Electronic Supply and Manufacturing, 2005).

The joint venture form is used to combine different capabilities. Two basic compositions are: combining both firms' intellectual property (Sony-Ericsson mobile phones) or combining one firm's intellectual know-how with other firm's manufacturing capabilities (TV set production by French-Chinese Thompson-TCL alliance). The Korean giant, LG Electronics, has created 13 major partnerships for product development.

LG Electronics strategic alliances are given in Figure 6.4.



**Figure 6.4. LG Electronics strategic alliances.**

*Source:* LG Electronics, 2005.

The main form of delocalisation in the Polish electronics industry is FDI inflow, which in the beginning was attracted by the large Polish market with very low level of household equipment in electronics goods and poor telecommunication infrastructure.

Very important factor for outsourcing is the language. For France major outsourcing destinations are in North Africa and for Germany East Europe (especially Czech Republic, Hungary Poland).

### **6.9 Why Firms Decide to Delocalise their (part of their) Activities?**

The choice of locating different activities depends basically on the supply and demand side factors. Among the supply factors are prices, such as general labour costs, availability and cost of specific labour like engineering graduates, materials cost, transportation cost, environmental cost, land cost. Choice of location is influenced also by closeness to technology creation regions, technology factors like software and hardware interaction, and legal issues like local

legislation and standards. A role is also played by company specific factors like knowing particular market or favourable political relations between countries.

Demand factors are consumers with the number of population and purchasing power and technology preferences. The industrial electronics site location is determined by the location of related industries like automobile, medical equipment and avionics.

During the last decade (1995-2005) favourable cost conditions for manufacturing have created new factories in China, Brazil, Mexico and Eastern Europe. Among the fast growth consumer markets are China, Mexico, Russia and Brazil. Traditionally the biggest consumer of electronics products has been the US and the consumer with most sophisticated demand has been Japan.

With technical innovations it is possible to reduce the size characteristics and to create thinner functional textiles, steels with better characteristics, but this process has physical limits. Contrary to other products the products of electronics industry are used mostly intellectually. These are used mostly by sight and sound. The physical size does not increase the utilisation value of the products. For functionality people prefer smaller products and this shifts electronics products towards the physical size decreasing.

LCD TV set is 2-3 times smaller than CRT (cathode ray tube) TV. Memory stick is smaller than 3.5" floppy disc. Mobile phones of early 1990s weighted several kilograms and mobile phones of 2005 weight around 100 grams. Decreasing size of products has reduced the share of transport cost and allows the using of suppliers from far locations. Decreasing transport costs allow also the scale intensive production and concentration of industrial activities. In the period of 1980-2000, revenues per ton mile decreased for air freight 30 per cent and for railway more than 50 per cent (Economist, 2004).

Electronics industry delocalisation is dependent on the technology factors such as closeness to technology creation centres. Several countries have tried to copy Silicon Valley model where technological knowledge is combined with entrepreneurship and venture capital financing. However, the same level success has not yet happened in Japan and European Union.

Specialisation and different labour costs have led to extended form of delocalisation. When Western European firms outsource from Hungarian EMS provider Videoton several activities are performed in Bulgarian or Ukrainian subsidiary (Videoton Holding RT, 2005). When US firms order services from Taiwanese and Hong-Kong firms the manufacturing is performed in special economic zones in the mainland China, Philippines.

### ***6.10 The pros and cons of Delocalisation***

Positive and negative sides of delocalisation can be analysed from personal, companies' and countries' point of view. Electronics industry is no more different from the social point of view than other industries. In the past, electronics industry has been a growth industry and had not caused substantial problems to society.

It is clear that delocalisation of activities helps receiving countries to raise their level of industrial production, standard of living, employment and welfare in general. Results for the leaving country are more controversial. Among the positive sides of delocalisation for offshoring country are cheaper prices for consumers, imports of details and services for production in delocalised industries, transfer of profits and released labour for other industries and service sector (McKinsey & Company, 2004). Setting up of assembly factories in China, Mexico, Brazil and India has increased US, Japanese and EU exports of machinery and electronics components and exports of consulting and auditing services.

All the above-mentioned aspects and factors may also have a negative side. Transfer of production can also mean the loss of proprietary know-how and loss of skills. A discussion point is also re-employment of people released from delocalised activities.

### ***6.11 How Delocalisation is influenced by the Existing Governance Structures***

The impact of public governance on electronics industry and manufacturing in general varies from country to country. The main impact on manufacturing comes from overall economic

policies. However, electronics industry is also influenced by technology policy, defence policy, education policy, trade policy and other economic aspects.

Electronics industry is a specific industry because it is able to employ a relatively big number of highly educated engineers, medium educated workers and people with basic skills. Another reason is that electronics industry is using relatively few materials, until nowadays not causing environmental problems and as an innovative industry giving high profits.

The first and most visible policy from promoting electronics and software industries in emerging economies is preparing of engineers and scientists. Educating of engineers in most of the technology areas requires substantial investments from universities and personal efforts from students. The number and quality of engineers are the concern of governments in highly developed and emerging economies (see Table 6.17). The US and UK have used simplified visa requirements for programmers, engineers and other highly qualified workers. 80 per cent of Asian foreign students (around 650 thousand) study in the US and Europe (UNESCO, 2004).

**Table 6.17. Number of university graduates and science & engineering graduates**

	University graduates (million)	Science & engineering graduates 2003 (thousands)
India	3.1 (2003), 6 million graduates (2010 prognosis)	316
China	2,8 (2004), 3,5 (2005)	337
Russia		216
EU-15	2.0	290 (2001)
Japan	1.1 (2001)	250 (2001)
US	2.2 (2001)	380 (2001)

*Source:* Eurostat, 2005.

Another area of government interference is support for research and development activities. Electronics industry is a knowledge-intensive activity and support to research can create a sustainable competitive advantage. Often the main creation centres of electronics industry are located in nearby universities and public laboratories and government grants help to raise the general scientific and technological knowledge in the area.

Closely related to the government research support is public procurement. Public procurement of military, space and aviation products has fostered technological development. Radar and first computer in the UK during the WWII, microcomputer during the Apollo programme and Eurocopter are just a few examples. In some countries public sector is still the owner or major shareholder in telecommunications. Purchasing of telecommunication goods can therefore be influenced by the public sector.

Last but not least, a major role in public policy is played by standardisation. Despite not being directly governmental activity, standards remain an important tool in trade practice. Bigger countries with dominating firms are in favour of common standards and weaker and smaller counterparts try to protect themselves by using different standards.

The UK electronics industry has been strongly influenced by state policies.

The future direction for electronics industry delocalisation is India. The Indian government has a programme to gain more investments in IT and electronics.

There was an initiative by Chinese government to have alliance with India – Chinese would be producers, whereas Indians would be designers/engineers and Singapore would be a trading partner.

### **6.12 Conclusions**

There is a huge competition in the world electronics industry from low cost countries (China etc.) for simple (cheap) products, as well as from developed industrial countries for high-quality products. Situation in European Union electronics industry is very difficult.

Governance of delocalisation of electronics industry is possible through foreign direct investments; subcontracting, outsourcing and offshore outsourcing; triangular manufacturing; value chain; innovation; labour; taxes; clusters and foreign trade.

Successful governance of delocalisation of electronics industry requires suitable tools of governance. These tools of governance arise from the objectives of governance. For the governance of delocalisation of electronics industry it is possible to use innovation policy tools and government support strategy tools.

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## 7 Clothing industry report

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### 7.1 Introduction

Clothing is the paramount global commodity. It has some of the highest levels of import penetration, volume of trade and degree of supply chain internationalisation<sup>89</sup>. While trade in clothing is among the oldest in the world it has been since the 1960s-1970s that we have witnessed a dramatic increase of the world's interdependence in terms of production and consumption of clothing with different producers taking centre stage in roughly 10 years long intervals. Thus, in the 1950s-1960s the direction of offshoring was from Europe and US to Japan, in 1970s-1980s from Western Europe to Southern Europe, and from Japan to Hong Kong, South Korea, Singapore and Taiwan. In the late 1980s production moved further east in Europe, to Latin America and the Caribbean from the US, but most significantly to mainland China, Sri Lanka and other Southeast Asian countries<sup>90</sup>. In the 1990s South Asian and North African suppliers were added to that group<sup>91</sup>, while the significance of and Latin America, EE, Turkey and more recently the Middle East increased (although mostly within their own regions) (Scheffer 1994, Kessler 1999, Begg and Pickles 2000, Gereffi and Memedovic 2003). While this process is certainly to be expected given the general laws of capitalist development (Jessop 2002), more specifically these general trends have recently been accelerated by the coupling of a set of diverse mechanisms that are both internal and external to the clothing sector.

First, the changes in the clothing sector fall into a more general pattern of globalisation (Held 1995) that has been enhanced by advances in technology (Castells 1996), especially telecommunications, transportation, and IT (Lash and Urry 1994), that have made the world smaller (Harvey 1982) as well as extending the reach of people and businesses over space (Giddens 1990). A very significant role in shaping clothing and economic globalisation in general was also played by the dominant neo-liberal ideology prioritising free market over state regulation, the interests of global over national capital, as well as capital over labour (Hirst and Thompson 1996, Jessop 2002). In relation to the clothing sector this led to the introduction of new technologies in some parts of the supply chain, especially in design (CAD), but also computer-assisted methods (CAM), and lean retailing. While lower transportation costs led to first the increasing competitive pressure from producers in physically distant locations and second, also made it possible to source part of the process from of the distant locations with mainly lower labour costs. In addition there were some innovations that were introduced in the organisation of the production process, particularly in the move from in-line production to

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<sup>89</sup> Clothing is one of the most globalised industries and a major trading good. Thus, relative to all imports in 2003 clothing imports accounted for 2.3% in the US, 2.6% in Japan, 1.7% in Germany (Comtrade).

<sup>90</sup> While earlier on Southeast countries such as Hong Kong benefited from outsourcing and their clothing sector expanded at a later stage, especially with the opening of China they experienced trends similar to other developed countries and in Hong Kong jobs in clothing fell by 54% from 1984 (300,000) to 1994 (137,000) (Gereffi and Memedovic 2003:14).

<sup>91</sup> In terms of evolution of the sourcing centres Gibbon (2001) argues there was a shift from a clearly defined Inner Ring (EU minus Greece and Portugal) and Outer Ring (the rest of the world), towards a more differentiated circles after 1980s: Inner Ring (EU), Middle Ring A (Taiwan, South Korea, H.K., Sing.), Middle Ring B (Turkey, Cyprus, CEEE, North Africa), Outer Ring (the rest of the world).

module production. Under the in-line production system each employee was assigned one specific task after which the unfinished product is moved to the next operator, and in module production, employees are organised to work within a team. While in cases when the process is organised in a modular form each employee is still mostly competent in performing one particular operation, significantly they can also perform all or at least a couple of the other tasks whenever this is necessary. While module production proved to have impact especially on quality levels, it also requires on-going re-training, and thus also much more teamwork and interpersonal skills (Berg et al. 1996). The latter make it more difficult to implement compared to traditional forms of organisation, while it is also considered to have a less significant impact on company performance if compared to innovations in information systems for example (Dunlop and Weil 1996).

Second, while these conditions are replicated in other industries what puts clothing at the fore front of this process is the relative easiness with which it could be done given that clothing is characterised by low entry barriers, particularly given the low capital and skills requirements (illustrated by the rapidly growing significance of Vietnam, for example), and high labour content, 60% of total costs (Scheffer 1994), where sewing accounts for up to 80% of total labour costs (OECD 2004), which makes its re-localisation to countries with cheap and flexible labour easy (Phizacklea 1990, Hanzl-Weiss 2004). Other important costs that could be considered, especially in case of re-location include: tariffs and customs arrangements, business telephone charges, industrial electricity prices, standards heterogeneity and labelling. However, there also are broader issues of availability of labour with the necessary skills, as well as access to management and technology that can lead to high levels of productivity. More specifically, bringing the product to the market includes a pre-assembly stage (design, grading, marking of patterns and cutting into individual components), assembly (sewing), post-assembly (ironing and packaging), and retail (involves inventory controls, marketing, branding and retailing). While all of these stages are differently dependent on access to capital, labour and technology it is the assembly and to some degree the post-assembly, stages that are highly labour intensive, with relatively low skill and capital requirements. Given that labour cost is the most geographically variable of industrial production costs (Dicken 1992) it may be expected that internationalisation will tend to be higher in more labour intensive processes. There is constant pressure to achieve economies of scale (and lower price) over a growing number of differentiated products. This requires either a) standard but flexible manufacturing techniques, or b) ability to 'tap' into a series of supply networks (Palpacuer et al. 2003).

Third, the coupling of the broader external processes and the internal specificity of the clothing sector has certainly led to one of the main defining developments in the sector which is the rise of global buyers, such as retailers, branders and marketers, as well as their increasing indistinction (Gererffi 1994). However, and significantly, this trend is one of significant variations, and it only constitutes one among many important changes taking place in the industry (Smith et al. 2002). Thus, it is important to emphasise that general tendencies have always been actualised differently depending on regional and national specificities (Hughes 1996), such as institutional, cultural, and physical and production legacies (e.g. UK and the Commonwealth), evolution of key players and their relationships, adopted strategies (e.g. UK 1970s support for clothing versus textile under unions pressure), etc. But also access to energy resources and key infrastructure (e.g. transport links, stable and cheap energy supply), changes in related sectors (such as textiles and ability to source cheap, good quality and on time), as well as broader embeddedness into developments into other sectors (e.g. the rising property and land prices in the UK, which affects the return on capital in clothing companies).

In what follows we are going to first offer a snapshot the clothing sector, second, we will discuss the rise of global buyers and relations within the supply chain, third, we will distinguish between adjustments and strategies and will discuss different forms of embeddedness within different national and regional contexts, and finally, we will discuss questions that arise from the paper as well as possible directions for research.

## 7.2 General developments

In terms of employment and number of companies manufacturing clothes, the sector has been on the decline in all developed countries in the last 30-40 years. For example in the US employment between 1985 and 2000 fell from 1.12 million to 633,000 workers (Bair and Gereffi 2003), and the tendency was similar in EU countries, where, between 1984 and 1999 employment fell (for EU12) from 1,320,073 to 581,703 (Dunford 2002). More detailed figures on changes in employment in the EU are presented in Table 1.

Table 1 Clothing employment in some EU countries 1984-2001

	Employment			
	1984	1994	1999	2001
Belgium	35370	21772	11851	
Denmark	13041	8854	5333	
Germany	217127	111307	66654	
Greece	30744	28015	21209	
Spain	144923	133483	129898	
France	198577	139035	107820	
Ireland	12344	8326		
Italy	326139	222751		226,848 (2002)
Netherlands	10244	7183	6216	
Portugal	113763	121143	102858	
UK	216831	168757	129663	77,339
EU12	1320073	971002	581703	

(Source: Dunford 2002, and Eurostat)

However, the impact on the overall employment in the supply chain was less dramatic as it went up in the pre-assembly and retail parts of the sector. Some of the major challenges facing the clothing sector in developed countries is its ageing workforce and the difficulties to recruit, high proportion of women in general (70-30% women/men split for the UK) but especially as machine operatives, and the importance of migrant and minority groups (Pye 2004).

World clothing exports have been growing rapidly between the 1970s and the late 1990s, with a rate as high as 17% between 1974 and 1977, and 8% between 1995-1997 (see also Table 2). It was in the 1998-2001 that clothing exports experienced a negative 1% growth (CEC 2002). Currently the global clothing market is dominated by three key regional players: US, EU and Japan (Gibbon 2002), which currently account for around 80% of world imports of clothing (CEC 2003). However the US is by far the largest importer, 50% more than EU<sup>92</sup> and 300% more than Japan<sup>93</sup>.

<sup>92</sup> If intra-European trade is included Europe accounts for about 40% of world clothing imports (half of it intra-EU trade) (Appelbaum 2004).

<sup>93</sup> Thus, in 2004 USA imported clothing worth over \$35 billion, Japan over \$10billion, and among the major EU countries, Germany \$12 billion, and the UK \$2 billion (Comtrade). EU Imports of clothing were E30.9mln in 1995 and E55.1mln in 2002 (CEC 2003).

Table 2 World exports of Clothing 1990-1998 (million US\$) Source OETH, 2000

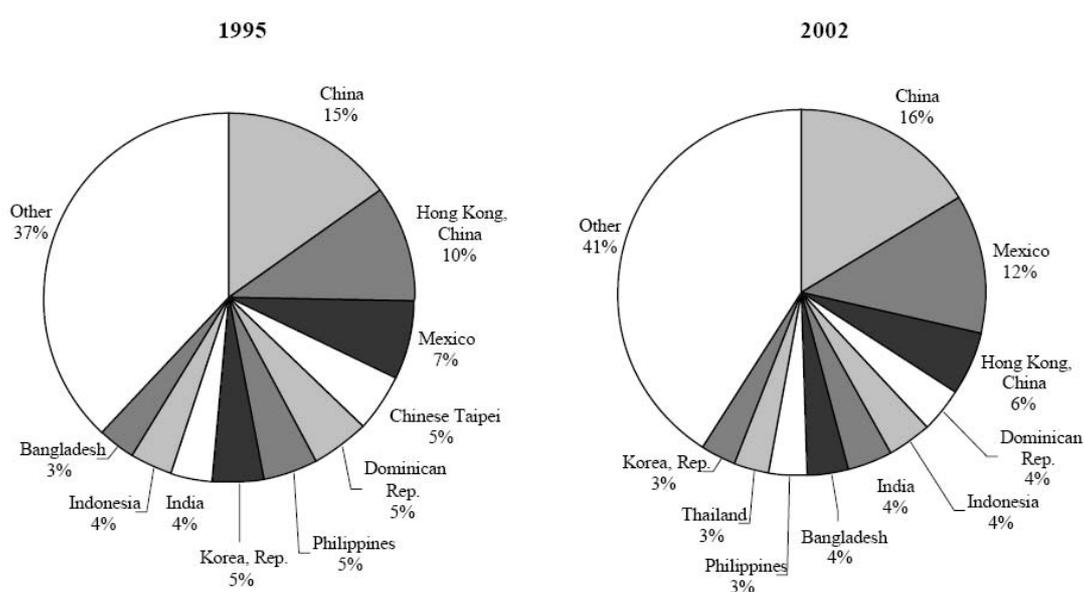
	Exports million US\$		Change %	Share of world exports %	
	1990	1998		1990	1998
World	108060	179640	66.2	100.0	100.0
China	15809	42545	169.1	14.6	23.7
EU (extra)	11338	15803	39.4	10.5	8.8
Hong Kong	9266	9667	4.3	8.6	5.4
US	2564	8793	242.9	2.4	4.9
Turkey	3330	7058	112.0	3.1	3.9
Mexico	587	6603	1024.9	0.5	3.7
South Korea	7878	4651	-41.0	7.3	2.6
India	2529	4343	71.7	2.3	2.4

(Dunford 2002)

In relation to all imports clothing was more significant for US and Japan, where it constituted 2.3% of all US imports, 2.6% for Japan, and less so for EU countries where it was 1.7% for Germany and only 0.5% for the UK (Comtrade). Another significant difference between the three major markets is that if compared to US and EU, where there are 20-25 countries that act as major clothing suppliers, in Japan there are 12 countries with 1% share or more (in 1990 and 2000), and the share of China was 76% in 2000 (Gereffi and Memedovic 2003). The major markets also differ in terms of imports penetration, with the US producing more of its internally consumed cloths than the EU or Japan (Deloitte 2005).

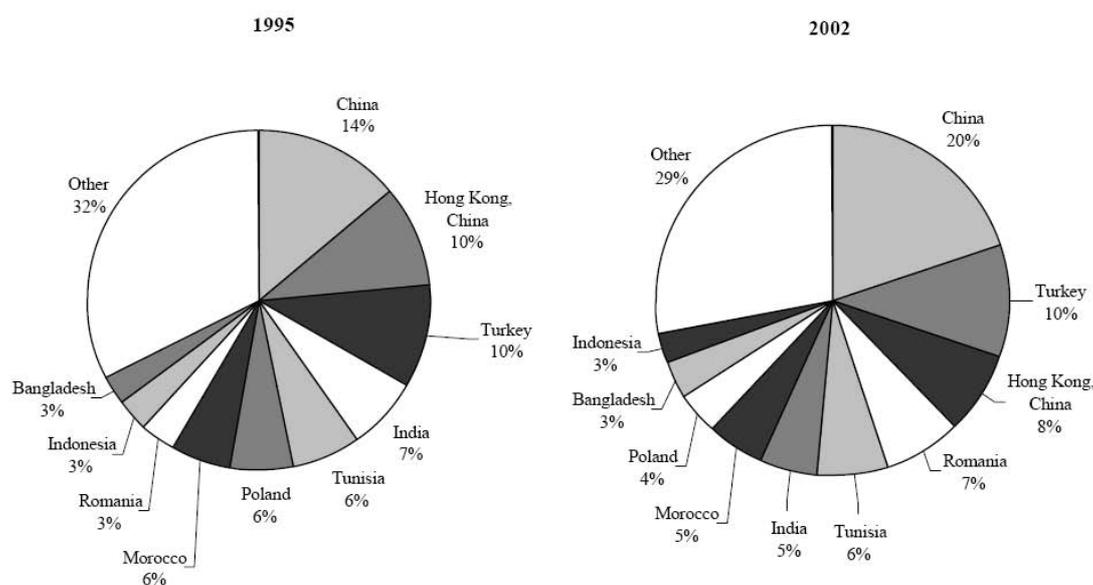
The distribution between regional and global sourcing strategies can be illustrated by comparing the market shares of different US and EU suppliers. Thus in 2000 the origins of US imports were as follows: Asia 41%, China 11%, CBI 16%, NAFTA 16%, SSA 2%, other 14%. For the EU these were Asia 38%, China 15%, EE 10%, N Africa 10%, Turkey 11%, other 16% (Nathan Assoc. 2002). Some of the more significant changes for the US is the growing significance of Mexico (Figure 1), while for EU these are the continuing significance of regional suppliers such as Turkey, Romania, Poland, Morocco, and Tunisia as well as the rapid growth of imports from China (Figure 2) (Nordas 2004).

