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FLEXIBILITY AND COMPETITIVENESS: LABOUR MARKET FLEXIBILITY, INNOVATION AND ORGANISATIONAL PERFORMANCE (FLEX-COM)

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Flexibility and competitiveness: labour market flexibility, innovation and organisational performance (FLEX-COM)

FINAL REPORT

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EU RESEARCH ON SOCIAL SCIENCES AND HUMANITIES

Flexibility and competitiveness: labour market flexibility, innovation and organisational performance (FLEX-COM)

Final report

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Citizen and governance in a knowledge-based society

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PREFACE

Within the Fifth RTD Framework Programme of the European Union (1998-2002), the Key Action *"Improving the socio-economic knowledge base"* had broad and ambitious objectives, namely: to improve our understanding of the structural changes taking place in European society, to identify ways of managing these changes and to promote the active involvement of European citizens in shaping their own futures. A further important aim was to mobilise the research communities in the social sciences and humanities at the European level and to provide scientific support to policies at various levels, with particular attention to EU policy fields.

This Key Action had a total budget of 155 Million Euros and was implemented through three Calls for proposals. As a result, 185 projects involving more than 1600 research teams from 38 countries have been selected for funding and have started their research between 1999 and 2002.

Most of these projects are now finalised and results are systematically published in the form of a Final Report.

The calls have addressed different but interrelated research themes which have contributed to the objectives outlined above. These themes can be grouped under a certain number of areas of policy relevance, each of which are addressed by a significant number of projects from a variety of perspectives.

These areas are the following:

- ***Societal trends and structural change***
  16 projects, total investment of 14.6 Million Euro, 164 teams
- ***Quality of life of European Citizens***
  5 projects, total investment of 6.4 Million Euro, 36 teams
- ***European socio-economic models and challenges***
  9 projects, total investment of 9.3 Million Euro, 91 teams
- ***Social cohesion, migration and welfare***
  30 projects, total investment of 28 Million Euro, 249 teams
- ***Employment and changes in work***
  18 projects, total investment of 17.5 Million Euro, 149 teams
- ***Gender, participation and quality of life***
  13 projects, total investment of 12.3 Million Euro, 97 teams
- ***Dynamics of knowledge, generation and use***
  8 projects, total investment of 6.1 Million Euro, 77 teams
- ***Education, training and new forms of learning***
  14 projects, total investment of 12.9 Million Euro, 105 teams
- ***Economic development and dynamics***
  22 projects, total investment of 15.3 Million Euro, 134 teams
- ***Governance, democracy and citizenship***
  28 projects; total investment of 25.5 Million Euro; 233 teams
- ***Challenges from European enlargement***
  13 projects, total investment of 12.8 Million Euro, 116 teams
- ***Infrastructures to build the European Research Area***
  9 projects, total investment of 15.4 Million Euro, 74 teams.

This publication contains the final report of the project "Flexibility and Competitiveness: Labour Market Flexibility, Innovation and Organisational Performance", whose work has primarily contributed to the area *"Employment and changes in work"*.

The report contains information about the main scientific findings of this project and their policy implications. The research was carried out by 6 teams over a period of 2 years, starting in September 2001.

The main aim of the project was to see to what extent a flexible labour market in Europe contributes to long-term competitiveness, as well as to socially and economically sustainable development. An important element within this was to open a discussion on how exactly 'flexibility' should be defined and how it could be put into effect in different economic environments. This objective was broken down into three areas:
- Identifying different national behaviours, through studying countries with different structures, different legislation and different behaviour in the labour market;
- Identifying the links (or not) between flexibility and competitiveness;
- Interpreting flexibility and its role in a European context.

The following are some of the main conclusions:

- Flexibility is too complex to be covered by a single term, since the policy mix, discretionary powers of various actors and the potential effects of effective intervention differ greatly.
- In the medium to long term, numerical and financial flexibility may undermine the economic performance of firms and reduce their capacity to innovate.
- It is not enough to rely on formal rules alone to make markets more flexible, as economic agents do not necessarily adopt new legislation. If it is not acceptable to the workforce and there are no labour trade-offs, it could be counter-productive.
- Policy-makers need to develop more sophisticated models to cater to fundamental changes in world production and trade.
- Current discussions about competition and flexibility are more relevant to Europe's larger Member States, with their higher public expenditure on social welfare, than to smaller economies. The project found that policy intervention alone was unlikely to trigger consensus and job satisfaction – two elements in a firm's success.

The abstract and executive summary presented in this edition offer the reader an overview of the main scientific and policy conclusions, before the main body of the research provided in the other chapters of this report.

As the results of the projects financed under the *Key Action* become available to the scientific and policy communities, Priority 7 "*Citizens and Governance in a Knowledge Based Society*" of the Sixth Framework Programme is building on the progress already made and aims at making a further contribution to the development of a European Research Area in the social sciences and the humanities.

I hope readers find the information in this publication both interesting and useful as well as clear evidence of the importance attached by the European Union to fostering research in the field of social sciences and the humanities.