Figure 1 Sources of imports of clothing to USA



(Nordas 2004)

Figure 2 Sources of imports of clothing to EU



(Nordas 2004)

### 7.2.1 Western Europe

EU clothing imports grew from around E16bln in 1988 to around E55bln in 2002, while exports grew from just under E10bln in 1988 to around E19bln in 2002 (CEC 2002). The share of clothing export (as a share of all merchandising exports) between 1980 and 1996 grew only slightly in the UK: from 1.7% to 2%, and Italy: from 5.9% to 6.4%. However, for Greece the growth was significant: from 7.7% to 16.8%. The other EU country with a similar share is Portugal: 15.1% in 2002, however it is similar to the 13.6% in 1980 and lower than the 21% in 1990. The average for the EU was stable: from 2.3% to 2.4% (Dunford 2002). Another significant trend in the development of EU trade is the greater importance of OPT for some member states such as Germany, as compared to France, Italy and the UK, as well as the rapid growth of OPT in the early 1990s and its gradual slow down more recently (Table 3).

Table 3 Outward processing of clothing, 1988-98

	Outward processing of clothing Euros million						Average annual rate of growth %					Share of total extra-EU imports 1998
	1988	1990	1994	1996	1997	1998	1988-90	1990-94	1994-96	1996-97	1997-98	
France	200	347	463	489	501	466	31.7	7.5	2.8	2.5	-7.0	9.0
Germany	1216	1830	3246	3579	3553	3196	22.7	15.4	5.0	-0.7	-10.0	24.3
Italy	6	21	316	613	693	689	87.1	97.0	39.3	13.1	-0.6	20.5
Netherlands	161	209	369	440	366	266	13.9	15.3	9.2	-16.8	-27.3	8.0
United Kingdom	41	35	145	326	334	444	-7.6	42.7	49.9	2.5	32.9	6.9

(Dunford 2002)

Despite the high level of offshoring and decreasing employment and output figures, clothing continues to be a significant sector for the developed countries. Thus the number of companies has not changed dramatically, while the diversity of companies in the sector has increased (Pye 2004). The clothing industry in the EU is still heavily concentrated in the developed countries. Thus, in 1999 UK 22.0% of employment, Spain 22%, France 18.5%, Germany 11.5%, while the figure for Greece was only 3.6%<sup>94</sup>. However, what is more important is that these countries are

<sup>94</sup> Data from Dunford 2002 and Eurostat.

concentrating heavily on high value added per employee products. That is, the EU is a world leader in the production of high-fashion garments and Paris and Milan are the centers of world fashion, while the southern member states such as Greece and Portugal produce mainly low value-added garments<sup>95</sup>.

### 7.2.2 Eastern Europe

EE and the former USSR lost 11.4% in world share after the political and economic changes, but increased their share since 1995 and especially since 2001 (OECD 2004). This was also associated with a process of restructuring of the export markets where EU came to play an increasingly important role for Eastern European countries, while trade with the countries of the former Soviet Union was declining. Thus, by the end of 1990s EU accounted for between 74% and 91% of the clothing and textile exports of ACs (Hanzl-Weiss 2004).

EE was initially integrated into EU and global markets mainly through Outward Processing Trade. OP in EE went first to border countries (mainly Slovenia, but also Hungary and Poland), then shifted to more distant ones (Romania became the major destination, while Bulgaria's share increased, while the share of Slovenia, Hungary, and Poland decreased; nevertheless the latter two continued to be major exporters), and also moved from labour intensive processes to more capital and research intensive forms of production (e.g. electronics, transport equipment, etc.) (Hanzl-Weiss 2004). The main EU OPT countries are Germany and Italy, with France, Netherlands, and the UK less significant, while the strongest EE links are Germany-Poland, Italy-Romania, Greece and the Balkans (Labrianidis 2001, Labrianidis and Kalantaridis 2004). Interestingly, other major EU clothing producers such as Greece, Portugal and Spain have not been as active, which may be attributed to the lower labour costs there and thus the weaker pressures to produce abroad (Hanzl-Weiss 2004).

Among the reasons for choosing EE countries for OPT was their proximity to major markets, relatively low labour costs, established connections (especially for Poland, Hungary and former Yugoslavia), good quality and tradition in the industry (Hanzl-Weiss 2004). Subsequently, trade between EU and accession countries was governed by the Europe Agreements, where EU was opening its markets faster than ACs. In 1997 tariffs on non-OP imports from EE were removed which led to the decline of OPT. Free trade in clothing was established from the beginning of 1998, while EU exports to ACs was opened from the beginning of 2001 (Hanzl-Weiss 2004). Currently some companies in EE are already looking to source from further east, particularly Ukraine (Kalantaridis et al. 2001), Lithuania, Belarus and Turkey, but also from China and India<sup>96</sup>.

### 7.3 Governance

Trade quotas and especially the adopted in 1974 Multi-Fibre Agreement (MFA) have been the major mechanisms regulating the world trade of clothing and textiles for most of the last 50 years. The Agreement on Textile and Clothing (ATC) negotiated at the Uruguay Round of the WTO became effective in 1995 and set a ten year transition period (ending 2004) during which countries had to gradually abolish quotas (Nathan Associates 2002). The WTO Protocol however put in place two safeguards on trade with China after 2005 by allowing member countries to impose sector and product-specific restrictions on China in case they threaten to cause 'market disruption to domestic producers of textile and clothing products', which are valid until 2008 and 2017, respectively. Further, the phasing-out of the MFA still leaves open a second tier of regulatory mechanisms, such as outward processing trade (OPT) preferential trading agreements (PTA), and free trade agreements (FTA), that will only strengthen the already existing regional trading blocks, centred around US, Japan, and EU. Some examples

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<sup>95</sup> MOVE Papers: Clothing Report on Greece

<sup>96</sup> MOVE Papers

include NAFTA, AGOA (African Growth and Opportunity Act), SSA (sub-Saharan Africa), and CBI (Caribbean Basin Initiative), for the US; ASEAN+Japan, ASEAN+3, JSEPA (Japan-Singapore Economic Partnership Agreement) for Japan; a Customs Union with Turkey, FTA with Mexico, PTAs with CEE, North African Countries, and free trade agreement with South Africa, for the EU<sup>97</sup> (Nathan Associates 2002, Kwan and Qiu 2003).

It is also significant to point that while the regulation of trade has received most of the attention in the literature, regulation also concerns production and consumption of clothing. (Messner 2002, Humphrey and Schmitz 2002). Thus, regulations apply to the fields of product quality, environment, health, working conditions, ethics, and social responsibility<sup>98</sup>. While standards mostly operate on the national level, increasingly there also are international standards and codes of practice that were gradually being introduced since around the 1950s. They are being pushed forward by a diverse set of actors with different agendas, such as lead companies, trade unions, NGOs, and international organisations, which also play different role in setting, monitoring and sanctioning the compliance with standards (Nadvi and Waltring 2002). Some of the international standards that are relevant for the clothing sector include the ISO9000 for quality management, ISO14000 for environment protection, SA8000 for social accountability, WRAP for socially responsible global standards for clothing manufacturing. Some of those are becoming increasingly significant and, for example, ISO standards, and often, SA and WRAP are requirements to get sub-contracting deals with US and EU buyers (Yeung and Mok 2004).

#### 7.4 *Buyers in developed countries*

Clothing has gone through a process of restructuring which is usually dated some time in the 1960s (Frobel et al. 1981) and is often associated with the rise of large buyers<sup>99</sup> such as retailers, marketers, and branders (Gereffi 1994, 1999, 2001). The rise of global buyers was first started by US importing agents, and then followed by retailers and branders (Gibbon 2002). The dramatic changes in the period 1965-1980 can be called a 'retail revolution' that marked the rise of giants such as Wal-Mart<sup>100</sup>, K-Mart and Target, and also opened the way for the growth of specialised marketers, and assemblers such as Nike (Appelbaum 2004). The process of consolidation at the top of the supply chain is also mirrored by a process of increasingly moving parts of the chain to different parts of the world. The latter process can be captured by the increased imports to developed countries. For example in 1975 only 12% of clothing sold by US retailers was imported and it doubled by 1984 (Gereffi and Memedovic 2003). While there are differences in the evolution of relationships between retailers, marketers and branders with their suppliers, buyers, more generally, are increasingly becoming similar to each other, with retailers developing their own brands, while branders that tended to own factories are increasingly abandoning production altogether<sup>101</sup> (Bair and Gereffi 2003).

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<sup>97</sup> While in the case of the EU OPT has diminished in importance since 1999 with the coming into force of several Free Trade Agreements (FTAs) OPT arrangements continue to be significant for different countries (35-45% in some cases). This may mean that the rules of origin are often too expensive or difficult to implement in a large number of cases (OECD 2004).

<sup>98</sup> Some of the relevant questions here would be: who is responsible for setting and enforcement of standards related to product, exchange relations, labour relations, environment, on what levels do they operate (e.g. global-local), what are their temporal shapes and horizons; how codifiable and complex they are (discussed in Gereffi, Humphrey, Sturgeon 2004). How do all these processes interact and what can we say about value creation and distribution, risk distribution, strategies, innovation, sustainability (discussed in Humphrey and Schmitz 2002).

<sup>99</sup> While the size of the company is not necessarily the decisive factor determining its performance (Pyke and Sengenberger 1992) and indeed smaller firms have the benefit of being more flexible, larger companies especially when they are also global players are almost always better positioned in terms of their ability to address different risks and uncertainty. This is because they can diversify in terms of markets, location and types of suppliers, as well as relationships with them, they have easy access to financing (both from within the organisation and from the financial system), intra-organisational pool of knowledge and skills, as well as power to find solutions in cases of administrative, legal and political difficulties (Labrianidis 2001).

<sup>100</sup> In 2002 Wal-Mart's revenues were \$246 billion, which makes it the world's 18<sup>th</sup> economy roughly equal to Switzerland (Appelbaum 2004).

<sup>101</sup> One of the consequences of the concentration of power in buyers is that they monopolise knowledge about market development by controlling the access to the consumer. Before the consolidation of buying companies suppliers used to offer their products to a variety of smaller retailers and thus test the market and get information about trends in consumer preferences. At present this information is contained within retailing chains that control the information at the point of sale and thus can exert stronger control over their suppliers (OECD 2004).

Looking from the perspective of national states, however, there are variations in terms of the degree of concentration and the type of companies controlling the market. The two major US discount chains Wal-Mart and Kmart control 25% of clothing (by unit volume), the top five accounted for 68% of sales in 1995, while the biggest 29 US retailers made up 98% of all sales<sup>102</sup> (Gereffi and Memedovic 2003).

While EU retailers are much smaller if compared to the US giants (Table 4) the level of concentration observable in the US is not dissimilar in other major markets. The UK clothing sector has undergone a process of consolidation since the 1980s and is currently dominated by a small number of large, specialised retailers. The majority of those are mid-market chains and more recently has also been entered by discounters (8.4% market share) and by the major supermarkets. For example in 1997 seven UK retailers controlled 45% of the market, while Marks and Spencer accounted for 16% of the market and for 25% of the clothing manufacturing output (Hines 1998). None of the top 20 clothing retailers have significant manufacturing (Gibbon 2002). In Denmark the concentration is also high<sup>103</sup>, but retailers, unlike in the UK, are strongly export oriented (wholesale), and are predominantly privately owned, with a weak presence of foreign chains. Compared to Denmark and the UK, concentration in Sweden is relatively low and the leading retailers expand abroad through their own stores rather than wholesale (as is the case in Denmark) (Gibbon and Thomsen 2002). In France, Italy and Japan where independent retailers and high-fashion department stores had a strong tradition, similar tendencies of consolidation can be observed (Gereffi and Memedovic 2003).

Table 4 Top ten European clothing companies in 1999

Country	Company	Turnover € million	Sector
It	Holding di Partecipazioni Industriali	3111.00	Multi-product clothing
Fr	LVMH Gruppe	2300.80	Prêt-à-porter
Ger	Adidas	2198.60	Activewear
Sp	Zara	2026.40	Menswear
It	Benetton	1982.10	Knitwear
It	Marzotto	1031.90	Menswear
Ger	Nike Europe	925.03	Activewear
It	Max Mara Fashion	829.01	Womenswear
It	Giorgio Armani	867.85	Menswear
It	Gianfranco Ferré	826.35	Prêt-à-porter

(Dunford 2002)

### 7.5 Stages of outsourcing and types of sourcing relationships

The links between buyers and manufacturers can vary in terms of first, what part of the process is outsourced, and second, what types of relationships are involved in bringing the product to the buyer<sup>104</sup>. On the first point, suppliers could be involved with a) the assembly of imported inputs, b) full package production where they supply finished products to buyers' specification, c) triangular manufacturing, where the lead supplier only coordinates different aspects of the production process, which are assigned to different subcontractors (Gereffi 1994, 1999). In the

<sup>102</sup> In 2003 over 40% of all clothing sales in the US are done by clothing speciality shops (Deloitte 2004).

<sup>103</sup> In Germany the five largest clothing retailers accounted for 28% of the market in 1992 (Gereffi and Memedovic 2003).

<sup>104</sup> The clothing market could be divided according to quality level and according to types of products. First, we can distinguish between a high-quality fashion market and lower quality market, where the high quality market is characterised by high designer input, creativity, relatively high wages, it is located mainly in the developed countries. While some parts of this segment of the market are located offshore this is to a significantly smaller degree compared to lower quality products, and offshoring also tends to be closer to the core markets (Nordas 2004). Second, we can distinguish between markets for different products such as: menswear, women's wear, children's wear; formal, casual and sport wear; etc. There are also specialised markets such as luxury designer wear, working cloths, uniforms, etc. Here specialised and niche market products tend to be produced closer to the home markets.

first stage subcontractors are only engaged into the assembly of clothes, while all inputs, including the cut fabrics, thread, and sometimes even the machines, are provided by the buyer. In the second, full package, stage the suppliers have the capacity to develop the entire process from design through, cut the fabric, assembly, trimming, ironing and packaging the clothes, to the specifications given by the buyer. In the third stage, suppliers are themselves subcontracting parts or the entire process to a set of subcontractors.

These buyer-supplier relationships also stand for different levels of upgrading of suppliers<sup>105</sup> that require the evolution of managerial know-how, design capabilities, fabric procurement, property rights protection, export financing, handling of trade formalities and could also lead to developing own brand name and selling into own retail outlets (OECD 2004). However, pre-assembly is the most high value added production stage and therefore is most likely to be done in-house by major clothing companies (Abernathy et al. 1999), while marketing, branding and retail are very capital and knowledge intensive activities, which makes them also difficult steps towards upgrading (...). In addition, developing own brand for the national market does not guarantee survival in the longer term if the product is not also internationally competitive (Karagozoglu and Lindell 1996). Further the choice of a supplier and their location will also depend on the segment within which the buyer operates. Thus, Gereffi (1999) distinguishes between upper market segment and basic clothing, where relations in the first are characterised by flexible enterprises, supplying high quality services and located in the developed countries, while the latter are much more sourcing from developing countries (Gibbon 2002). It is also worthwhile noting that the above mentioned stages of outsourcing (upgrading) do not necessarily always follow or exclude each other. In many cases companies are simultaneously developing different aspects of their capabilities and may for example be strongly dependent on assembly while also developing their own brand for the internal market<sup>106</sup>.

On the second point, about types of relationships and patterns of re-location, outsourcing takes three main forms: subcontracting, joint venture, and direct investment. Direct investment is usually considered to be the most beneficial form of relationship for the receiving country as it is associated with stronger commitments on the part of the investor. However, FDI is typically not significant in the clothing sector (see Corado 1995, and Hanzl-Weiss 2004) and outsourcing is mostly done through subcontracting or in some cases, though less frequently, through joint ventures. Further, buyers can either establish direct links with manufacturers, or alternatively use intermediaries. Intermediaries could be first, former local manufacturers that moved offshore or developed a network of offshore subcontractors, second, intermediaries located in the country or region from where the product is sourced<sup>107</sup>. The benefits for a buyer of using an intermediary are that they can serve as importers and transmitters of production and organisation, expertise and assure that the standards set by the buyer in terms of quality, time of delivery, and price are met (Gereffi 1994, Schmitz and Knorringa 2000). Often they can offer a range of services, from design to financing, and can add value through their knowledge of globally dispersed production capacity and demand, as well as capacity to deal with logistics, diverse contexts and subcontractors, internal design (Enright et al. 1997). Thus sourcing can be organised differently. For example, companies may try to minimize direct involvement and use intermediaries, or keep a sourcing capacity within the company, they can have own overseas buying offices, or overseas offices representing a group of buyers. Even when a supply chain management department is created it does not necessarily have a buying function. Outsourcing relationships can also be discussed in relation to the size (number of suppliers) and capacity (quantity, quality, lead times, and variety of operations) of supply base.

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<sup>105</sup> Industrial upgrading in clothing can be conceptualised as a move from export-oriented assembly, more integrated forms of manufacturing and marketing (full package model), and original brand name manufacturing. Moving to the second stage requires the ability to understand and respond to complex buyer requirements and offers an opportunity to source from locally available suppliers. The move upward the supply chain also transforms the links between buyers and suppliers as suppliers gain more power while going up the chain (Bair and Gereffi 2003).

<sup>106</sup> See for example Kalantaridis et al. (2001) on Transcarpathia.

<sup>107</sup> In relation to the UK, for example, Gibbon (2001) distinguishes between suppliers: direct overseas suppliers, UK agents, UK full manufacturers with overseas production capacity.

In both cases relationships between buyer and supplier may evolve over time by in the first case, suppliers successfully upgrading and either developing a second tier subcontracting, while retaining some production themselves (Appelbaum et al. 2000) or solely playing the role of an intermediary (triangular manufacturing). This was the case with many companies located in Greece and CEE that started sourcing for their customers from further east rather than producing themselves (Kalantaridis and Labrianidis 2004). Or in the second case, buyers could move into developing direct links with producers thus leaving out the intermediary (Kalantaridis et al. 2001). In most cases however buyers develop hybrid solutions using both intermediaries and direct contacts thus diversifying the forms of their relations. Doing that allows them to get a better knowledge of the market, and offers them the opportunity to reduce the risk through diversifying their relationships. In some cases links between buyer and supplier will stay very strong and buyers would prefer their existing suppliers to expand their businesses to new areas of interest for the buyers, rather than looking to establish new contacts with suppliers located in these areas (e.g. Taiwanese and Hong Kong companies moving to Africa, the Caribbean (Enright et al. 1997) or Latin America in order to supply existing clients from 'close to home' areas).

### *7.6 Restructuring and Informality*

Some authors (Levinson and Petropoulos 2001) have used Schumpeter's celebrated phrase 'creative destruction' to develop a more positive view to the changes in the clothing and textile sectors. The general argument in such approaches is that the process of relocation leads to the opening of new windows of opportunity in the more innovative and higher value added segments of these sectors, while also leading to expansion of new and currently growing industries. However, the fragmentation of the supply chain poses a number of different challenges, for example it makes co-ordination and logistics a major challenge, but also fragments the line of responsibility (among firms located in different parts of the world and operating according to different legal rules and social norms), which raises the question of who is carrying the burden (for example the cost) of the consequences of different failures. This break in the line of responsibility is significant for companies, consumers and policy-makers, although in different ways.

Breaking the line of responsibility makes it significantly more difficult to make companies accountable for the entirety of social relations embedded into their products. Thus, a significant factor in the competitiveness of companies could be employing practices that are on the edge of the legally accepted in terms of not applying standards. According to Appelbaum (2005) global buyers chose to operate in countries and factories where trade unions are forbidden and cheap labour is guaranteed, which poses a challenge to the anti-sweatshop struggle. In addition the gains achieved for workers in developing countries that were negotiated successfully thanks to an increase in the countries export quotas on the condition of observing the code of practice, will be threatened with the fall of quotas<sup>108</sup> (Appelbaum 2005).

While such practices are mostly associated with less developed countries violation of standards may also be present in developed countries especially in small and medium companies where there may be cases of exploiting family and migrant workers. Aniello (2001) for example argues that failure to account for informal practices in Southern Italy leads to underestimating the size of the underground economy (licit practices by illicit means). As she demonstrates clandestine labour accounts for 50-60% and very often up to 80-90% of the labour force in clothing and textiles. Similar to an argument developed by (Husband and Jerrard 2001) for the UK the clothing sector operates simultaneously in the formal and in the underground economy, where migrant and illegal workers are predominantly associated with the latter. In this sense, it is not only products from less developed countries that come to the developed countries, but quite

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<sup>108</sup> Quintero-Ramirez (2002) documents the de-industrialisation in Canada and the exploitation of women in Mexico as some of the negative consequences of NAFTA.

literally the third world is physically (in space) and institutionally (through practices) integrated into developed countries. Portes et al. (1989) distinguish between underground survival, underground exploitation and underground development. Aniello (2001) argues that the practices encountered in Italy are underground exploitation (in the case of illegal Chinese workers working only for food and accommodation) and underground development (in the case of Italian workers for who this is an alternative to official employment). The two main clusters in the US around New York and LA, while substantially restructured and mainly producing short runs of fashion-intensive products are heavily dependent on the supply of low-cost immigrant labour for their survival (Gereffi 1999, Palpacuer 2003).

Thus, and necessarily, over-generalising, the global two tier production system, where labour costs are higher and international standards are better enforced in developed countries (as compared to less developed countries), exists and evolves in parallel to similar two tier structures within the developed world. Here there is a second tier where conditions resemble those in underdeveloped countries, utilising migrant or illegal, but generally unregulated labour, while also remaining less visible, and may constitute a significant factor influencing competitiveness<sup>109</sup> and sourcing decisions, while also being politically and culturally<sup>110</sup> embedded within specific national contexts.

### *7.7 Adjustments, Strategies, and Adjustment Strategies*

For the purposes of this report it is useful to distinguish between adjustments (processes and mechanisms) and the more comprehensive as well as more concrete notion of strategies. The first will refer to types of changes or adaptations within different aspects of the supply chain and the second would refer to broader sets (or combinations) of changes adopted by businesses. The latter, consisting of a combination of different (upgrading or indeed downgrading) adjustments, where adjustments can be mainly product related, production process related, relations related, and sourcing and logistics management related, while all of those can be related to changing technology<sup>111</sup>.

#### *7.7.1 Adjustments*

In terms of product adjustments many companies have tried to reduce production costs by looking for cheaper labour in especially low-value added activities. However, while outsourcing assembly through mainly subcontracting to low cost areas is endemic to the industry (Christenson and Appelbaum 1995), manufacturers in developed countries, who pursue a strategy of solely lowering their costs, are the most vulnerable to the restructuring of the sector (Taplin et al. 2003). Thus, other forms of product related adjustment also include increasing productivity, diversification of the range of products, increasing the rate of new product offerings (e.g. seasonal, monthly, fortnightly), moving up the chain and offering higher quality and/or more specialised products. Making such adjustments is often associated with increasing the production flexibility that can be achieved through changes within the production process and moving away from in-line manufacturing towards modular manufacturing, where both the technology (Zeitlin and Totterdill 1989) and the labour skills will offer quick response options.

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<sup>109</sup> Indeed, it is in Britain's Asian communities where the trend of decline in the clothing industry has for a long time been avoided. For example, given the mean of 55.8% decrease in employment in the UK clothing sector, between 1971 and 1991, West Midlands employment went down by only 14% and employment in East Midlands increased by 1% (Berkley et al 2000).

<sup>110</sup> Natrass (2000) discusses the cases of clothing industries located in spaces of South Africa populated by displaced people. In this case dislocation was based on ethnicity and when combined to lack of employment opportunities, institutional and cultural (especially related to gender relations) specificities lead to high levels of exploitation and social tensions.

<sup>111</sup> An alternative typology is offered by Humphrey and Schmitz (2002) who suggest that as adaptations companies can **develop**: product (better, more diversified, more innovative products), process (using higher quality machines, better co-ordinated, more efficient), function (prioritising more skilled activities with higher value added), and inter-sectoral (diversifying into different sectors) strategies.

As far as developed countries are concerned the role of labour flexibility is crucial for adjustment, and contrary to established employment practices in the clothing sector it is increasingly necessary to treat employees as a resource rather than a cost (Taplin et al. 2003). Improving quality and achieving better product differentiation requires high quality of work and very skilled workers, which also means investment in training and long-term contracts. Thus the high labour turnover in the clothing industry is one of the impediments to implementing such a strategy (Appelbaum et al. 2000) and requires a shift from cost lowering efficiency measures to promoting production strategies that are structured around effective use of worker inputs. This is not always easy as people working in the clothing sector tend to be less educated than employees of other sectors<sup>112</sup>, they may have linguistic difficulties, while business considers training schemes as being related to business success and therefore clothing companies, which are rarely successful, are reluctant to offer training for future skills needs (Winterton and Winterton 2002). In this sense, government intervention and support is essential in building firms' capacity especially for companies on the cheaper end of the clothing market (Husband and Jerrard 2001).

Further, on the process and technology side increasing flexibility and reducing cost is also associated with adopting procedures that helped to keep the inventory low and is associated with the notion of 'lean retailing'. These sets of relationships were first introduced by Wal-Mart in the 1970s (Nordas 2004) and are more broadly associated with the growing power of retailers and their ability to exercise pressure on their suppliers to standardise labelling, adopt modern methods of material handling, and implement new technologies for exchanging sales data<sup>113</sup> (Abernathy et al. 1999). Depending on the size of the market, the lead times of the suppliers, and the agreed variations, suppliers would need to adjust their inventory in order to be able to meet buyer's orders on a weekly basis, which is the usual period over which retailers replenish their stock (Nordas 2004).

Even more broadly, while building strong relations with suppliers as well as effective management of the relations between different parts of the supply chain, manufacturers, buyers and sellers is important for reducing costs, it is also instrumental for achieving high quality, innovative designs, and shorter development times (Bruce and Moger 1999, Bessant et al. 1994, Christopher 1992). The importance of integrated design, production and retail, as compared to outsourcing, is well illustrated by the rapid growth of ZARA, for example (Bonnin 2002). Further, given that branding constitutes some of the highest expense within the supply chain buyers are very sensitive to protecting their brand name and their supplier selection is therefore guided not only by consideration of price but also by an assessment of their production practices and the potential danger they could pose to the brand name of the buyer. Indeed, according to Gibbon (2001) most of the time it is an interesting supplier that makes a country interesting, rather than the other way around. Starting work in a new country will be stimulated by either having an existing supplier entering there or having an established supplier (that had worked before with a similar company) there. Developing relations with a new supplier in a new country normally would take about four years according to one of the managers. Further there is a tendency towards the development of 'core suppliers', with more competencies, which reduces the opportunities for learning-from-doing and combined with the 80%-100% import penetration (and thus also stagnated demand) in major markets reduces upgrading opportunities (Palpacuer et al. 2003).

The importance of physical proximity in building adjustment capabilities has been discussed in relation to 'near to home production' and clusters. Thus, company's flexibility and its ability to respond quickly to changing demand can be enhanced by keeping onshore capabilities or sourcing from 'near to home' (Abernathy et al. 1999, Warburton and Stratton 2002), while

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<sup>112</sup> The example used here is for the UK but will generally also hold for other countries.

<sup>113</sup> 'Lean retailing' and production closer to home seems to be a chosen strategy of smaller retailers, while sourcing from far away is preferred by bigger retailers. Most of the companies however seem to be combining both strategies (Gibbon 2002).

clustering and regions matter (Messner 2002) as it creates a critical mass that provides a pool of knowledge and skills, allows the sharing of technology, and information (Visser 1999)<sup>114</sup>.

Strategies of companies are however embedded into the broader institutional and physical environment. For example, unlike the US and the UK, where high priority is given to 'shareholder value', in mainland Europe this is far less the case. This leads to significant differences in the day-to-day management of companies and on the strategies chosen. Focusing on core values, short-term performance, or medium and longer-term competitiveness and market share (Palpacuer et al. 2003). Further the International Trade Commission emphasises the significance of short shipping times<sup>115</sup> and frequency of maritime services, reliability of infrastructure in telecommunications, electricity and water services, and accessibility to high-quality fabrics macroeconomic stability and access to credits (OECD 2004), state policies<sup>116</sup> (Tully and Berkley 2004), and legacies from the past<sup>117</sup> and lock-ins<sup>118</sup>, attitudes and beliefs.

This will continue to be the case and the emphases built into policy agendas are a significant factor influencing the future development of the sector. Thus, for example, according to the European Commission (CEC 2004) the clothing and textiles sectors can increase competitiveness by research, innovation, training and protection of intellectual property rights, which clearly prioritises pre-assembly and niche markets.

### 7.7.2 Strategies

In this sense different companies can combine any number of different adjustment mechanisms within a company strategy. Their success or failure does not depend on one single or a set of universal 'best moves'. Their success will also depend on the position that they occupy how they are embedded into the areas in which they operate, and their customer base etc. Broadly strategies will differ significantly along two main dividing lines: buyers and suppliers, and developed and under developed countries.

It is now widely accepted by mainly policy-makers, but also by businesses and academics, that the a successful restructuring strategy involves, at least in some form, a move away from manufacturing and towards branding and a consolidation on the retail end of the chain. Thus, it is increasingly typical for the leading companies to design and market but do not make their products. Their profits mainly come from research, design, sales, marketing<sup>119</sup> and financial services, rather than from scale, volume and technological innovation, as is the case in producer driven chains (Baier and Gereffi 2003).

While this argument is considered generally valid there are a number of examples that call for its modification. This is the case first because the dominant GCC approach suffers from a couple of deficiencies and thus simplifies the reality, and second because there are a couple of new developments that also challenge the general pattern. Thus, first, the GCC approach has been criticised on a number of levels. It has been argued that the approach tends to exclude

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<sup>114</sup> Visser (1999) discusses the positive changes especially for smaller firms in Peru which are especially evident after the liberalisation in the 1990s. Electronic data intelligence (EDI) has been used as a mechanism of facilitating co-operation between small and medium enterprises by linking them within a system of information exchange. However, the success of EDI is not guaranteed and, among other factors, is also dependent on the attitudes of senior managers towards the system (Dhillon and Caldeira 2000).

<sup>115</sup> According to OECD (2004:178) estimates seaborne transport is the dominant form of transport for the US, 83%, rail 12.4%, air, 3.2%, and lorries 2.4%. The cheapest is rail, 0.7% of import value, sea 4.5%, road 4.7%, and air 11.1%. These figures however only offer a general orientation about relative costs and would vary widely depending on the country of origin, regulatory regimes, etc.

<sup>116</sup> For example the political aspects of the UK clustering policies are implemented through RDAs. They argue that decisions for setting priorities are based on a simplistic definitions that do not take into consideration broader conditions and business behaviour and thus fail to support the efforts for restructuring of a sector such as clothing (Tully and Berkley 2004).

<sup>117</sup> As one of our interviewees explained the rapid demise of the UK clothing sector was to a large degree, and paradoxically so, an outcome of the support given to it in the 1970s under the pressure of the trade unions.

<sup>118</sup> The relationship between M&S in the UK and its suppliers is a good example of such a lock-in that strongly influenced the development of the UK clothing sector.

<sup>119</sup> Typically marketing budgets are 3-8% of company's sales (Deloitte 2005).

labour and focus on industry (i.e. capital), that it does not address legacies and path-dependence, and does not consider the spatial aspect and focuses on the chains as linear forms of economic practice (Leslie and Reimer 1999, Hughes 2000). It tends to emphasise global, i.e. trans-border links and tends to not account well for local relations (and neither does it offer a conceptual framework to deal with these relations), and complex institutional arrangements. Thus issues of governance are almost entirely missing the role of the state in particular is not discussed while power relations tend to be reduced to two overly generalised models (buyer or producer-driven chains) (Smith et al. 2002).

Second, and more specifically, there are also areas that have been given less attention such as the developments of the supply chain in the supplier countries, and there are new developments such as the emergence of global suppliers and of China as a new economic power. Hassler (2004) for example argues that the overemphasis on the globalisation of the clothing industry has led to over-focusing on global buyers and their power and has largely disregarded the local networks, markets and retailing structure of developing countries. In this study Hassler discusses Indonesia and argues that there are heterogeneous forms of commodity chain co-ordination. Thus, while a buyer-driven dominance is present it is observable mainly for imported garments and their distribution networks. However, almost all firms that supply the Indonesian market also have production capabilities, while some of the strongest determinants of the shape of the commodity chain are dependent on the key role played in each case by owners of sales space. Thus, buyer-driven and producer-driven chains co-exist and are embedded into the existing conditions in the Indonesian market.

Similar arguments are made by Aniello (2001) who uses Italy as an example<sup>120</sup> to draw finer distinctions within the clothing sector, which she argues cannot be discussed in general, especially at present with the increasing push towards specialisation into specific niche. Further, the established patterns in relationships between buyers, intermediaries, and suppliers is also challenged by what Ho and Newton (2003) call the 'virtualisation' of the supply chain, with the rise of virtual trading and knowledge communities, as well as the migration of inter-organisational processes into cyberspace. Tokatli and Eldener (2004) who are discussing the case of a Turkish supplier to Benetton. They argue that the relations between buyer and producer are fluid and complex and that different routes to upgrading are available. This is especially the case given the increasingly blurring differences between production and distribution based firms. The latter is well illustrated by the challenge to global suppliers by the rise of very large producers in Southeast Asia and especially in China, with some producers extending their operations abroad<sup>121</sup> (e.g. SE Asian companies in Latin America) in order to offer a close to home supply option for their customers (Enright et al. 1997). This tendency may be strengthened given the continuous growth of buyers that deal with high volumes and thus also require large (1000+) producers<sup>122</sup> (Appelbaum 2004).

Another significant development that challenges the buyer dominance in the clothing sector as well as the balance of power between and within the three global markets is the growing integration of industries in the Greater China region, which includes China, Hong Kong, Macau and Taiwan (Au and Yu 2002); while China's internal market for clothing is rapidly growing. It was worth \$50 billion in 2000 and is expected to reach around \$100 billion until 2010. According to USITC China will become the supplier of choice for most of US clothing supplies given the end of the quotas regime and the ability of China to produce almost all types of clothing at all levels of quality and at competitive prices (Appelbaum 2005). There however will

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<sup>120</sup> Aniello (2001) looks at different types of relationships within different products based networks, undeclared work, cooperation and competition within local systems.

<sup>121</sup> For example, in 1995 Hong Kong entrepreneurs employed about 5 million people in 20,000 factories in the Chinese Guangdong province (Gereffi and Memedovic 2003).

<sup>122</sup> However, it is worthwhile pointing that in terms of value added in developed and developing countries there is very little changes during the last 15 years. For clothing, the ratio between developing and industrialised countries was 22.7% to 77.3% in 1985, and 27.8% to 72.2% in 2000 and 2001 (OECD 2004), which is 5% shift in 15 years.

remain a second-tier of suppliers for niche goods and services that will ensure quick turnaround and mid-season order replenishments of basic items offered in a wide range of different sizes. Large producers may develop strategic co-operations with global buyers and also push out of the market smaller producers as well as smaller producing countries (Appelbaum 2004). There are already indications that Chinese companies are establishing distribution centres in EE.

### *7.7.3 Specific adjustment strategies*

Thus, we need to be much more specific in our claims. As far as producers are concerned they can differ in their adjustments emphases and be flow-oriented, operation-oriented, product-oriented, and whole piece system oriented (Sels and Huys 1999). Taplin et al (2003) quote a study by Winterton and Winterton (1997) according to which the restructuring undertaken by UK clothing manufacturers could be grouped into five categories: a) marketing changes (product line and franchising), b) operational changes (just-in-time, quick response and team working), c) technological innovation (CAD, EDI, Computer-controlled cutting, computer-based monitoring), d) quality initiative, e) outsourcing of production. Larger firms pursue all of these strategies. Castro et al. (2004) argue that adjustment of clothing companies requires simultaneously implementing different strategies rather than just focusing on one specific aspect of the process.

Given such a broad trend we can further distinguish between different forms of strategies adopted by leading buyers. Martin Christopher (2000) offers a useful distinction between lean, agile, and hybrid strategies. A lean strategy will focus on 'doing more with less' by for example cutting waste, keeping 'zero inventory', just-in-time approach. In contrast, an agile strategy refers to the ability to respond quickly to changes in the environment within which the company operates, and may include flexibility within the production process, the organisation, the information flows, logistics and mindsets. A hybrid strategy will be combining the two general methods and the Spanish company Zara a prime example here.

### **Case study: Zara**

'Zara the Spanish fashion company provides a good example of this hybrid supply chain strategy. Zara is one of Spain's most successful and dynamic apparel companies, producing fashionable clothing to appeal to an international target market of 18 to 35 year-olds. Zara's international market positioning places it in direct competition with some of the most skilled operations in the business, including Italian fashion giant Benetton and US based The Gap and The Limited. Its rapid growth and on-going success in such a fiercely competitive environment is in fact a testament to its ability to establish an agile supply chain which still incorporates many 'lean' characteristics. The pursuit of this hybrid strategy has enabled Zara to develop one of the most effective quick-response systems in its industry.

The whole process of supplying goods to the stores begins with cross-functional teams - comprising fashion, commercial and retail specialists - working within Zara's Design Department at the company's headquarters in La Coruña. The designs reflect the latest in international fashion trends, with inspiration gleaned through visits to fashion shows, competitors' stores, university campuses, pubs, cafes and clubs, plus any other venues or events deemed to be relevant to the lifestyles of the target customers. The team's understanding of fashion trends is further guided by regular inflows of EPOS data and other information from all of the company's stores and sites around the world.

Raw materials are procured through the company's buying offices in the UK, China and The Netherlands, with most of the materials themselves coming in from Mauritius, New Zealand, Australia, Morocco, China, India, Turkey, Korea, Italy and Germany. Approximately 40% of garments - those with the broadest and least transient appeal - are imported as finished goods from low-cost manufacturing centres in the Far East. The rest are produced by quick-response in Spain, using Zara's own highly automated factories and a network of smaller contractors. Material or fabric is also held in 'greige' i.e. undyed and unprinted and if demand for a particular garment turns out to be higher than expected then local manufacturers can quickly manufacture additional product.

Zara's manufacturing systems are similar in many ways to those developed and employed so successfully by Benetton in Northern Italy, but refined using ideas developed in conjunction with Toyota. Only those operations which enhance cost-efficiency through economies of scale are conducted in-house (such as dyeing, cutting, labelling and packaging). All other manufacturing activities, including the labour-intensive finishing stages are completed by networks of more than 300 small subcontractors, each specialising in one particular part of the production process or garment type. These subcontractors work exclusively for Zara's parent, Inditex SA. In return they receive the necessary technological, financial and logistical support required to achieve stringent time and quality targets. The system is flexible enough to cope with sudden changes in demand, though production is always kept at a level slightly below expected sales, to keep stock moving. Zara has opted for undersupply, viewing it as a lesser evil than holding slow-moving or obsolete stock.'

### *7.8 Conclusion*

To sum up, the restructuring of the clothing sector is entangled into a number of diverse processes such as a process of further globalisation (emerging small number of global producers as well as global buyers), regionalisation (strengthening of regional integration, especially around sourcing from smaller, higher quality, rapid response, competent suppliers), and emerging markets in less developed countries (result of maturing of the industry). Looking at developments in EE Begg et al. (2003) distinguish between strategies of outsourcing towards

CEE where some businesses integrate their Eastern European links into a clearly identifiable global strategy in which cost pressures are paramount, and in some cases high quality inputs and production are also achieved. However, in many cases a strategy of 'de-localisation' is dominated by concerns over issues of proximity, production schedule, delivery-time, established infrastructure and skills, and cultural familiarity for managers and technical staff. This is especially the case in outsourcing to the Euro-Med region, where the overwhelming concern is that control over production processes enhances flexibilities in sourcing and marketing. Still, the overall tendency is not towards prioritising one form over the other but towards the diversification of sourcing possibilities (Palpacuer et al. 2003).

The complex interdependencies influencing the re-structuring of the clothing sector as well as the diverse possibilities for adjustments and the actually existing strategies adopted by different players require the development of a broad-ranging analytical framework. Such a framework needs to operate on different social levels (inter-personal, inter-organisational, and systemic), to take into consideration a wide variety of forms of embeddedness<sup>123</sup>, as well as study their interdependences and co-evolution in the concrete. Further, such an analysis also needs to distinguish between different perspectives on the changes in the clothing sector so that they complement, enrich and critically engage with the, otherwise mainly state-centred and policy driven, question of dislocation.

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<sup>123</sup> Scott (2002), for example, offers an interesting illustration of the global and local forces at work in the LA clothing industry.

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## 8 Software industry report

Robert Guzik, Grzegorz Micek, Michał Paszkowski\*

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### 8.1 *Introductory and technical notes*

The aim of this report is to present major trends in software industry sector at both global and regional level in the context of delocalization. The term ‘software industry’ is interchangeably used with ‘IT sector’ and is defined hereby as NACE 72 Group. It includes: (i) hardware consultancy (NACE 72.10)<sup>124</sup>; (ii) publishing of software (72.21); (iii) other software consultancy and supply (72.22); (iv) data processing (72.30)<sup>125</sup>; (v) database activities (72.40); (vi) maintenance and repair of office, accounting and computing machinery (72.50); and (vii) other computer related activities (72.60). Often IT sector is analyzed as part of ICT (information and communications technologies) sector as in many statistics this is the most common level of data aggregation. Most reports produced by international organizations (UN, the World Bank, OECD, UE) are devoted to ICT sector, whereas those devoted to IT sector are very rare. Therefore ICT data is much more easily available. It is necessary to stress that ICT is a much broader concept – it consists of manufacturing (electronics, office equipment, telecommunication equipment) as well as services (IT, telecommunication, postal services, radio and TV broadcasting). In this report we sometimes employ data for ICT in order to show general setting, but it should not be interpreted as equal to data for IT sector and interpreted as such.

Another important remark is to bear in mind that IT activities are generally larger than IT sector portrayed in official statistics. Many enterprises, governmental agencies etc. possess their own IT departments – classified elsewhere. Since they are more prone now to be outsourced to IT sector companies – the accordance of reality with statistics becomes more straightforward lately.

Final remark we like to put here is that many software companies deal with hardware (e.g. IBM, Hewlett-Packard), therefore some data for IT sector is exaggerated by hardware sale revenue. It is also true for computer network integrator companies which sell integration services (NACE 72.10; 72.50) and hardware to build network etc. (NACE 51.60; 52.45).

### 8.2 *Origins and development of software industry*

#### 8.2.1 *Origins of software industry*

The term software refers to a variety of programs which make computers operate. Since the evolution of software was differentiated by categories of programs, it is useful to produce a short review of the categories. The most general division is into languages, operating systems and applications. This historical review indicates the most important companies in the industry as well as a key places where main advances were made and from where software innovation had been diffused.

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<sup>124</sup> ISIC classification of IT sector is very similar (7210 – 7290).

<sup>125</sup> BPO activities (business process outsourcing) are classified here, for example call centers, accounting offices, airline ticket issuing offices.

Initially, a sequence of calculations on early computers was changed by manually rewiring the interconnections of the circuits in proper order. Operations were controlled by a program that was set up externally by wires on plugboards. This tedious method was later replaced by electronically storing a program in binary form, which was addressed directly to a hardware as a machine code. Development of programming languages led to a specialization of sets of computer instructions<sup>126</sup>.

Translators (assemblers, compilers and preprocessors) and interpreters grouped into a category called language processors were developed exclusively by hardware makers and were machine specific. Language processors serve as interfaces between machine code and high level programming languages which were primarily developed also by mainframe makers: FORTRAN in 1957 and PL/1 in 1963 by IBM, C in 1972 and C++ in 1980 by AT&T Bell Laboratories. Then groups of users and computer manufacturers initiated development of users-oriented languages, like COBOL (1959), BASIC (late sixties), Pascal (1974), etc.

The first widely used operating system was the OS/360 system IBM introduced in 1964, although preliminary systems had existed before then. OS/360 provided a single operating system that could run any program on all computers in IBM's System/360 family. This had a significant impact on the computer industry, because users could upgrade their computers to more powerful ones in the family without having to rewrite their application programs.

UNIX is an operating system for computers for timesharing, multiprogramming and enhanced portability that AT&T Bell Laboratories began developing in 1969. Because its conciseness and preciseness allow UNIX to be easily modified, it has been improved in many ways by academic and industrial institutions and became extremely popular in universities, being used mostly on workstations for scientific and engineering processing.

The organization of operating systems was streamlined by Carnegie-Mellon University, Pittsburgh, in the mid-1980s by using the concept of the microkernel. The microkernel improved the modularization of operating systems, making it possible for modules to be individually updated in response to progress in hardware. This feature became important, when microprocessors entered the computer stage, because since then software business evolved independently from hardware manufacturers (Table 1).

The 8080 introduced by the Intel Corporation in 1974 became the first commercially successful microprocessor; it was used by the CP/M (Control Program for Microprocessors) operating system developed by Digital Research, Inc., which became the standard system during the late 1970s. In 1981 IBM introduced the personal computer family called PC. They chose Intel's microprocessor 8088 and MS-DOS (Microsoft Disk Operating System), or simply DOS, developed by Microsoft, as the operating system.

Apple Computer, Inc., introduced the Macintosh personal computer family in 1984; the windowing system with a mouse that was originally developed at Xerox Palo Alto Research Park was adapted for the Macintosh system. Microsoft also developed a graphical user interface program based on MS-DOS, called Windows (1990), which implements a window environment similar to that of Macintosh. Microsoft expanded Windows to Windows NT (New Technology) in 1993 as a powerful multitasking system.

As the performance of personal computers has been improved by IC-technology progress, the operating systems for these computers have become powerful and convenient by making use of techniques such as the microkernel and window graphical user interface.

The path of development of operating systems was changed in 1991 by Linus Torvalds of University of Helsinki, when evolution of Linux began. Linux is a Unix-like multitasking, multi-user 32 and 64 bit operating system for a variety of hardware platforms and licensed under an open source license. In computer software, open source refers to source code that can be freely accessed and duplicated. Open

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<sup>126</sup> Historical information is derived (if other source is not stated) from the article "Computers", New Encyclopedia Britannica, vol. 16.).

source is increasingly important in all applications, but it has made its major impact in running computer servers. It is widely estimated (2003) that about two-thirds of the world's Internet servers run on open source systems (OECD 2004).

Presented above two categories of software were developed by sparse manufacturers (predominantly American) in comparison with plethora of application makers.

Computers have pervaded modern society and affect nearly every aspect of daily life. They have a wide array of applications, some major examples of which are outlined here. They are described according to the type of computer on which the programs are usually run.

#### *8.2.1.1 Applications of large computers*

Mainframes are used mostly for business processing, whereas supercomputers are employed for scientific and engineering computations, although this boundary is becoming blurred. Mainframes are used by manufacturers, government agencies, retail store chains, airlines, banks, and insurance companies for corporate-wide business data processing that requires heavy use of many input and output units. Applications include: payroll computation, inventory control, banking, airline reservations, preparation of insurance policies, and check processing.

Supercomputers are designed for use in solving large-scale scientific and engineering problems that would take excessive computation time if solved by mainframes. These problems are to solve hundreds or more equations, requiring high precision. Examples of such problems are weather forecasting, planning of oil refinery production, communications network planning, movie production, and weapon design.

Applications of the kind were also developed mainly by large specialized firms in highly developed countries.

#### *8.2.1.2 Applications of personal computers and workstations*

As personal computers and workstations have become less expensive and more powerful, their numbers have increased phenomenally in offices, schools, and homes. Application programs that individual users run are: document preparation, accounting, simple database management, video games, automated design of products, and education, etc. Being more powerful than desktop or laptop computers, workstations tend to be used more often for solving scientific and engineering problems. The following are some of the most widely used application programs in offices, laboratories and homes: text-editing programs, desktop publishing, spreadsheets, databases.

Due to spin-offs, subcontracting and outsourcing activity in the software creation is widely spread in global economic space.

#### *8.2.1.3 Applications of computer networks*

Users of computer networks exchange data and files. Database management is probably the most frequent application of computer networks in offices, although it is also extensively used on stand-alone computers and on time-sharing systems that are not connected to computer networks.

On a computer network, databases are either located at a central site (centralized) or distributed among more than one location. Problems like: security, accuracy, consistency are becoming more significant as distributed database systems based on a network of computers are increasingly used in place of centralized database systems.

Rapid expansion of the Internet stimulates development of new types of software: hypertext languages, world wide web page-editing programs, world wide web browsers, anti-virus programs, firewalls, etc. The categories of software are produced by numerous small and medium size firms in many countries all over the world, though domination of large American firms is often evident.

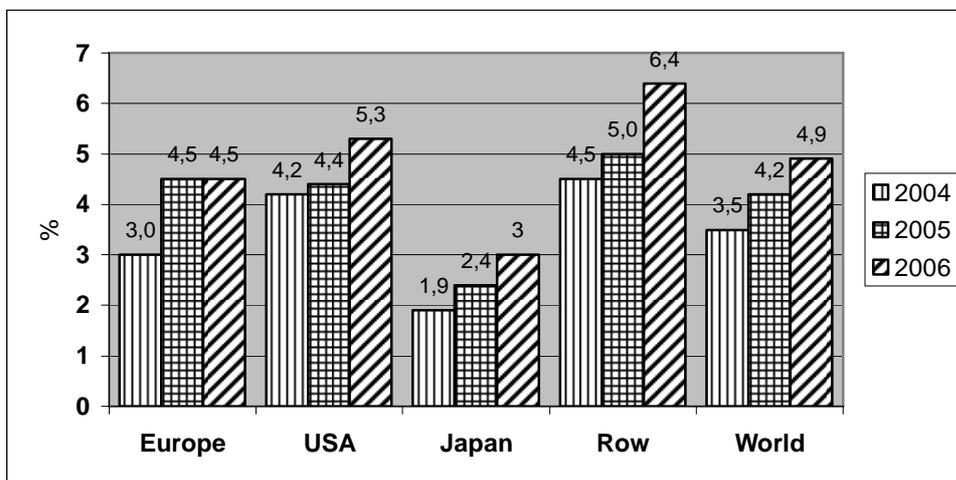
#### 8.2.1.4 Embedded computer systems

Numerous industrial and commercial products come with computers, microprocessors in particular, equipped inside them. These embedded computer systems can perform many complex functions. For example, automobiles use embedded computer systems to control fuel injection and other driving mechanisms. Telephone exchanges are essentially gigantic special-purpose computers that have speech-path connection mechanisms as output units; many complex telephone services are provided by enormous computer programs. Game machines also are equipped with powerful microprocessors; video-cassette recorders, telephone sets – especially mobile, cameras, photocopiers, sewing machines, industrial robots, hand tools, military weapons, and medical instruments are other examples of embedded systems.

#### 8.2.2 Basic data on the sector

Software sector is among the most rapidly growing sectors in OECD countries, with strong increases in value added, employment and R&D investment. The top 250 ICT companies generated revenues of 2,420 Billion USD in 2003. Firms based in the United States accounted for 41% of top 250 ICT companies revenues, in Japan – for 28%, in EU – 23% (OECD 2004). In 2002, the top 250 ICT firms employed around 9.4 million people worldwide. However ICT industry doesn't stand for the software industry which is a small part within information and communication sector (63 out of 250 top ICT companies). With average revenues 2.5 billion software companies are smaller than ICT equipment firms. However, software industry is the best in ICT sector in terms of net income (9 billion USD in 2003) (OECD 2004). The revenues in world's software industry increased by 5 percent a year or more between 2000 and 2003. The forecast for entire IT market growth for 2004-2006 (Figure 1) shows steady growth, especially strong in the US and Asian countries apart from Japan. It is to stress that revenues of largest companies are increasing quicker than in entire sector thus concentration is increasing. Moreover, apart from quick growth, consolidation in the software sector is observed with growing number of fusions and mergers, for example the merger of Oracle and PeopleSoft announced in 2005.

**Figure 1. Worldwide IT market annual growth by region, 2004-2006 - forecast, in %**



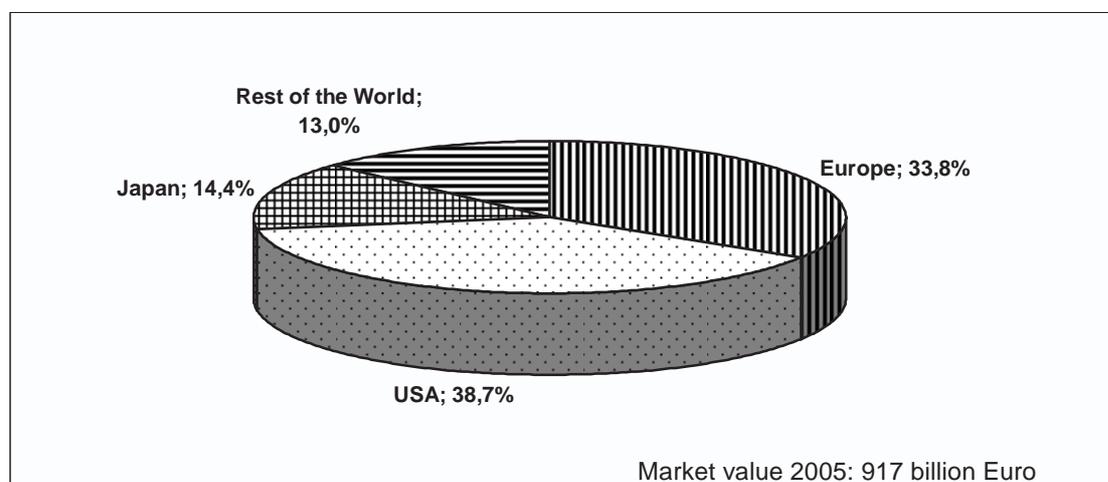
Source: Based on EITO (2005).

Geography of IT market shows strong concentration within well developed countries. The largest market is the USA (38,7%) whereas for Asia, Africa, South America share is only 13% (Figure 2). Japan has 14% share alone, which shows so called *digital divide* geography.

In 2003, top 50 Internet firms (incl. 18 software companies) earned combined revenues of 46,700 billion USD. Top 5 companies earned 53% of revenues and employed 58 percent of top 50 Internet companies. Between 1998 and 2003, the top 50 Internet firms' revenues increased by 23 percent a year. Internet companies had to deal with the dramatic combined net losses between 2001 and 2002 (OECD 2004).

IT sector is often classified as a innovative one. Software companies spent 15 percent of revenues on R&D in 2003. There are strong correlations between innovations in general and level of IT sector development (European Commission 2003).

**Figure 2. Worldwide IT market by region, 2005**



Source: Based on EITO (2005).

Employment growth over the period 2000-2002 was strongest among the ICT services firms in the top 250. with a 4% annual increase. Between 2000 and 2002, total employment in the software top 10 increased by 2.3% a year. The large software companies employed 1.011 million people worldwide, but mostly it is the case of IT services firms (OECD 2004). There were engaged 179,000 of professionals in the top 10 software companies. Among software firms Microsoft continues to be a clear leader, accounting for almost 50 percent of total top 10 revenues of software firms in 2003 (Table 1). Internet companies employed 197,000 of workforce (OECD 2004).

**Table 1. Top 10 Software companies in the World**

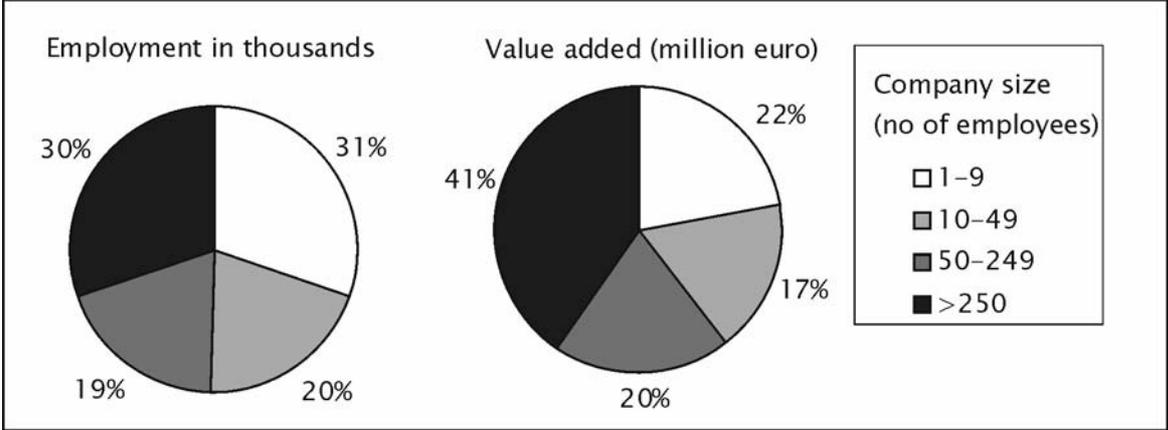
		Employees		Revenue (millions US \$)		R&D	Net income
Company	Country	2000	2002	2000	2003	2002	2002
Microsoft	US	47 600	50 500	22 956	32 187	4 307	7 829
Oracle	US	42 927	40 650	10 231	9 475	1 076	2 224
SAP	US	24 480	29 374	5 747	9 044	858	533
Softbank	Germany	7 219	6 865	3 927	3 449		- 708
Computer Associates	Japan	18 200	17 500	6 094	3 116	678	-1 102
Electronic Arts	US	3 500	4 270	1 420	2 504	381	102
Peoplesoft	US	8 019	8 293	1 772	1 941	341	183
Intuit	US	6 000	6 500	1 037	1 651	204	140
Veritas Software	US	4 784	5 647	1 187	1 579	273	57
Amdocs	US	8 400	9 400	1 118	1 427	124	-5

Source: Based on data from OECD IT Outlook 2004 (OECD, 2004).

There were around 503,000 ICT services firms in 15 members of European Union in 2000, nearly 30% of which were in the United Kingdom. Based on the available 1999 data around 90 percent of EU ICT

services<sup>127</sup> companies employed less than 10 people (European Commission 2002). Thus, there is no dominance of the larger companies in employment structure (Figure 3). Employment in ICT services reached 4,493,000 employees (OECD 2004). Value added to factor cost exceeded 325,384 million euro at turnover level at 1,108,313 million euro (OECD 2004).

**Figure 3. Employment and value added in terms of the company size in EU, 2000**



Source: European Commission (2002).

Table 2 reports the importance of computer software employment in EU countries, measured relative to the EU average<sup>128</sup>. Software employment records its highest share of private-sector employment in Sweden, the UK and Ireland, whereas employment in mass market packaged software (Table 3) is highly concentrated in Ireland and United Kingdom.

**Table 2. The relative importance of computer software employment in EU countries, 2004**

Country	Location quotient
Sweden	1.95
United Kingdom	1.47
Ireland	1.32
Denmark	1.25
Finland	1.25
Netherlands	1.25
France	1.05
Italy	1.04
Belgium	0.89
Austria	0.78
Spain	0.62
Germany	0.61
Portugal	0.27

Source: Barry and Curran (2004).

<sup>127</sup> ICT services include NACE 51.64 (Wholesale of office machinery), 64.2 (Telecommunications), 72 (Computer and related activities).

<sup>128</sup> Value 1.00 stands for the same share of employment in software industry in a given country and EU.

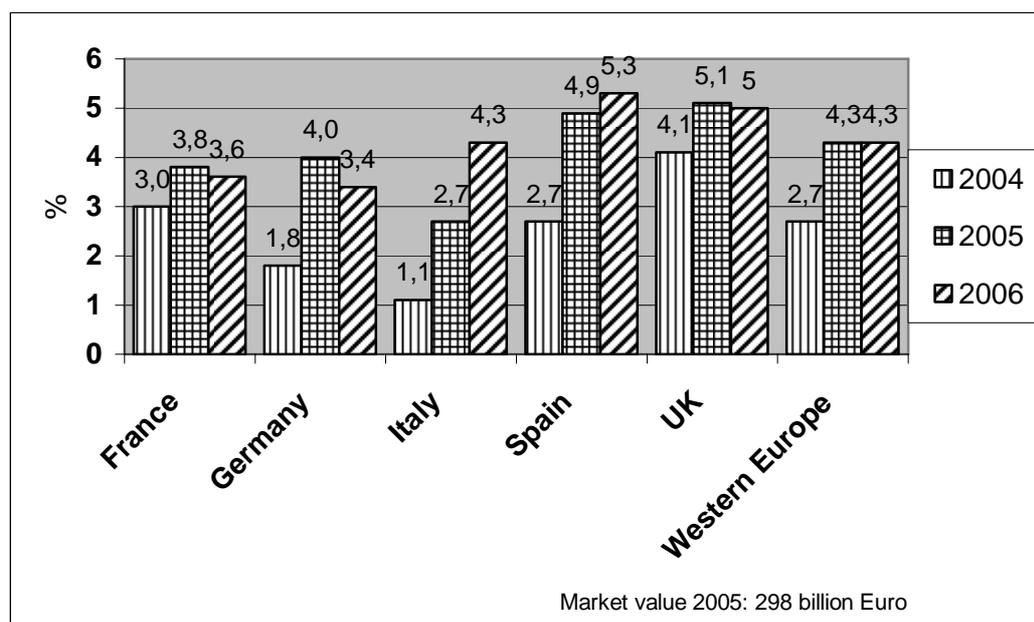
**Table 3. EU employment in Mass Market Packaged Software, 2000**

NACE 2233 Reproduction of computer media	Number of employees
Ireland	5591
United Kingdom	3576
France	875
Spain	663
Italy	342
Sweden	194
Netherlands	168
Finland	16

Source: Barry and Curran (2004).

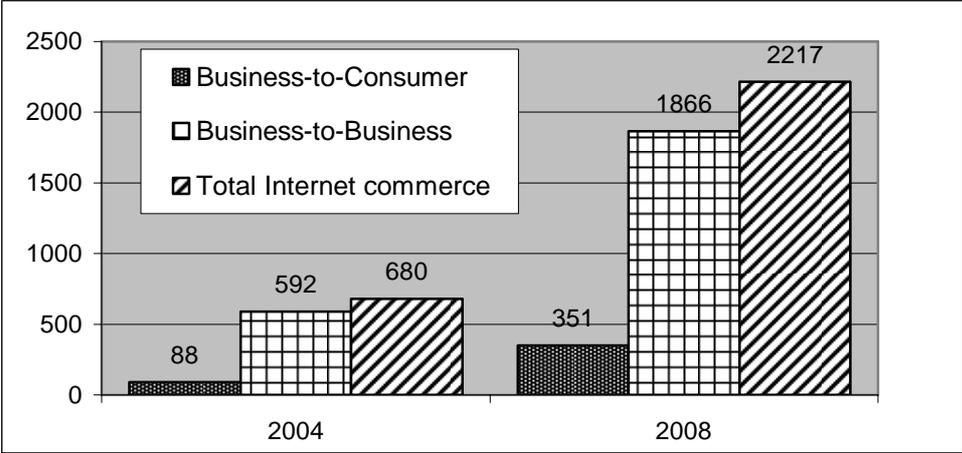
According to EITO report (EITO 2005) – IT market growth in Europe will be stronger in Eastern Europe than in Western Europe. Among the old EU members quickest growth is forecasted for the UK and Spain (Figure 4). Part of this growth, and good prospect for a further growth in the future may be connected to Internet commerce development (Figure 5). It is said that e-commerce and ideas as e-government, e-health etc. are to be main drivers of IT market growth for a next decade (EITO 2005).

**Figure 4. Western European IT market growth by main countries, 2004-2006 forecast, in %**



Source: Based on EITO (2005).

**Figure 5. Internet commerce in Western Europe, 2004 and 2008, in billion Euro**



Source: Based on EITO (2005).

*8.2.3 International trade of software*

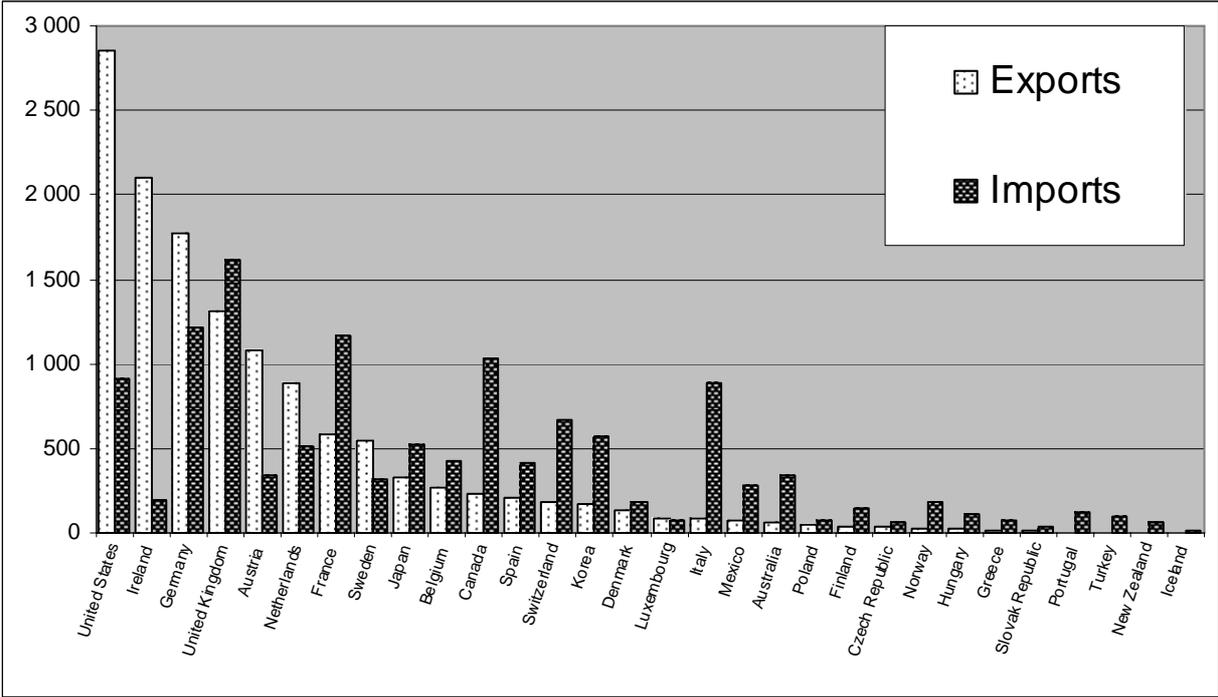
Trade in software and ICT services is difficult to capture owing to diversity of delivery chanel, but, as currently measured, Ireland and the United States are dominating countries (OECD 2004). It is because copyright laws trade is not included in statistics. Often software is counted as hardware trade when e.g. computers with preinstalled software are sold. As a matter of fact, what trade statistics capture is trade with boxed software, which is less than one third of real trade value of software sector additionally this data may be distorted by fact that for tax/duty purposes often it is not value of software but the value of physical supports (CD-ROM, diskettes) (OECD 2002).

*8.2.3.1 International trade in software goods*

As demonstrated in Figure 6 USA and Ireland are the largest exporters of software goods (55% of OECD countries). Ireland had almost USD 10.4 billion in exports in 2002 compared to USD 6.9 billion from the United States (OECD 2004). Although some authors (e.g. Arora et al. 2002) argue that in case of Ireland it may be accounting artificial fact, where MNs are reporting sales in Ireland for tax purposes, Ireland is much ahead other countries, especially when exports per capita is calculated. Similarly, high position of Netherlands may be explained as a accounting artifact, especially that many American or TNCs operating in Europe are registered there.

In general, computer and information services trade has grown very rapidly in OECD countries, with exports growing by 20% a year and imports by 15% in the 1996-2002 period. Important factor behind this growth is growing volume of offshore-outsourced IT services and more intensive trade with China.

**Figure 6. OECD trade in software goods, 2002, USD millions**



Source: Based on OECD (2004).

As trends are considered it is to note than between 1996 and 2002, exports from Ireland and the United States shrank, while exports from Austria, Germany and the United Kingdom expanded. In 2002, the United Kingdom and Germany were the OECD’s leading importers of software goods, followed by France, Canada, the United States and Italy. Their imports increased between 1996 and 2002 fuelled by India, China, Israel and CEE countries exports growth.

*8.2.3.2 International trade in software and information services*

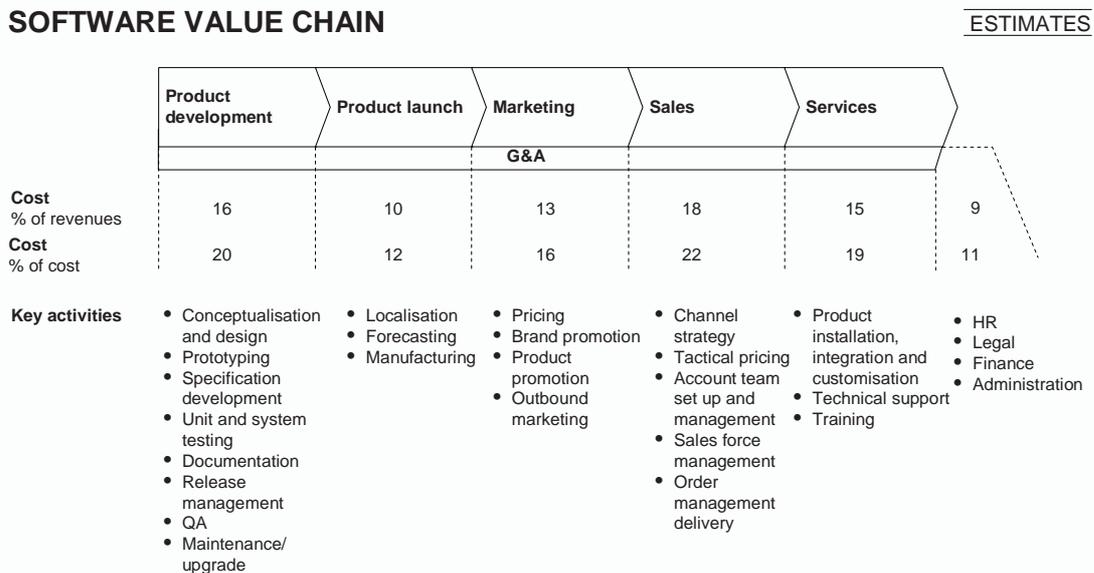
In 2002, Ireland was the OECD’s largest exporter of computer and information services, followed by the United States, Germany, the United Kingdom, Spain, Canada and Belgium-Luxembourg. Germany was the leading importer, followed by the United States, Japan, the United Kingdom, the Netherlands, Spain, Belgium-Luxembourg, France and Italy. Between 1996 and 2002, exports increased by almost 20% a year. The highest exports growth was observed in Sweden (on average 46% a year). Other countries with strong growth in exports were the Slovak Republic (43%), the Czech Republic (31%), Australia and Poland (24%). There were only three OECD countries (Greece, Finland and Japan) which recorded declining computer and information services exports over the period (OECD 2004).

A trade surplus in computer and information services was noted in 13 OECD countries in 2002. The surplus was largest in Ireland, followed by the United Kingdom and the United States. On the other hand Japan and Germany recorded significant deficits.

*8.2.4 Value chain in software industry*

The most value is added in the software value chain during product development, sales and services (Figure 7). The latter two stages are usually carried out in host countries. The position of particular foreign software company within the value chain is different for mass-production and customized solutions. Most of software multinationals are packaged software or product companies selling to mass markets (Green et al, 2001), although the growing emphasis on localization and product development requires a higher level of software engineering skills and is more reliant on outsourcing and indigenous supply chains, including translation, packaging, manual printing, transport, and technical support.

**Fig. 1. Software value chain**

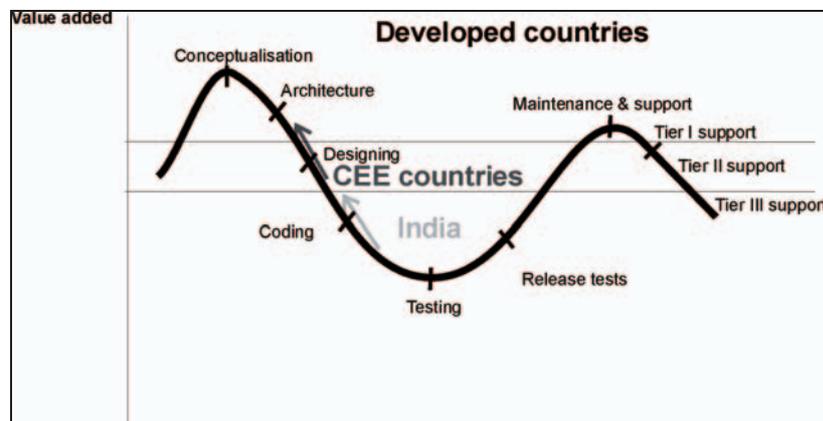


Source: KPMG (2004).

Minority of software companies located in Asian and CEE countries develop original software, while the vast majority operates as software distributors and sale units of big international companies. Subcontracting for Western (German in the case of Poland) and Northern (Finland and Sweden in the case of Estonia) European software companies is also important. Most of CEE software companies operate in low segment of value chain. Although basic software maintenance remains the most popular software-related activity, CEE companies seem to move up the value chain to software development strategy and systems design (Figure 8). Many overseas companies are set up initially to carry out a basic function, such as the relatively low skilled software manufacturing. Within a very short time the corporate management recognizes the quality and skill of the indigenous staff and moves other functions, such as software localization and eventually high-skilled product development, technical support and marketing (Coe 1997a, The Software 1992).

The division of work is also important. Consultants estimate that in an offshore outsourcing arrangement, 15% of the client's IT staff are retained in a home country, 15% of the supplier's IT staff are onshore and 70% of personnel are offshore (The hidden cost of offshore 2003).

**Figure 8. Division of work in outsourcing software development**



Source: Ali-Yrkkö and Jain (2005), modified.

## 8.3 *Celebrated success stories in software industry*

### 8.3.1 *Firms*

#### 8.3.1.1 *SAP AG*

SAP is the world's leading provider of business IT solutions known as a producer of "mySAP" business suite. It is the only European truly global software company, therefore it is very interesting case for our research. SAP is ranked 85th in FT Global 500 (2004); 81st in Business Global 1000 (2004) and in FT World's Most Respected Companies – ranked 94th overall and 6th in IT category (2004).

SAP specializes in five segments of business software: ERP systems (enterprise resource planning); HCM systems (human capital management); CRM systems (customer relationship management); SRM systems (supplier relationship management) and SCM systems (supply chain management) in each of above SAP is the world's number one (as value of sold software is considered). In 2003 SAP introduced SAP NetWeaver platform in order to have full portfolio of IT solutions needed by enterprises. It is worth to note that even Microsoft and IBM are SAP customers as their business is powered by SAP software.

History of SAP begins in 1972, when five systems analysts, former IBM employees founded SAP as Systemanalyse und Programmentwicklung ("Systems Analysis and Program Development") in Mannheim, Germany. Their vision was to develop and market standard enterprise software which would integrate all business processes. The idea came to them through their work for IBM when they noticed that client after client was developing the same, or very similar, computer programs. The second part of their vision was that data should be processed interactively in real-time, and the computer screen should become the focal point of data processing.

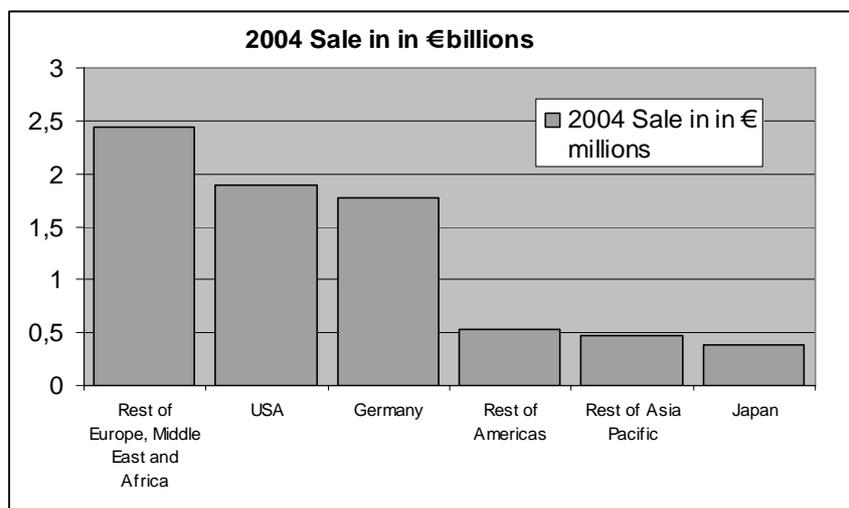
With the successful implementation of its initial project, SAP had nine employees and, at the end of its first fiscal year, posted a profit on revenues of DM 620,000. In its 5th year of operation SAP revenues were close to DM 4 million, and the number of employees had grown to 25. It was the same year, when SAP signed its first two foreign customers, two companies from Austria. Just one year later (1978), the customer number had grown to 100 and the number of employees stood at 50. In 1980 SAP moves from Mannheim to Walldorf near Heidelberg gaining better access to and connections with Heidelberg high-tech cluster and the Heidelberg University. At the end of 1980, 50 of the 100 largest industrial companies in Germany were SAP customers. In 1984 SAP founded its first foreign subsidiary - SAP (International) AG in Switzerland, whose focus was to increase sales of the R/2 System in international markets. In the mid 80's SAP began to penetrate markets outside Europe - with customers in South Africa, Kuwait, Trinidad, Canada and the US. By the 1990 SAP had got its subsidiaries in almost every West European country and the US, Canada, Singapore and Canada. Its shares were noted in Frankfurt and Zurich with capital stock of DM 85 million in 1990. The same year sales were over DM 500 million and the number of staff grew to 1,700.

Economic transformation of CEE countries were opportunity for SAP to expand for these markets. First obvious step was to gain firm foothold in Eastern Germany by founding in cooperation with Siemens Nixdorf software centre in Dresden (now SAP System Integration AG – the third biggest subsidiary of SAP as employment is considered – 1,800 persons in 2004). Founding of trade offices in CEE countries soon followed.

In 1992 SAP opened a DM 140 million worth new Development and Sales Centre in Walldorf (the company's largest single investment to date). SAP was then firmly established as a global company, with South Africa, Malaysia and Japan the newest additions to its 15 subsidiary companies. By 1992, almost half of the DM 831 million in product revenues were being generated outside Germany, and the availability of the software in 14 different languages was adding significantly to its attractiveness (among others Russian and Japanese version). In 1993 SAP established a development centre in Foster City in Silicon Valley, California. Thorough 1990's SAP grew annually by 20-40% reaching in 2000 more than 10 million users, 6.5 billion euro revenues and employment about 26,000.

Total revenue of SAP was 7.5 billion euro in 2004; of which 2.3 billion euro was software revenue, 1.97 billion euro consulting; 2.8 billion euro maintenance and 0.3 billion euro training (SAP 2005). Net income of SAP in 2004 was 1.3 billion euro. Geographical breakdown by sales destination shows Figure 9.

**Figure 9. SAP sales by geographical areas in 2004**



Source: Based on data presented in SAP Annual Report 2004 (SAP 2005).

It is worth to add that global success of SAP is also underlined by fact that Japan and Rest of Asia Pacific Region as well as USA are fastest growing markets for SAP products and services (10-20% annually) whereas growth observed in Europe or Germany is much smaller (6-7% annually).

SAP Operating expenses breakdown (2004) pose interesting insight into software industry cost structure. Cost of product was only 14% (782 million euro) of total expenses and it share fall down by 3% - compared to 2003 mainly by increasing role of low development cost in India and China. Expenses on R&D were 1,011 millions euro (19%); administration - 363 million euros (7%). The most expensive were sales and marketing – 28% of expenses (1,515 millions euro) and cost of service (32%; 1,759 millions euro).

SAP employed 32 thousands persons at the end of 2004. 9% growth was noted as compared to 2003. New jobs were mainly created outside Germany - in China, India and the US, but no job loss was noted anywhere. Most of the new positions were for developers. Across the SAP Group, headcount grew 12% in development departments, 8% in maintenance and in sales and marketing, and a modest 6% in finance and administration. Turning to the regional numbers, it was Asia-Pacific that recorded the highest rate of headcount growth: 31% in 2004 (SAP 2005). Ten biggest SAP companies/subsidiaries as employment is considered are presented in Table 4. It is interesting to notice that fourth biggest in employment terms Bangalore/India company brought so small revenue, similar ratio is found for other subsidiaries where product development takes place (Dublin, Beijing). It confirms that sale and services is this part of software industry where largest part of value is added.

**Table 4. Top ten SAP affiliated companies in 2004**

Affiliated companies	Location	Sales revenues in 2004 in millions €	Number of employees as of Dec. 31 2004
SAP America Inc.	Newton Square, USA	1,810	3,644
SAP Deutschland AG & Co.	Walldorf, Germany	1,817	3,240
SAP Systems Integration AG,	Dresden, Germany	304	1,795
SAP Labs India PL	Bangalore, India	29	1,357

SAP Japan Co Ltd.	Tokyo, Japan	412	1,342
SAP Labs LLC	Palo Alto, USA	189	971
SAP UK Ltd.	Feltham, UK	423	627
SAP Software System Co. Ltd.,	Beijing/China	65	580
SAP Schweiz AG	Biel/Switzerland	296	570
SAP SCC Ltd.	Dublin/Ireland	39	555

Source: Based on data from SPA Annual Report 2004 (SAP 2005).

Plans for 2005 are optimistic. Apart from sale growth SAP plan to hire 3,000 new employees.. Some 20 % of the new positions would be in Germany, but most of the new jobs will be located in India and China, without reducing numbers in other locations (SAP 2005).

SAP research and development strategy is based on three pillars. The first are SAP Labs where short term innovation projects are dealt as well as customers requirements are solved. Main labs are located in Germany (Walldorf, Dresden), US (Palo Alto, CA), Japan, India, Israel, Bulgaria and latest was opened in China. In general labs are places where software is written and tested. The second pillar is SAP Corporate Research focused on longer term innovation done mostly in Germany. The third are SAP University Alliances in which 508 universities from 36 countries around the world took place (120,000 students and 2,200 researches) cooperation include trainings and research.

In 2004, the Company continued to push ahead with the globalization of its support and development organizations. In September, SAP opened a new global support center (GSC) in Dalian, China, as part of a network including other GSCs in Ireland, Spain, Austria, and India. The development organization expanded its development locations, primarily in India, China, and Bulgaria. SAP pursues a strategy of buying businesses to supplement its offering and increase the attractiveness to its range of solutions. Underscoring this strategy, it acquired U.S. software company A2i in July 2004. Specifically, SAP acquired A2i's expertise and technologies to broaden the master data management capabilities of the SAP NetWeaver open integration and application platform.

Company decided in 2004 to start setting up a shared service center in Prague, Czech Republic, for Europe, the Middle East, and Africa (EMEA). In the future, it will handle specialized human capital and financial administrative tasks for the entire EMEA region.

#### 8.3.1.2 Motorola

The US company Motorola is a global leader in telecommunication solutions (ICT sector) and the world's number one in embedded computer systems for communication applications. Company revenues in 2004 were above US \$ 31.3 billion and employment reached in 2004 – 68,000 people worldwide (Motorola Inc. 2005). As not all of company operations are IT related in further part we focus on GSG part of Motorola.

In the beginning of 1990s Motorola decided to develop the Global Software Group (GSG), which produces software solutions for all kinds of Motorola businesses. GSG competencies are following: software products, network infrastructure solutions, solutions and applications software and embedded software used in electronic devices. Global Software Group is the network of 20 departments all over the world (Asia, South and North America, Europe), employing about 5.000 IT workers. Until the end of 2005 Motorola GSG will employ 5.800 professionals.

The first GSG center was established in 1991 in Bangalore, India. Next site was developed in 1993 in Beijing. The first center in Europe were established in St. Petersburg. The only unit in USA employs only approximately 50 people. However, this center is very crucial for Motorola GSG operations, because it is responsible for all contacts with final customers (American and Japanese telecom operators). However some more developed GSG centers attempt to communicate with final customers, especially when the local Motorola's affiliates can't solve the problem The other centers make attempts to gradually move from being a partner which exclusively supplies software for Motorola Corporation, to developing their own projects. In the Polish center of Motorola, increasing number of

decisions is taken how the final product and all its components and modules are designed and developed.

Vision of Motorola is very clear: 'to be the premier provider of innovative software products and services to Motorola's businesses and customers worldwide...' (Henry et al. 2003). For ages such a vision was realised by reaching the highest quality standards. In 1990s Motorola's six sigma strategy focused on achieving stringent quality levels to obtain total customer satisfaction. Cycle time reduction and participative management were among the key initiatives of the strategy. Six sigma was not just a measure of the quality level; inherent in the concept are product design improvements and reductions in process variations. Six sigma was applied to product quality as well as to everything that can be supported by data and measurement (Kan et al. 1994). Nowadays the highest quality standards of Motorola GSG may be presented by the highest Level Five in the Capability Maturity Model and Capability Maturity Model Integration (CMMI). Special CMMI Working Group was established in order to implement and control the quality measures. The Level Five was achieved by the majority of Motorola GSG centres. Motorola in Bangalore outdid their parent organization. For instance, in 1994 Indian's center was only one of two software centers worldwide (the other being Loral's space shuttle software project in the US) to attain CMM Level Five (Parthasarathy 2004).

### 8.3.2 *Regions*

We have chosen Bavaria as an example of region with a very strong IT sector. In general Germany and the UK are leading UE core countries in software industry, therefore choice of region from these countries seems be valuable for aims of our research. Especially focusing on Bavaria is interesting as this is where costs in Germany are highest, thus delocalization may shape IT sector there in first row.

#### 8.3.2.1 *Bavaria*

The environment for growth fostered by the region prompted global industry leaders to locate their European headquarters and branch offices in Bavaria. The region's ICT corporations include the likes of Adobe, Apple, BT, Cisco Systems, General Electric, HP/Compaq, IBM, Infineon, Intel, Microsoft, Motorola, Oracle, SAP, Siemens, Sun Microsystems, Texas Instruments (That's IT 2005). With a workforce of 350,000, Bavaria's information and telecommunications technology industry ranks among the most important IT centers in the world (That's It 2005). Bavaria is ahead of all German regions in revenues of IT companies. Bavaria accounts for 40% of the Federal Republic's software companies, and 20% of its Internet service providers. Bavaria bases not only one third of Germany's 25 largest software companies - including the European or German headquarters of TNCs, but also countless, small and medium-sized dynamic software enterprises, such as iXOS, Nemetschek and sd&m (Bavaria 2005). Sectors particularly reliant upon software systems (customers), such as the electrical engineering industry, media companies, financial institutions and insurance companies, are concentrated in Bavaria. Numerous venture capital companies, advertising agencies and lawyers offer their services to the Bavarian software industry.

There are three main favourable factors of Bavaria's ICT cluster growth: the presence of major indigenous and foreign high-tech companies that source out various types of their non-core activities and the abundance of skilled labour. Presence of 11 universities and 5 academies, 17 state-owned and 4 non-state universities of applied science and 3 large research centers: The German Aerospace Center, the Max-Planck Institute for Plasma Physics (IPP) as well as the GSF Research Center for Health and the Environment also leads to new academic spill-over companies there.

There are many programs fostering IT sector growth in Bavaria. The BavariaOnline program was created to motivate the regions' inhabitants and small and medium size companies to use High-Technology. Bavaria spent 77 million euros to build a region high-speed, high-performance network and provided seed money to more than 50 future-oriented, application-oriented pilot projects. Bavaria's Software Initiative develops and enhances Bavaria's IT potential. For instance, the GATE incubator in Garching hosts not only young, innovative entrepreneurs entitled to region-aid for making their ideas work, but the facility also attracts projects incubated at nearby Technical University of Munich. To conduct such operations Bavaria continues to make more opportunities for studies in

computer science and advanced professional IT courses readily accessible. Furthermore Bavaria puts extensive efforts into the promotion of internet based services like e-government and e-business. For e-learning two ambitious projects, the “Virtual Bavaria Campus” and Bavaria’s Virtual University have been set up.

Bavaria’s technologies are developed in numerous research associations. These cooperatives foster exchanges among companies, institutes, associations and universities. They include: FORWIN – Bavarian business computer science research association, FORWISS – Bavarian research center for knowledge-based systems, KONWIHR – Competence network for technical, scientific high-performance computing in Bavaria, FORSIP - Bavarian research association for positioning, individualizing and personalizing interaction between Man and machine. In FORWIN, ten institutes of Information Systems at five universities (Bamberg, Bayreuth, Erlangen-Nuremberg, Regensburg and Würzburg) contribute their specialised expertise to the joint development of methods aimed at flexibly coupling IT systems beyond the boundaries of individual companies. The spectrum extends from projects that would most appropriately be classified as fundamental research through to the programming of prototypes for practical application in companies. The general aim is to produce cost-effective solutions that will also allow small and medium-sized companies to flexibly integrate themselves into the supply networks of large business partners.

Munich first rate performance among all German regions based on numerous indicators of R&D intensity is depicted by Strenberg and Tamásy (1999). A survey of Munich's R&D-intensive SMEs shows that Siemens positively influences the innovative milieu. However, Siemens does not dominate the SMEs so strongly that a one-sided dependency threatens them; rather, they enjoy diverse and intraregional co-operation in innovation. With 155.000 employees Munich’s 8,600 IT enterprises make Bavaria’s capital the leading city in Europe<sup>129</sup> and fifth in the world (That’s IT 2005). Many international companies - Apple, BT, Microsoft, Motorola, NTT DoCoMo, Oracle, Siemens and Sun Microsystems - are among the pillars of the city’s IT community. To stay ahead Munich joined in the founding of the “Innovation Champions League,” an association of the world’s leading IT sites. The Munich Network for IT & Media (FIWM) is the regional platform for networking and information exchange in the Communication and Media Industry in the Greater Munich Area High-tech companies can also make valuable business connections through the Munich Network. It seems that the southern part of Germany (Bavaria and Baden-Württemberg) are the most prominent ICT clusters in Germany in addition to the cities Hamburg, Bremen and Berlin (Frank, Maurseth, 2005).

The Bavarian IT success was possible thanks to IT and high-tech directed policies. As an example Bavaria's Software Initiative may serve. It was set up in 1998 as a common effort of industry, science and politics, It is one module of the Bavarian State Government's "High-Tech Initiative". By investing proceeds from the privatisation of public shareholdings (amounting to approx. 1 billion Euro) into research and development, training and other areas, the High-Tech Initiative aims to make Bavaria an even more attractive location for the high-tech industry. The Software Initiative will receive a substantial share of these investments. The Software Initiative concentrates on four key areas. Firstly new university courses and training are provided in order to improve the availability of skilled software experts (Bavaria 2005). Secondly, top results from research and development form the basis for globally successful products. The Software Initiative supports joint research and development projects between academia and industry. Thirdly, the Software Initiative aims to stimulate high growth start-ups in the software industry, making Bavaria a top location for dynamic young businesses in the information and communications sectors. Finally, for small and medium sized enterprises, applying the latest software technology is increasingly important to remain competitive. The Software Initiative aims to support these enterprises in applying these technologies (Bavaria 2005).

The Software Campus represents a key project of the Software Initiative. The campus, located in Garching near Munich, combines elements of a business incubator with those of a research institute.

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<sup>129</sup> According to a recent survey by McKinsey, the Munich area's 70,000 employees makes it Europe's second most important center for information and communications technology (following London with 80,000 employees) (Bavaria 2005).

Possible topics for start-ups and research groups range from software engineering and new electronic-commerce applications to innovative telecommunications services. In general, research groups are jointly formed by experts from industry and universities. The Software Initiative will fund up to 50 % of their project costs, while the other part of the financing must be provided by industry. A seed capital fund and a funding program will be available to support start-ups on the campus. Companies of the "Software Forum Bayern e.V." are closely involved in choosing research groups and new entrepreneurs for the campus.

Several major software developers and users have joined to form the "Software Forum Bayern e.V.", an association which advises the State Government on the conception and implementation of the Software Initiative. By way of membership fees these companies also support the Software Initiative financially. Not only software companies (Microsoft, Siemens, Softlab, Datev, Symantec) are the members of the Software Forum. There are also following enterprises: Andreas Schmid Logistics, Bayerische Landesbank, BMW, British Telecom, Giesecke & Devrient, LfA - Bank for the Advancement of the Bavarian Economy (Bavaria 2005).

### 8.3.3 Countries

Generally the most successful country in IT sector is the US, but description of this case is rather pointless here. Instead we would like to focus on so called 3I's countries (India, Ireland and Israel) presenting here Ireland as a successful EU country and India, which is especially interesting as a destination for many of offshore outsourced IT activities. As a third analysed country comes Finland, which is considered to be one the most advanced country in the world as a technology driven competitiveness' is considered (IMD World Competitiveness Yearbook 2005).

Before we characterize each country separately it is worth to stress some common features which share all 3I's group countries: (i) abundant supply of English speaking, well educated, relatively cheap workforce, (ii) substantial Diaspora in its export markets, (iii) export is main driver of development (see Table 5), (iv) openness of a economy and lack of governmental policy aimed towards IT sector development, instead of this government policies aimed at investment in general education and universities (Arora and Gambardella 2005).

**Table 5. The software industry in selected countries in 2002**

Country	Sales \$ billion	Employment ('000)	Software sales as a GDP %	Average growth of software sales in 1990s	Software exports as a % of sales
United States	200.0	1,024	2.0		
Japan <sup>b</sup>	85.0	534	2.0		
Germany <sup>a</sup>	39.8	300	2.2		
Ireland	13.9	28	11.4	20	85
China	13.3	190 <sup>b</sup>	1.1	35	11
India	12.5	230	2.5	40	80
Brazil <sup>a</sup>	7.7	160 <sup>b</sup>	1.5	20	2
Israel <sup>a</sup>	4.1	15	3.7	20	70

<sup>a</sup> - data for 2001; <sup>b</sup> - data for 2000

Source: Based on Arora and Gambardella (2005).

### 8.3.3.1 India

India is the largest IT producer and exporter among 3I's countries. It is increasingly favoured location for customised software development (16% of global market in customised software). Therefore it is said that Indian IT exporters provide services rather than products (Arora et al. 2001).

In 1980 India software sector was almost non-existent (Table 6) whereas now it accounts for 16,5 % of India exports and accounted for 10% of GDP growth in the late 1990s (Athreye 2004). Employment estimates vary considerably as some sources are confined only to software production (250,000 employees) (e.g. Arora and Gambardella 2005), whereas other tend to include broader IT (500,000 employees) (e.g. Athreye 2004). Share of software sale in Indian GDP (Table 5.) is higher than in any developed country apart from Ireland and Israel. On the other hand India has one of the world's lowest computer penetration ratio, therefore software industry has to be export orientated (Table 6).

**Table 6. Development of India's software industry, 1987-2001**

Year	Exports (US \$ million)	Domestic Sales (US \$ million)	Exports - % of total sales
1987	52	75	41
1990	128	118	52
1993	330	229	59
1996	1110	710	61
1999	4000	1714	70
2001	7680	2425	76

Source: Adapted from Heeks (1996).

Unlike in Ireland – India software industry growth was led by domestic rather than by foreign companies. However, situation has been changing recently with growing popularity of BPO run by MNs in India. Among top 10 IT companies in India only 2 are foreign owned (IBM and British Telecom affiliates) (Table 7).

**Table 7. Top 10 IT Software and Services Exporters from India**

Rank	Company	US \$ million
1	Tata Consultancy Services	813
2	Infosys Technologies Limited	535
3	Wipro Technologies	481
4	Satyan Computer Services Limited	357
5	HCL Technologies Limited	277
6	IBM Global Services India Pvt. Ltd.	160
7	Patni Computer Services	153
8	Silverline Technologies	126
9	Mahindra-British Telecom Limited	113
10	Pentsoft Technologies Ltd.	96

Source: Adapted from NASCOM (2003).

Popular explanation about factors behind Indian IT success is wage advantage (e.g. Heeks 1996). Although, wages in India are lower than in other countries (Table 8), productivity is also much lower (even 20 times lower than in France) (Athreye 2004). Therefore absolute wage advantage is not sufficient factor for explanation. Especially that dynamics of salary growth in India is higher than in developed countries.

**Table 8. Salaries paid to software professionals ( ‘000 US \$ per annum) in 1995, 1999.**

		1995	1999
Project Manager	USA	54.0	65.6
	UK	39.0	47.4
	Ireland	43.0	52.3
	India	23.0	33.7
Development Programmer	USA	41.0	49.8
	UK	29.0	35.3
	Ireland	21.0	25.6
	India	8.0	11.7

Source: Based on Athreye (2004).

According to The Information Technology Association of America (ITAA 2001) shortage of IT specialists was about 850,000 in the US in 2000. Similar situation is found in Europe where according to European Information Technology Observatory 2001 (EITO 2001) shortage is as big as 1.2 million posts and forecast for 2003 was 1.7 million. Therefore Arora et al. (2002) argue that shortage of IT professionals in the US and the Western Europe experienced thorough 1990s accounted for India and Ireland IT sector growth, where was abundant pool of IT specialists. The shortage of IT specialist in the US and Europe was extreme problem in late 1990 when Y2K problem was to be solved and companies had to rework software scripts and make tests. Y2K projects allowed for quick growth of many Indian software firms and allowed for tight links between Indian software companies and mainly the US customers who employed them and now contract there other IT projects.

Broad base of software specialist in India was due to overproduction of engineers of all disciplines, thanks to governmental policy which aimed at import substitution strategy. As this strategy did not work out – there were not many manufacturing enterprises established, the same time thousands of engineers graduated at universities, with only limited demand for their services. Later, they were changing their specialization into software, when demand emerged. Therefore India enjoyed availability of skills at right time (Arora et. al 2002).

The observed success would be impossible with only available pool of well educated people, which could be found in other countries as well. It was many thousands of Indian origin IT specialists working in the US who maintained contacts with India and when opportunity emerged they were the first to establish Indian software firms (Arora et. al 2001, Athreye 2004). For example Infosys was founded by group of seven former the US PCS company employees. The Indian expatriates possessed knowledge and capital, but what is the most important they brought to India customers whom they knew from the US experience. It is to stress that the US IT sectors still feeds with new employment from India or Eastern Europe. Only in one year 1999 – 30 000 permanent American visas were issued for Indian origin software specialists. As Arora et al. (2001) claims – the US led brain-drainage is the biggest problem of Indian software companies leading to rise in wages in India.

According to Arora et al. (2001) Indian software industry success has been a combination of resource availability, good timing and what is most interesting: “mixture of being neglect and active encouragement from normally intrusive government” (Arora et al. 2001: 1268). The Indian state considerably simplified the permission obtainig process, which is unusual for this part of world in general and for India in particular.

Software industry in India clusters in several centers, of which Bangalore (called India Silicon Valley) is most prominent. Delhi, Bombay, Pune (with its region is called “knowledge corridor” and Hyderabad (with Cyberabad Technological Park) are other important centers. Concentration of IT in a few clusters allows for agglomeration economies and better use of linkages with foreign markets which is another important factor behind Indian success.

The leading Indian firms are making efforts to move up the value chain. It is done by developing new programming tools (R&D), devising new methodologies and improving project management capability (Arora et al. 2001). Therefore next stages of delocalization may be observed especially that according to experts (e.g. Arora et al. 2001; 2002; Athreye 2004) Indian firms are getting more and more successful in implementation of mentioned strategies.

#### 8.3.3.2 Ireland

Ireland<sup>130</sup> has emerged over the last twenty years as a hotbed of software development activity. Most of the world's leading software companies have operations here. In total, there are more than 800 international and indigenous software companies located in Ireland, employing over 25,000 people and generating a combined turnover of over IR£6bn. Of these overall figures, the indigenous sector employs more than 11,000 people and generates revenues of IR£1bn. In total, the software sector in Ireland is responsible for nearly 8% of Ireland's GDP and nearly 10% of its exports.

Indeed, software employment in Ireland grew faster than employment in any manufacturing sector during the 1990s.

Official data are less than satisfactory, being somewhat out-of-date and suffering from fragmentation because the NACE system is not flexible enough to accommodate the dynamic nature of the software industry, which is part product and part service. Fortunately, recognizing the need for up-to-date and reliable statistics on this key economic sector, the National Software Directorate (NSD) instituted a series of regular industry surveys in the early 1990s.

It is important to bear in mind the NSD definition of the software industry.

As we would expect the definition includes the development of software products and systems, custom software development and software consultancy. In addition, it includes the development of 'embedded' software such as that used in mobile phones or IT hardware.

Irish software industry experienced a dramatic and significant expansion on all four available indicators during the 1990s. Total employment in Irish software expanded from around 7,800 in 1991 to almost 25,000 in 1999, an increase equating to 15.6% per annum. Notably, average employment growth in the second half of the 1990s (20.6% p.a.) was almost twice that in the first half (10.9% p.a.). The number of companies in the Irish software industry grew from 365 in 1991 to more than 800 in 1999. The number of companies also expanded faster in the late 1990s than the early 1990s. Both total revenue and total exports of the Irish software industry grew at an average annual rate of over 15% during the 1990s.

There are some important contrasts between the overseas (foreign-owned) and indigenous (Irish-owned) segments of the Irish software industry. The balance of employment between the indigenous and overseas segments remained fairly constant throughout the rapid growth of the 1990s. This trend is in itself very unusual in Ireland where other sectors tend to be dominated by either foreign or domestic firms. Despite this broad balance, employment growth in the indigenous segment (including takeovers of former indigenous firms) was faster than in the overseas segment in the late 1990s – with a very rapid average annual increase of 24%. The make up of the overseas and indigenous segments is very different; there are many more indigenous firms than overseas firms but the former are much smaller on average. There were already 74 overseas software companies in Ireland in 1991 (some of the major US MNCs arrived in Ireland in the mid-to-late 1980s) but this had grown to 120 by 1998, reflecting ongoing inward investment by software MNCs (Table 9). New inward investment projects accounted for part of the increase in employment in the overseas sector. However, there has also been an increase in mean employment size among overseas firms (from around 50 in 1991 to nearly 100 in 1999) suggesting that established inward investors have increased their Irish workforces.

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<sup>130</sup> The study is derived from the Report of Mike Crone *A Profile of the Irish Software Industry.*, Northern Ireland Economic Research Centre, 2002.

In general in the 1990s, the indigenous software segment has been characterized by a particularly high start-up rate as well as a low closure rate among established software companies. In the early-to-mid 1990s the number of indigenous companies grew steadily but indigenous employment grew faster hence average firm size increased. In the late 1990s, the number of indigenous companies grew much faster, almost doubling between 1995 and 1999. As a result of the birth of so many small firms, mean employment among indigenous firms changed little in this period, despite significant employment growth in some of the leading indigenous firms. Thus compared to their overseas counterparts, the *majority* of indigenous Irish software firms remain rather small.

The evidence shows that 20 additional indigenous companies joined the 50+ employees sizeband in just six years between 1992 and 1998. Also the number of firms with more than 100 employees increased from 6 to 10 in only three years (1995-98). Secondly, consider that the mean employment size among firms with more than 50 employees increased from 89.9 in 1992 to 117.2 in 1998. Thirdly, note that the share of indigenous employment in 'large' companies (more than 50 employees) increased from 33% in 1992 to 43% in 1998. So, in fact, the largest firms added a disproportionately large number of new jobs in this period. All of this evidence seems to suggest that, there has been significant growth among existing companies and the entry of many new small firms has not been the only source of growth.

The contrasts between the indigenous and overseas segments of the Irish software sector are even starker when we examine *revenue* and *exports* data. Overall both the total revenue and total exports of the Irish software industry are dominated by the overseas segment, which accounted for over 80% of revenue and 85% of exports in 1999. However, it should be noted that the indigenous segment increased its share of revenues and exports through the 1990s, from only 9% of revenues and 4% of exports in 1991 to 20% of revenues and 15% of exports in 1999. In fact, the value of software exports by indigenous firms increased from only IR£61 million to IR£624 million in this period – an average annual increase of 37%.

Despite the improved performance of the indigenous segment, there are some clear and persistent differences with the overseas segment of the software industry. Average revenue per company in 1999 was IR£40.2 million among overseas firms compared to IR£1.5 million among indigenous firms. Even allowing for the greater average employment in overseas firms it appears that overseas software firms are far more productive; average revenue per employee in 1999 was IR£412,000 compared to only IR£91,000 in indigenous firms. However, it is not that indigenous companies have low productivity but rather the overseas software companies in Ireland are unusual in having extremely high sales per employee.

The revenue figures for the foreign-owned segment are inflated by the presence of high visibility US packaged software firms (e.g. Microsoft, Lotus, Oracle, Symantec, Novell and Claris) who have chosen Ireland as their base for selling into the EU market. Much of the value of the revenues attributed to these overseas subsidiaries is actually generated by the R&D, marketing and management activities of their parent companies. The Irish subsidiaries concentrate on relatively low value-added activities such as localisation, disk duplication and packaging whilst core software development activity is typically conducted in the United States. However, the leading overseas software firms probably choose to book revenues from their sales to the EU market in Ireland to take advantage of Ireland's 10% corporate tax rate (i.e. 'transfer pricing'). Since the 12,000 employees of overseas software firms in Ireland did not by themselves produce the IR£6 billion worth of sales attributed to the overseas segment in 1999, it is therefore inappropriate to take revenue per employee as a measure of productivity in the overseas software segment. Comparisons between the overseas and indigenous segments of the Irish software industry using this measure are also spurious.

Multinational companies were significantly more likely to be involved in the 'low-end' activities of localisation, porting and assembly/packaging and logistics/distribution (and testing to a lesser extent). In contrast, Irish firms were found to be significantly more likely to be involved in technical support and business solutions consulting and also marginally more likely to be involved in carrying out basic research, developing new products, and sales and marketing

Since the 1980s, Ireland has benefited greatly from attracting FDI in the form of ‘standalone’ software development centres. Typically, these SDCs have been established as direct subsidiaries of foreign IT companies or firms in other sectors where in-house software development is extremely important, such as financial services or telecommunications. The SDCs are often involved in higher-level software development, such as that required to develop new types of software products, and are strategically important within their parent company. Consequently, these firms typically employ a much higher proportion of software graduates than do firms in the LMD sector of the overseas industry.

The motivation for establishing these software development centres in Ireland is alleged to be Ireland’s particular combination of available skilled labour at relatively competitive international rates. In some instances, ‘skilled labour’ seems to refer to a general availability of computer science/software engineering graduates. In other instances, ‘skilled labour’ seems to mean more specific areas of expertise. For example, Ireland has gained recognition as an important UNIX development centre within Europe, with companies such as Motorola and ICL having established UNIX

**Table 9. Leading Overseas Software Firms in Ireland in 1998**

<b>Company Name</b>	<b>Origin (country)</b>	<b>Established (year)</b>	<b>Employees estimated</b>
Microsoft	US	1985	1050
Modus Media International	US	1984	900
Ericsson Systems Expertise Ltd.	Sweden	1979	900
Oracle	US	1987	850
Zomax Ireland	US	n/a	600
Lotus	US	1985	570
Kindle Banking Systems Ltd.	UK	1978	530
Compaq Computer Corporation	US	1976	500
Symantec	US	1991	400
Logica Ltd (takeover of Aldison)	UK	1988	450
EDS (Ireland) Ltd	US	1989	418
Berlitz GlobalNet	Japan	1985	440
Accenture	US	1987	400
Motorola	US	1981	400
Banta Global Turnkey Ltd	US	1984	380
Silicon and Software Systems	Netherlands	1986	360
Sonopress Ireland Ltd	Germany	1994	350
Bull CARA Group	France	1965	320
Amdahl DMR Ireland	US	n/a	n/a
Sun Microsystems (Ireland) Ltd.	US	1993	280
Client Logic Co	US	1990	250

Source: Based on Crone (2002).

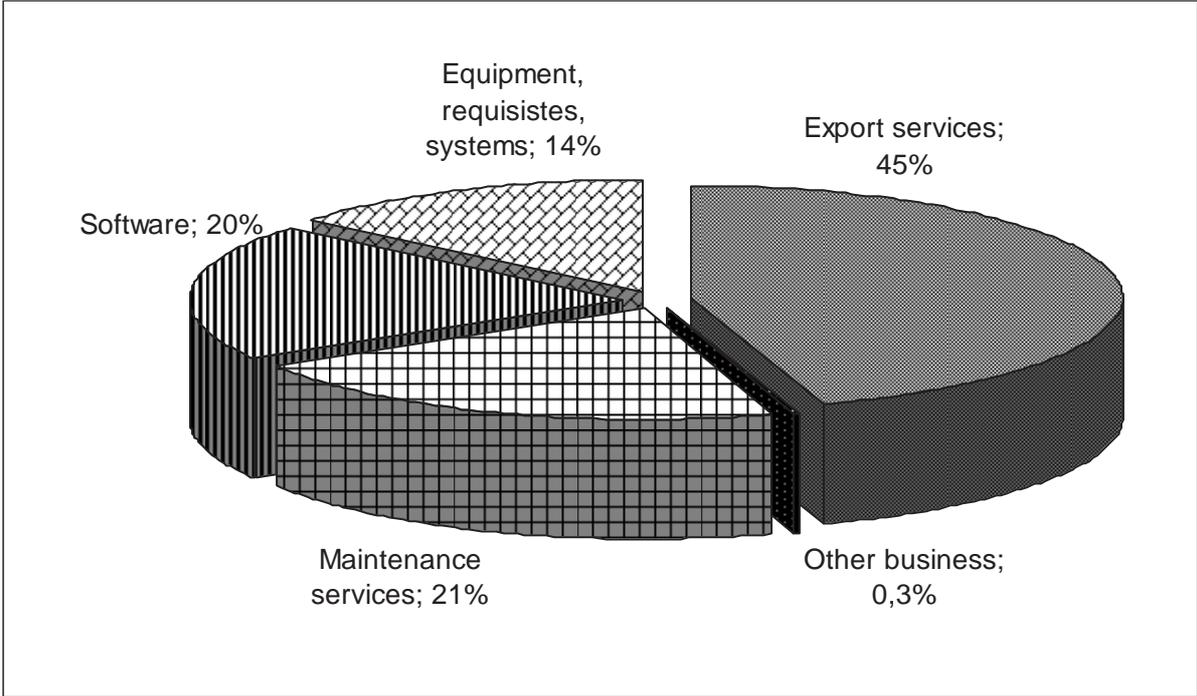
#### 8.3.3.3 Finland

The ICT sector contributed to 16.4% of GDP in Finland in 2001 (OECD 2004). Finland has the largest ICT sector relative to GDP, followed by Ireland. Although Finland is the only OECD country in which

ICT manufacturing is larger than ICT services, software industry is highly developed in this Scandinavian country. Software industry is the major contributor to GDP of ICT capital investment to output growth. The Finnish software industry started developing in 1980s. It was accelerated by the enormous development of Nokia company with decentralised decision-making system. Embedded software solutions for cellular phones had to be supplied to Nokia. Therefore, the significant number of software companies supplying Nokia and other large telecommunication companies emerged in Finland. According to IDC report (2003), the Finnish software industry outperformed other Nordic countries. Revenues of Finnish software companies are estimated to 1.01 Billion euro and the value of exports is 400 million euro. However, over 80% of exports revenues come from 31 largest companies.

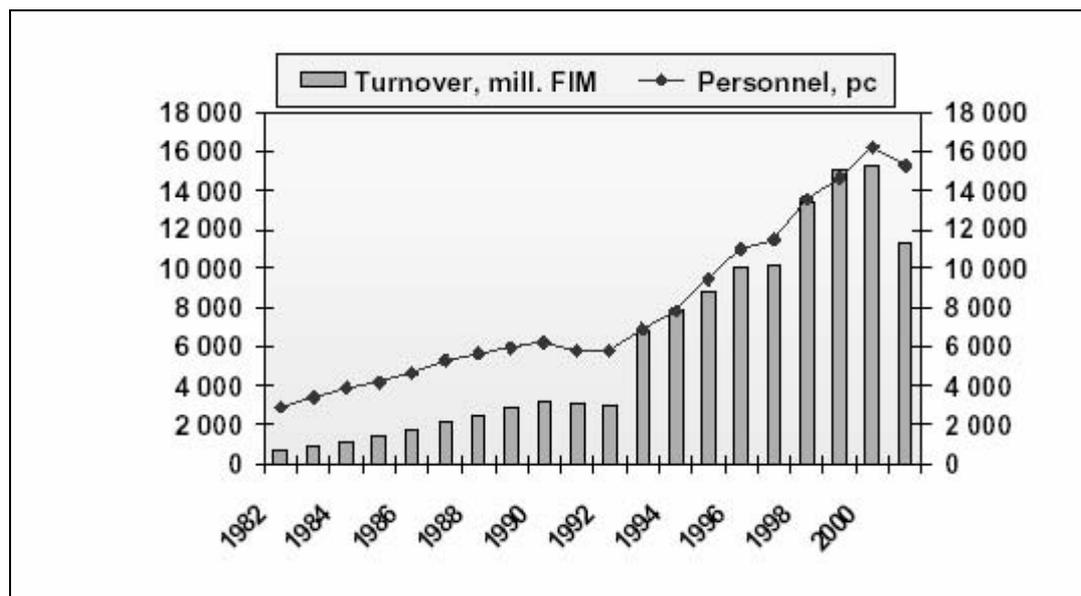
Finland demonstrates typical ICT cluster which focuses on communications equipment and manufacturing and service provision (especially expert services that constitute 45% of turnover in IT services – Figure 10). The framework consists of key industries (digital content, packaging, application software) that are linked to supporting industries (associated services, buyers/appliers) (Paija 2000, 2001a, Pentikainen 2001). Although Nokia is the leading firm in the cluster, accounting for about 40% of the sector’s sales, it is not hegemonic. Numerous new software companies have been established over past 10 years and it is the co-evolution of Nokia and its partners that has been critical to the success of the cluster. Over 300 companies serve Nokia as first-tier suppliers and these mostly small and medium-sized firms are very dependent of Nokia’s success. Many other firms, independent from Nokia, have their origins in research and development related to communications technologies and software solutions.

**Figure 10. Distribution of turnover of IT-services in Finland in 2001**



Source: Tietoalojen liitto ry (2002).

**Figure 11. Growth of turnover (million FIM) and personnel of IT services in Finland**



1 Euro = 5,94573 FIM

Source: Tietoalojen (2001)

Mobile operators were primary clients of the Finnish software firms. With analogue cellular, software firms barely played a role. Their significance has increased along with data communications, starting with GSM and exploding with the mobile Internet in the end of the 1990s. Employment level in IT services almost tripled between 1992 and 2000 (Figure 11). With 100-800 employees and 10-100 million euro in net sales each, the software firms tend to be twice as large as IT service houses, but much smaller than the biggest Nokia suppliers (3 companies with over 1.900 employees each). There also some fields easily distinguished in Finnish software industry profile. The leading security software firms co-evolved with Nokia. They are relatively small with 20-40 million euro in net sales and 140 to 400 employees each. Unlike the industry leaders (Symantec, Check Point), the Finnish players lack scale. With increasing consolidation of the industry, the slow internationalisation threatens to undo the achievements of the growth years. There was a group of some 50 companies in the games and entertainment software production, generating 10-12 million euro in 1999. This group represented advanced technological skills (Paija 2001b). Generally, companies that are classified under NACE 72 are relatively small (9,5 people per firm), but they generate reasonable turnover (Table 10).

The great majority of software companies are located in the Greater Helsinki area. Security software firms are exclusively clustered in this metropolitan area.

**Table 10. Computer and related activities in Finland in 2001**

Number of firms	3,895
Personnel, persons	37,048
Size of a firms, persons (average)	9.5
Turnover, industry, 1000 euros	3,921,194
Turnover, firm (average), 1000 euros	1,006.7
Turnover, person (average), 1000 euros	105.8

Source: Tilastokeskus, 2001

The ICT sector in Finland evolved as a combination of successful strategic choice by companies, tough competition, extensive R&D support, public support and technology push from the dominant telecommunications equipment producers, as well as demand pull, which often included close interactions with various local and private, as well as public sector actors (Leinbach and Brunn 2002). The structural factors led also to 30% annual Finnish ICT growth in 1990s. Traditionally monopolistic telecommunications equipment and service markets were gradually liberalised. The opening of the CEE market gave an additional boost to demand for mobile equipment. The other factor behind the success of ICT in Finland is the public policy procurement process. It is based on public sector authority which places orders, and collaborates with the producer to procure a product or system that does not exist on the national market (Palmberg 1997).

Finnish software companies have shown to be dynamic and resilient in challenging business environment; and their biggest challenges in growth are not technical but management and marketing related (Hietala et al 2004). Furthermore, it was also discovered that the most important improvement areas are improving the level of competence of personnel and that the ability to network with other companies is critical for younger companies. Survey of Hietala et al (2004) also revealed that programming and planning are the two most common types of subcontracting, and difficulties in modularity and specifications are the biggest hurdles that prevent wider use of subcontracting.

Subcontracting seems to be gradually increasing within software product companies. However, it seems that the process maturity in these companies will need to improve until subcontracting can be fully leveraged: Insufficient specifications and poor architecting seem to limit wider use of subcontracting in many companies. As software product business is knowledge based, the availability of highly skilled professionals is crucial. This, as well as the need for partnerships and networking – deemed important by most respondents – might explain the concentration of the industry to university cities and technology centers (Hietala et al 2004)

The most common obstacles for Finnish software company growth, identified by Hietala et al (2003, 2004), are as follows:

- Finding the competent personnel in sales and marketing, especially for international market. Such a personnel must also demonstrate technological knowledge, which is not a common feature.
- Low number of competent software business managers
- Low availability of external finance - little equity form outside in Finnish software industry
- Low level of productization (standardisation of the elements in the offering) in software industry. The current trend seems to be towards greater degrees of both productization and internationalization, i.e., from custom software developed for local markets towards mass-market software intended for international distribution.
- Low level of exports caused by high level of risk perceived by managers

The new trend on the Finnish software market is observed by Indian company entries. There are two major factors affecting the initial decision of Indian companies to establish units in Finland. First, the Finnish market with a number of companies operating internationally has been seen as a potential customer base. While some of the Indian vendors are mostly interested in large manufacturing, banking and insurance companies, some others focus more on medium-sized companies. However, practically all the companies have seen Nokia as the most important and attractive customer in Finland. The second establishment motive has been the reputation of Finland as a country with leading-edge technology (Ali-Yrkkö and Jain 2005). Hence, Finland is not only seen as a promising market, but also to as a potential location to increase the knowledge level in at least two ways. First, the presence in the Finnish market helps vendors to monitor new technological developments in selected fields. Second, learning-by-doing and learning through experience add the skill base of vendors.

## 8.4 Extent and form of delocalisation in the IT sector

### 8.4.1 Delocalised stages

Typically in software outsourcing projects part of the work is done in US or ‘old’ EU member states (on-site) and part in Asia (offshore) or CEE Europe (nearshore) (Ali-Yrkkö and Jain 2005). The division of work between Asian and CEE countries and Western Europe varies by projects, and the Figure 8 presents features of the division. Labour intensive stages of software industry value chain (simple coding, programming and testing) are delocalized to Asian and CEE countries. In a typical case, the original ideas and conceptualization of software is done in e.g. US or Germany by the customer. In most of the cases, the customer also defines the software architecture. The vendor participates in the designing phase but the coding is mainly done in CEE or India<sup>131</sup> (Ali-Yrkkö and Jain 2005). However, there is a gradual move up the value chain towards system and application design and architecture functions, observed in some multinational software development centers in India and CEE countries. Moreover, many CEE and Indian software companies have moved slowly up a ‘trust curve’ in terms of skills, firstly taking on not only the least skilled elements of software production, then also creating the design, and finally accepting responsibility for the entire software development process starting from the client’s ‘statement of the problem’ (Heeks 1998).

Table 11 Data conversions, coding and system migrations are typical projects taken offshore with well-defined requirements and specifications and minimal end-user interaction with the development team (Table 11). Application development projects are also good offshore candidates. For stable applications, most maintenance activities can be performed remotely. With the right communication infrastructure and a clear understanding of your company's business language requirements, Call and Data Centre or Help Desk functions can also be moved offshore. Even though R&D could be cheaper from external sources, R&D outsourcing is only undertaken if it does not threaten the competitive advantage of the firm (Ali-Yrkkö and Jain 2005).

**Table 11. Likelihood of different types of IT work being offshored**

High	Medium	Low
Application development - discrete components	IT infrastructure	R&D
Coding	Data Centres	Systems Architecture
Application Maintenance	Human Resources	Network and Data Security
Help desk	Network Management	Integration of IT and business processes
Call Centres	Web Hosting	
	Server Management	

Source: Based on Trends (2005)

Figure 12 is a schematic representation of a typical US software company manufacturing and localising in Ireland, illustrating the emerging, three-tier international division of labour in a given industry. First, research and product development is almost exclusively undertaken in the US. Second, the manufacture and localisation of products for the European market are performed in Ireland (or Spain, Poland, Hungary). Many such firms also manufacture and distribute for the Middle East and

<sup>131</sup> India's software export trade has still been characterised by an international skill division of labour such that the majority of software contracts allocate only the less-skilled coding and testing stages to Indian workers. They have far more often been used as programmers, working to requirements and design specifications set by foreign software developers, rather than as systems analysts or designers (Heeks 1998).

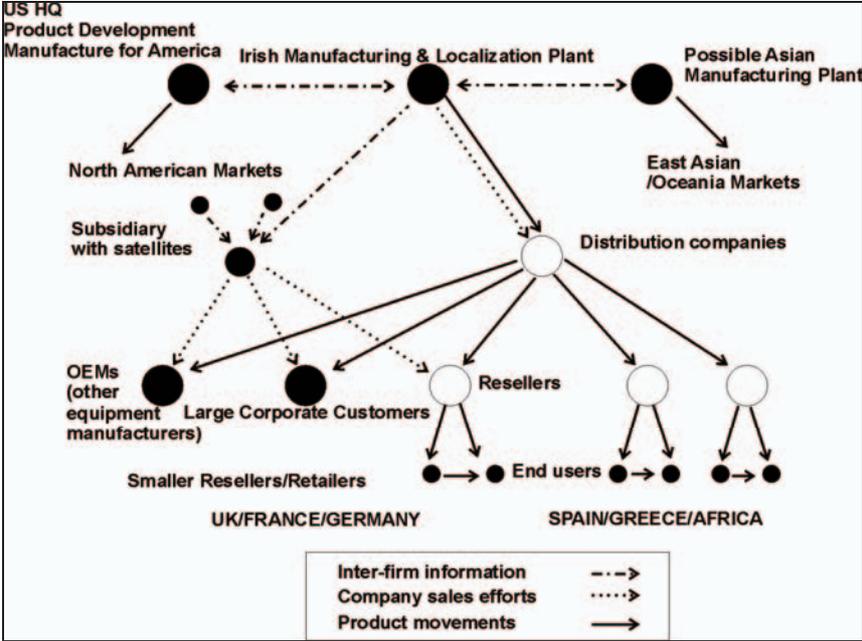
North Africa from their Ireland establishment, while some service all markets outside North America. Localisation and manufacturing in Africa are minimal, with little locally added values. Localisation for the Asian market is more complex technically and is undertaken by many firms in Japan or South Korea. Third, most large companies have national subsidiaries in the major national markets of Europe, providing the functions which need to be supplied locally, namely marketing, selling, training and support services (Coe 1996a). In smaller European countries (e.g. Greece) there may not be a subsidiary, but a network of approved resellers and agents who market the products. The situation is different in Poland where in many cases both a subsidiary and network of resellers exist.

In the case of subcontracting, indigenous suppliers move into consulting and implementation stages of software development, both to add more value to their services, and to be in a position to develop contracts through to post-implementation stages, hence gaining systems management and support revenues (Gentle and Howells 1994). There is a risk of persistent dependency on sub-contracting model in the software industry. The market has started to respond to this risk by shifting from subcontracting for code-writing to subcontracting processes (OBG 2003), showing an evolution in the value added chain (Caragea et al. 2003).

Correa (1993) outlines three main strategies for growth in software exports followed by developing countries:

1. Export of labour, i.e. onsite services (e.g. provided by emigrants from CEE states),
2. Export of services, i.e. offshore work (developing currently),
3. Export of products, i.e. package export (Ireland already reaches this stage).

Figure 12. Schematic organisation of large US software company



Source: Coe (1996a).

One might envisage the above-mentioned development path as skills, reputations and facilities are built up. Looking to CEE and Asian countries, there is some support for this stage model from the behaviour of individual exporters, particularly for transition from first to second stage (Heeks 1998). Common strategy among many multinational providers is to target service development and provision

towards selected high-growth, internationalised sectors, and many firms have established relatively autonomous units (often known as SBUs – Strategic Business Units) for this purpose.

#### 8.4.2 *Extent and forms of delocalisation*

The use of ICT allows knowledge to be codified, standardized and digitised, which in turn allows the production of more services to be split up, or “fragmented”, into smaller components that can be located elsewhere to take advantage of cost, quality, economies of scale or other factors. This makes it possible to produce certain services in one location and consume them (or use them in further production) in another – either simultaneously (e.g. information provided via call centres) or at different time (e.g. data entry, software development - UNCTAD, 2004). Main types of software industry delocalization are as follows: foreign direct investment, subcontracting and offshoring (offshore outsourcing).

Non-market-based types of **foreign direct investment** appear not only in ‘old’ EU member countries (Coe 1997b), but also in CEE countries. There are three main forms of footloose or non-market based FDI in the software industry: offshore data processing (business process outsourcing - BPO), offshore programming and software packaged production. While the emergence of the first two of these developments has been well chronicled (Coe 1997b), the emerging manufacturing-style international division of labour in the software products industry has received less attention. Software packaged production and localization are among key activities conducted by foreign companies in developing and recently developed countries (Coe 1997b). Mass-produced software is very different from many other computer services in that it is essentially like any other product and need not to be manufactured in proximity to its consumption, and hence is conducive to the establishment of an international division of labour. Dublin area has been able to evolve into the leading region in Europe in this subsector (Coe 1997b). Foreign direct investment is sometimes carried out in a form of joint-venture (by European and US firms in India).

The extent to which process is subcontracted varies between software companies. Many actually replicate disks and assemble the products using their own staff, but some outsource the whole process. The most important form of **subcontracting** in Europe is programming, followed by program and architecture planning and testing (Finnish 2003). There were only 3 British enterprises among top ten outsourcing companies in the UK market in 1996 (Coe 2000).

**Offshore outsourcing**, a type of business process outsourcing (BPO), is the exporting of IT-related work from developed countries to areas of the world where there is both political stability and lower labour costs or tax savings. There are broadly four types of offshore supply of IT:

1. Wholly owned subsidiaries undertaking application development and support functions
2. Contract supply of application development and support functions
3. Contract supply of systems design and integration and support for networks and infrastructure
4. Contract supply of IT-enabled services, such as accounting, records management, claims administration and call centers, etc. (Trends 2004)

Although outsourcing and offshoring are often used interchangeably, these terms represent two different dimensions. By outsourcing we mean that other firms take over operations that were previously conducted within the firm. It is important to note that relocation is not a requirement for outsourcing (Ali-Yrkkö and Jain 2005). Offshoring, in turn, is understood to mean relocating activities from one country to another but not necessarily from one firm to another. Possible combinations are summarized in the following figure (Figure 13).

**Figure 13. Combinations of IT outsourcing and offshoring**

		Outsourcing	
		No	Yes
Offshoring	No	I No changes	II Moving activities to other companies without relocation
	Yes	III Relocation of activities to other countries within the same corporate	IV Relocation of activities to other companies in other countries

Source: Ali-Yrkkö and Jain (2005)

Major outsourcing destination for English speaking countries is India. However, according to Gartner (2004), new EU members can become major locations for outsourcing services. Foreign-owned IT companies originally came to CEE countries in order to serve affiliates of multinationals present in the country. At the next stage, they have begun to capture outsourcing processes of these multinationals on a larger international scale, e.g. EDS Poland for General Motors.

The **major centres of offshore supply** are India, Ireland and Israel (Table 12). Emerging centres are found in the Philippines, China and Central and Eastern Europe (incl. Russia). India's position in the offshore outsourcing market is dominant with an estimated market share of approximately 80% (Sahay et al. 2003). However, owing to the concentration of foreign subsidiaries, Ireland's exports of packaged software exceeds that of the United States. Israel also has a significant presence in the international market, more often through joint-ventures or domestically-based export companies than through subsidiaries. The Philippines is a major player for the market of call-centres (Trends 2004).

The recent study by Frost & Sullivan (Global 2004) revealed that offshore outsourcing goes much beyond what has been occurring in India for the last several years. It has shown that India is not the only place to obtain IT talent and it may not be the cheapest, with China emerging as a close competitor. Although China receives less than half the number of the IT jobs than India, the difference is likely to narrow. Chinese governmental bodies are actively promoting specific regions, devoting financial resources to increase the size of the IT labour pool and creating offices that assist foreign businesses in finding qualified IT staff.

**Table 12. Offshore centers**

Offshore Centre	Approximate Value of Offshore Software and Business Process Outsourcing (2002 <sup>a</sup> or 2003 <sup>b</sup> )	Characteristics of offshore activity
India	US\$ 9.9 Billion Software <sup>a</sup> US\$ 2.4 Billion BPO <sup>a-b</sup>	<ul style="list-style-type: none"> <li>• predominantly contract programming and application support, especially for legacy systems</li> <li>• also significant presence of subsidiaries of major international hardware and software producers</li> <li>• significant Indian presence in business process outsourcing market</li> </ul>
Ireland	9.6 Billion euro <sup>b</sup>	<ul style="list-style-type: none"> <li>• predominantly subsidiaries of major foreign software producers (esp. packaged software products)</li> </ul>

		<ul style="list-style-type: none"> <li>dominates European “localization market” for international software products</li> </ul>
Israel	US\$ 1.9 Billion <sup>a</sup>	<ul style="list-style-type: none"> <li>predominantly domestically produced niche market software products in high-end segments of market</li> <li>some presence of subsidiaries of major hardware and software producers</li> </ul>
Phillipines	US\$ 350 Million software <sup>b</sup> US\$ 1 Billion including BPO <sup>b</sup>	<ul style="list-style-type: none"> <li>predominantly business process outsourcing</li> <li>minor presence of contract programming</li> <li>constrained by limited size of domestic software industry</li> </ul>
CEE countries and Russia	Russia: US\$ 150-200 Million <sup>b</sup>	<ul style="list-style-type: none"> <li>predominantly contract programming (often freelance programming)</li> <li>increasing presence in business process outsourcing</li> <li>focus is on EU market</li> </ul>
China	US\$ 1.5 Billion <sup>b</sup>	<ul style="list-style-type: none"> <li>predominantly contract programming, often subcontracted by Indian firms. Focus is on Asian market</li> <li>increasing presence in business process outsourcing</li> <li>constrained by limited IT human resources</li> </ul>

<sup>a</sup> – 2002; <sup>b</sup> -2003

Source: Trends (2004)

US **foreign affiliates** are very important element of delocalisation of American enterprises to Europe. Tab !!! reports that above-mentioned affiliates are significant not only in Canada, Mexico, Australia, Japan, but also in European countries. The relative importance of US foreign affiliates in EU seems to be significant in Germany, the Netherlands, France and Poland (Table 13).

**Table 13. US foreign affiliates operating overseas, 2000 (USD millions and thousands of employees)**

Country	Information services	
	Employees	Gross product
Australia	13.9	813
Austria	1.0	114
Belgium	3.8	445
Canada	32.6	1 357
Czech Republic	0.9	10
Denmark	1.3	94
Finland	0.4	24
France	10.1	695
Germany	24.1	2 209
Hungary	1.3	18

Ireland	4.3	1524
Italy	7.1	469
Japan	10.8	1 564
Korea	1.7	170
Mexico	16.2	249
Netherlands	10.8	651
New Zealand	2.8	81
Norway	1.1	23
Poland	4.4	201
Spain	8.5	341
Sweden	4.5	324
Switzerland	2.3	379
Turkey	0.1	8
Other countries	168.2	11 019
Total	333.0	22 364

Source: OECD (2004)

#### 8.4.3 Delocalisation factors

Delocalisation factors from the point of view of the **host country** are as follows. Favourable tax regime (1) was one of the main factors in 1980s. Nowadays low cost of labour inputs (2) and availability of skilled staff (3) are among the most important reasons. Other factors are: low set-up costs (4), infrastructural investments, often made by the public sector (5), significant, prior investments in educational services (6). A strong external effect associated with a large outward shift in demand for education, resulting in entry of private educational providers (7) may be also enhance the range and scope of IT skills. Organisational changes and internal restructuring (8) may lead to outsource IT-related non-core activities (Coe 1997a). However, software industry is a clear example of an industry where flows of ideas have been as important as flows of physical capital (Commander S., 2004, Crone 2003). Therefore Krugman's (1986,1991) role of accident (9) may be significant in attracting foreign investment.

**Table 14. Schematic cost savings from IT Offshoring**

Share of Costs: Domestic Supply		Offshore Cost Relative to Domestic Costs	
Labour	75%	Offshore Labour	15% to 50%
Other Operating and Overhead Cost	25%	Other Operating and Overhead Cost	5% to 10%
Total Costs	100%	Additional Management and Operating Costs	15% to 25%
		Total Costs	35% to 85%
		Potential Cost Saving Range	15% to 65%
		Typical Savings	20% to 40%

Source: Trends (2004).

Factors (2) and (3) are the most often listed delocalisation factors. Main reason of the process may be explained in terms of classical location factors. The production moves where it is cheaper. Relative to US costs, typical cost savings from offshoring fall between 20 and 40%<sup>132</sup>, depending on the type of work (Trends 2004) (**Error! Reference source not found.**). For programming the cost savings are closer to 20% while for BPO current savings are in the range of 40%. Savings on maintenance and support for legacy systems are around 25-30%. Relative to the Canadian costs, savings would be about 10-15% lower (Huws et al., 1999). CIO Magazine (The Hidden 2003) estimates, the hidden cost' of moving IT work offshore at 15-57% of the contract's value. The biggest amount of money is spent on contract management and lost productivity. Tata Consultancy, one of India's major suppliers of IT services, puts the 2004 labour cost difference at closer to 25-40% for programmers of five years of experience (Trends 2004) (Table 15). Many executives assume that labour arbitrage will yield savings comparable to person-to-person comparison (e.g., a full-time equivalent in India will cost 40% less) without regard for the hidden costs and differences in operating models. In reality, most IT organizations save 15%-25% during the first year; by the third year, cost savings often reach 35%-40% as companies "go up the learning curve" for offshore outsourcing and modify operations to align to an offshore model (Davison 2004). **Labour cost** and benefits in software development account for between 51% (Canada) and 80% (Japan) of total costs (Competitive 2004). Skilled software personnel in India receive no more than 10-12% of wages in the USA when using current exchange rates, 20-30% in PPP values (Commander 2004).

Many papers support the view that the most important motive for offshore outsourcing is lower costs (e.g. Ali-Yrkkö and Jain 2005, Girma and Görg 2002, Carmel and Agawar 2000). However, the additional costs, such as management and communication costs, make the cost difference clearly smaller than the wage difference (Figure 14). In the case of **turnkey assignments** (those involving all stages from analysis to installation), cost is less important while management skills, quality, proven expertise and access to technology all become much more important (Heeks 1998).

The rise of the export software industry in such countries as India, the Philippines, Russia and Bulgaria has drawn attention to the delocalization of more highly-skilled information processing work. The new global distribution of work in this sector follows yet another pattern. Here, **a good supply of highly skilled work**, especially IT professionals, constitutes an important attraction (Huws et al., 1999). **Telecommunication technology improvements** are among the other reasons. Software export firms actively use high-speed international data links. Links are used in a variety of ways: to access the client's mainframe computer, based overseas, from terminals based e.g. in India, thus overcoming any problem of hardware availability; to send and receive electronic mail; to pass files between members of a joint development team split between two states; and to undertake remote diagnosis and maintenance work. Telecommunications links also enhance the ability of foreign clients and Indian developers to interact on a daily basis; allowing software under development to be sent back and forth and modified according to client wishes. With greater and improved interaction, there is reduced risk and greater control for foreign clients, which encourages greater trust (Commander 2004).

There are also delocalization factors which pull the activities out of the **home country**. In general companies have speeded up their product developing process by using external R&D sources. While in some cases, the lack of in-house resources has pushed companies to use vendors, another reason is the use of external resources in maintaining and sustaining of existing products which, in turn, enables the firm to focus its in-house resources on the development of next generation products. Shortages of IT skills in home country are one of the important types of lack of in-house resources (Trends 2004).

In relation with the motives of delocalizing various business functions, it is worth to mention one of outsourcing **cases** - call centers activities being moved from Scotland to India (Makó and Illéssy, 2004). Among the reasons for outsourcing or transferring call centers services overseas –mainly to India – first place are mentioned such motives as „reduced costs/increased profitability” and only second place was mentioned the „availability of educated staff/labour pool/skills”. It is interesting to

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<sup>132</sup> Cost reductions for the off shored processes are rarely estimated to 40-60% (The Digital 2004).

note the third place mentioned reason of outsourcing, which were the „repetitive work/routine operations/outbound, cold calling” (Taylor and Bain 2003)

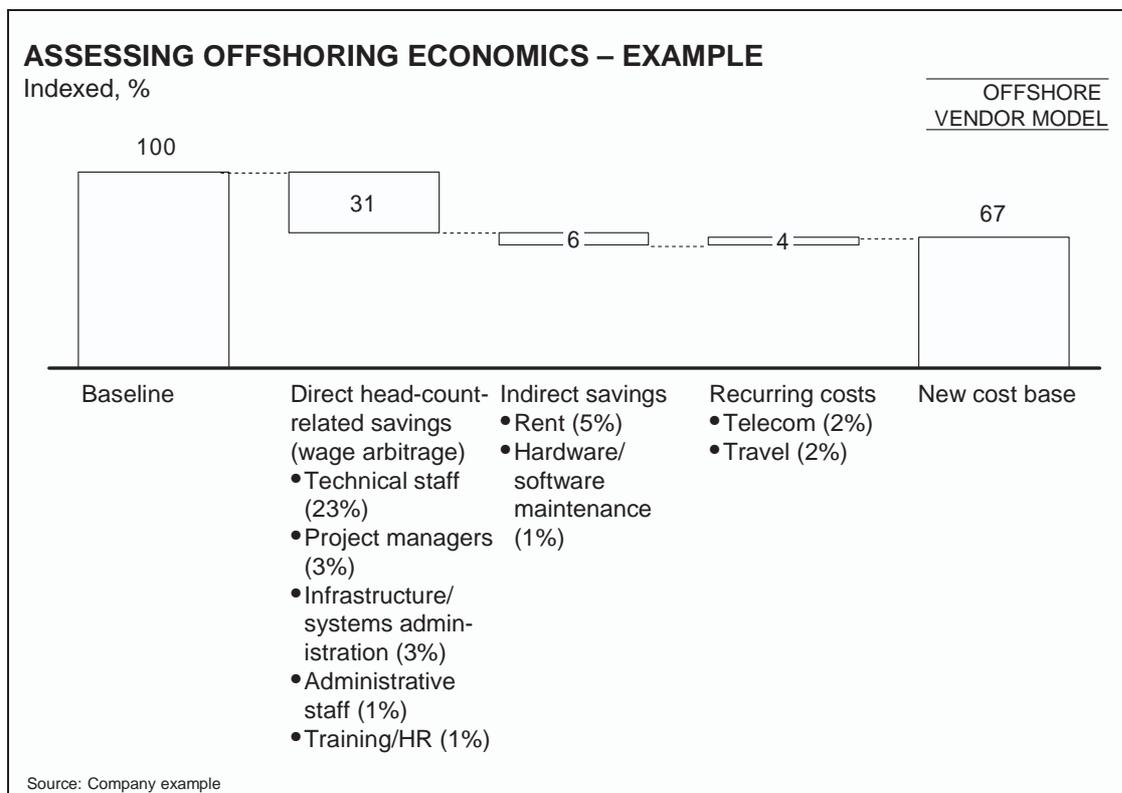
Gentle and Howells (1994) also recognise five specific **structural factors** that are causing the traditional national orientation of IT markets to be eroded, thereby increasing the potential for internationalisation. Lifted restrictions on the activities of foreign firms, declining language barriers, national computing standards superseded by international standards with the move towards highly compatible systems are among the most important internationalisation.

**Table 15. Estimated Bill Rates for Software Developers (2003-2004)**

Country	Bill Rates for Software Developers with Five Years Experience
United States	\$117-\$150
Canada	\$65-\$95
Mexico	\$25-\$40
India	\$22-\$37
Czech Republic	\$30-\$70
Hungary	\$45-\$67

Source: Special Report on Offshoring, 2004, Infoworld, March 8,2004

**Figure 14. Offshoring economics**



#### 8.4.4 *Delocalization barriers*

Delocalization decisions are hampered by a **lack of trust** and a perception of risk among clients, who are uncertain of the skills, capabilities and credibility of potential foreign sub-contractors. In order to reduce the risk, many clients choose to retain as much control as they can over production, only contracting out the relatively unproblematic tasks of coding and testing, and having the work carried out onsite (Heeks 1998). Potential **information leakage** and **data security** are concerned by investors, which distinguishes R&D outsourcing from production outsourcing (Lai and Riezman 2004). Even if some of the R&D could be undertaken with lower costs externally, the threat of information leaks renders this option unattractive (Ali-Yrkkö and Jain 2005). However, there are specific solutions to data security. Many highly sensitive parts of the software that incorporate intellectual property can be wrapped in an Application Programming Interface. This can ensure that core intellectual property is always protected.

**Lack of continuous client-developer interaction** is the other delocalization barrier. Despite good communications links, interaction sometimes needs to be face-to-face, which means the developers going to the client rather than vice versa. Thus, even with offshore turnkey contracts, the requirements analysis, preliminary design, installation and implementation generally need to be done onsite.

The average software development project requires less than half the labour input to come from programmers (Heeks 1996). This 'programmer heavy' skills profile, reinforced by losses of experienced staff to the overseas 'brain drain', encourages programming-only contracts. This and constraints on the availability of IT and project management resources within India also reduce offshore productivity and quality in some companies, making onsite work more attractive.

Delocalisation is slowed down by cultural differences. Although English is one of official languages in India, pronunciation and accents can vary tremendously. Many vendors put call center employees through accent training. In addition, cultural differences include religions, modes of dress, social activities, and even the way a question is answered. Most leading vendors have cultural education programs, but it can't be assumed that cultural alignment will be insignificant or trivial.

#### 8.4.5 *Advantages and disadvantages of delocalization*

The advantages and disadvantages of delocalization for **firms, employees, countries/regions** are briefly described below.

Apart from reducing labour cost and saving operational cost in the host countries, **companies** also take advantage from new ideas developed in a offshore department or by the outsourcer. Additionally, when a company has carried out a few contracts for the same client and has proved itself able to follow a set of instructions or specifications and to deliver on time with the required quality, then it may be entrusted with a little more of the software development process and/or may be allowed to carry out more of the work offshore (Heeks 1998). If a relationship with an offshore software vendor does not work out, the company will switch to another vendor a little easier. Foreign companies' entry may enhance competitiveness of indigenous suppliers and even non-related software companies. This may lead consequently to enhancing the skill base and the entrepreneurial base that make a country attractive to high-end FDI through subsidiaries and joint-ventures (Irish and Israeli model) (Trends 2004).

The 'brain drain' seems to be a disadvantage of operations of foreign companies in a given region. At the height of a migration process – in 1999 – over 16% of developers had left their Indian firm to work in a developed country. On other hand, firms do not generally perceive skilled migration to have had strong negative effects; in many instances migration has been viewed as positive for the firm and the industry more generally (Commander 2004). Survey of US software firms found that around half of all foreign recruited software professionals had quit and returned home over a period of three years. Interestingly, those that quit were mostly perceived as being above average or ranked in the top 10% of their former employer's workforce (Commander 2004). However, key personnel are usually in demand for new, high-profile projects, or even at risk of being recruited by other offshore vendors. While offshore vendors will often quote overall turnover statistics that appear relatively low, the more

important statistic to manage is the turnover of key personnel on an account. Common turnover levels are in the 15%-20% range, and creating contractual terms around those levels is a reasonable request. The impact of high turnover has an indirect cost on the IT organization, which must increase time spend on knowledge transfer and training new individuals (Davison 2004).

Growing labor cost may constitute a danger for offshoring. There is an increase in software specialists' wages in India which over the past few years have been increasing at an annual rate of somewhere between 15%-25%, according to one of the vendors (Ali-Yrkkö and Jain 2005). The lack of internal quality control procedures is the other disadvantage. The Capability Maturity Model (CMM) becomes an important measure of a company's readiness to adopt an offshore model. Offshore vendors require a standardized and repeatable model, which is why CMM Level 5 is a common characteristic. META Group observes that approximately 70% of IT organizations are at CMM Level 1 - creating a gap that is compensated for by additional vendor resources on-site. Companies lacking internal process model maturity will undermine potential cost savings (Davison 2004).

Apart from well-paid jobs, **employees** experience some disadvantages of delocalization. Seasonal work is typical for IT project-oriented companies (e.g. system or application integrators). There are also temporary workers in the case of mass-software production. They are commonly used to manage seasonal fluctuations in demand, especially in three months preceding Christmas (Coe 1997b).

Gender division of labour is significant in software industry. Women face particular difficulties because software development often entails working unsocial hours and, more significantly, working overseas. On the other hand, women interviewees felt that software development offered a more relaxed and less discriminatory atmosphere than many other Indian employment options (Heeks 1998; Jayanthi and Madhavan 1985). On average 70 percent of employees are male in the British software industry (Coe 1997b), although only 10% of Indian software developers are female (Heeks 1998). Localization functions generally exhibit an even balance between male and female employees. On average, between 40 and 50 percent of manufacturing and distribution tasks are carried out by women (Coe 1997b).

Most offshored services today are concentrated in a relatively small number of **countries**. As it is pointed out in UNCTAD (2004), Ireland, India, Canada and Israel (in that order) accounted for over 71% of the total market for offshored services in 2001, mostly in software development and other IT services. Thus, only limited number of host countries gains benefits from delocalization. There is an over exaggeration of the benefits in employment created in the countries hosting offshore activities. For example, India's high-tech boom, even with an estimated 700,000 computer software professionals, still involves less than one-tenth of 1% of the population. Thus, software industry even not aspires to be a major employer in host countries.

Temporary brain circulation may generate the presence of network effects (Saxenian 1994) as well as confirming the significance of temporary mobility. By the movements of key individuals the new foreign companies may emerge in a host country (Crone 2003). Accompanied with foreign company entries it may lead to emerge a software cluster (Crone 2003, Larosse et al. 2003).

One of obstacles of current investment activities in Asia are security reasons (Trends 2004). Some American managers are not willing to invest in Muslim countries after 11<sup>th</sup> September 2001 due to poor safety of business functioning there. Therefore CEE countries may partly replace India in the case of new investment in software.

Both product specialist subsidiaries (developing and producing limited product line for global market) and strategic independent subsidiaries (developing lines of business for local, continental or global markets) can have substantial benefits for economies compared to the traditional marketing or manufacturing sites (Coe 1997b). Crucially, the emergence of such new, higher-performance overseas plants has created employment opportunities for the less developed areas of the EU such as CEE, Spain, Portugal and Ireland (Coe 1997b) that rely heavily on FDI to provide employment.

However, the level of embeddedness of software companies still seems to be relatively low. Some foreign software development firms do not seem to be establishing links with indigenous firms, and consequently do little to stimulate indigenous growth, resulting in a discernible 'dual economy' (Coe

1997a). However, the biggest players (e.g. Microsoft and Symantec in Ireland) purchase a majority of their raw materials locally. Local companies have benefited of becoming subcontractors for elements of the software 'production' process. However, the majority of large foreign firms are part of international value chains with limited local clustering, which is shown by the case of Flanders (Larosse et al, 2001). Most of the big IT companies have to align their alliance strategies with headquarters abroad, thus limiting the scope of local cluster development.

Majority of software industry is located in capital metropolitan region (Dublin, Warsaw, etc.). Such regions take advantage of employment gains and new corporate culture being introduced. Many peripheral areas stagnate because of the lack of skilled labour. However, some areas perceived as peripheral experience growth in software industry lately (e.g. Northern Ireland – Crone 2003) in terms of employment and multiplier effects.

The growing number of IT jobs sent to offshore subsidiaries and IT outsourcers may constitute a danger for a host countries. The worst numbers are reported for UK where a drop in the number of IT jobs is about to take place (Global 2004). Romania and Poland are ideal low-cost locations with highly skilled IT labour; they are more favorable to meet the business needs of Western Europe than countries such as Malaysia, China, and India (Global 2004). Poland experiences the fastest IT job acquisition rate of all low-cost countries, which include Brazil, Mexico, Romania, Poland, Russia, India, Malaysia, and China. Malaysia and Mexico are the only low-cost nations that have experienced negative IT job acquisition rates over the 2002-2004 period (Global 2004).

#### *8.4.6 Governance issues*

Almost all countries have strategies of IT/ICT development and of creation of the information society. Special focus is on R&D support and innovation.

Birding up the digital divide, enhancing global diffusion of IT technology are among main priorities of international bodies such as UN, the World Bank, OECD, UNESCO and the UE. Most of strategies recognize the importance of skills, education, deregulation of ICT markets leading to cheaper access to IT.

There are no specific policies aimed in regulation of delocalization processes in the software sector. It may be owing to the fact that it is still not to be considered as a problem as a shortage of IT specialist within developed countries is observed. There are some regulations focused on security matters (banking, personal data protection, military) which may shape delocalization somehow but they are not aimed on delocalization itself.

Most countries have encouraged inflows of IT migrants to some extent, especially USA, Canada and Australia have immigration policy encouraging such inflows. Even Germany announced in 2002 that 40,000 software programmers are welcomed in this country despite of more than 10% unemployment in German economy.

OECD recommends avoiding protectionist response toward delocalization in software sector arguing that efficiency gains and cost savings due to delocalization underpin productivity growth and the creation of new employment opportunity, both in home and host country. It is estimated that benefits are much higher than costs, therefore only limited adjustment in some cases may be welcomed (OECD 2004).

### **8.5 Conclusions**

IT sector is an interesting case for a research on a delocalization. It is not only because information sector was the most rapidly developing part of economy for last few years with mass computerization of companies and households followed by internet development phenomenon. It is because IT sector is the first one where offshore outsourcing was for white collar, well paid jobs in art of state industry. It was also the first part of services to be delocalized in spite of traditional view that services are characterized by union of production and consumption place. It is no longer a condition as a place becomes virtual due to telecommunication and Internet advances. There is no doubt that IT and especially its software part is labour intensive but unlike other labour intensive sectors this is where

labour has to be high skilled and well educated (Arora and Gambardella 2005). Florida et al. (2003) argue that software industry differs in one more fundamental respect. Its competitiveness is not based on productivity or even quality but on design, therefore software industry is sometimes called “industry of the mind” (Florida et al. 2003).

Thanks to rapid growth of whole IT sector despite of dynamic development of offshoring activities there is no job loss in developed countries. Therefore delocalization in IT sector may be considered a win-win game so far. As a matter of fact it is more expansion than delocalization. Even if delocalization is observed it is as Arora et al. (2001) argue due to shortage of IT skilled professionals in the US and Western Europe as a main factor. Important reason for delocalization of IT and BPO services is the option of round the clock operation. In general global expansion of IT firms is driven by the need for market access and growth at first place, economies of scale and costs savings at the second and finally by access to skills and technology (OECD 2004).

Developed countries are occupying high end of value chain and as long as main customers are within these countries their position seems not to be endangered. On the other end there are countries which entered general economic development path and as long as delocalization adds to their GDP growth and citizens quality of life bettering – delocalization seems be justified (India, China, Philippines).

Interesting case is that prospects of countries/regions which place in the middle of value chain, are not sufficiently clear. As an example CEE countries may serve as an example of economies, where wages are not low anymore (and still rising), so they can not compete with India or China in this respect, whereas their ability to compete with high end of value chain is also disputable due to lower spending on R&D and education.

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