J.M. BAER,
Director

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List of abbreviations

ALMPs: Active Labour Market Policies

CMEs: Coordinated Market Economies

CSFs: Community Support Frameworks

EIRO: European Industrial Relations Observatory

EPL: Employment Protection Legislation

ESM: European Social Model

FINE: Functional, Internal, Numerical, External

GDP: Gross Domestic Product

HR: Human Resources

HRM: Human Resource Management

ICT: Information & Communication Technology

IMD: International Institute for Management Development

IT: Information Technology

LME: Liberal Market Economies

OECD: Organisation for Economic Cooperation and Development

TWA: Temporary Working Agencies

WEF: World Economic Forum

GLOSSARY

Business competitiveness
"The ability to design, produce and market goods and services, the price and non-price characteristics of which form a more attractive package than those of competitors" (*World Competitiveness Scoreboard*).

Consultation
Where employees are encouraged, and enabled, either as individuals or members of a group, to make their views known. Management, however, retain the right to accept or reject employees' opinions as well as reserving the right to take action.

Delegation
Where responsibility for what has traditionally been an area of management decision-making is placed largely in employees' hands: participation is designed into peoples' jobs. Examples might be quality circles and team working.

Employee Participation / Involvement
A process which allows for the contribution of all levels of staff, within the organization, to the managerial decision-making within the work place or enterprise, or through which employees may influence management and that the views of workers are one factor to be taken into consideration in the decision-making process. Management takes on an enabling rather than a controlling role.
Employee Participation or Involvement can be implemented in many different forms - through direct representation of workers on, for example, works councils; by formal and regular consultation of the individual or the work group; by the delegation of decision-making to the individual or work group; or through forms of financial participation. These forms can be further defined as follows:

Flat organisational structure
High-performance firms usually have an organization structure that decentralises or pushes down decision making authority to the lowest feasible level, thus eliminating intermediate layers of management.

Flexibility (general)
The ease with which a system or component can be modified for use in applications or environments other than those for which it was specifically designed.

Flexibility (types): Numerical, functional, contract, internal, external, pay, spatial

- ✓ *Numerical flexibility*: a process through which workplaces adjust to changes in the demand for their product/service by adjusting the amount of labour they employ. It is pursued, traditionally, through overtime. More recently it is pursued though the use of part-time work, variable working hours, temporary work, fixed-time contracts or, more dramatically, through, layoffs.
- ✓ *Functional flexibility*: a process through which workplaces adjust to changes in the demand for their output by an internal re-organisation of jobs. It is sought through multi-skilling, multi-tasking, team working and the involvement of workers in job design, innovation, technology and the organisation of work.

- ✓ *Contract flexibility*: the use of non-standard employment contracts - part-time work; temporary contracts; seasonal work; or fixed term contracts - to reduce costs and to meet fluctuations in the demand for products or services.
- ✓ *Internal Flexibility*: changes to the operations carried out within the enterprise or performed within the existing contract structures, including flexibility in working time arrangements. There can be some overlap between functional and internal flexibility
- ✓ *External Flexibility*: this involves an interaction with the markets, changing the nature and type of contracts and the use of sub-contracting and outsourcing of services and materials. There can also be an overlap between numerical and external flexibility.
- ✓ Pay Flexibility: the option of changing (increasing and decreasing) employees' compensation levels according to changes in company performance.
- ✓ Spatial Flexibility: the option of changing the geographical location of an enterprise and especially the location of its workers (relocation, teleworking).

Flexible Organizations

An organisation that is structured in an organic, adaptive fashion, rather than as a rigid bureaucracy.

High - performance workplace / flexible firm / 'High Road' firms

Such a workplace would have some, or all, of the main features of the work organization concepts, including job redesign involving multi-skilling or multi-tasking; the use of team working; reduced management levels; and the delegation of responsibility to individual employees and work groups. It combines higher productivity with higher quality of working life.

The 'high road' firm is based on qualitative competition; on flexible delivery, continuous improvement and the development of new products/services and markets. It focuses on human skills and knowledge, on a wide-scope training, on the decentralisation of decision-making, and adopting a holistic approach to work tasks. It uses technology as a tool. 'High Road' manufacturing firms invest productivity gains in R & D and in enhancing workforce qualifications. The "high road" is therefore a comprehensive attempt to activate human creativity and effort, leading to innovative products and services and to the exploration of new markets.

Human Resource Management (HRM)

A management approach, or philosophy, which considers the workforce as a factor of production, to be optimised in terms of efficiency and productivity. This can be done through motivation and development of staff commitment through, for example, training and career development, involvement in managerial decision-making, in quality control and in the delegation of certain workplace decisions affecting the organisation of work. This approach is in contrast to the traditional adversarial employee relations. Flowing from HRM a number of other management initiatives have come into modern use:

Innovation

The implementation of new ideas and new ways of doing business. It can refer either to the changes or improvements to the product or service (product innovation), or to the processes through which a product is produced (process innovation). Innovation can also take place on the level of an enterprise's organization (organisational innovation). In this case it embraces

with a holistic approach the culture, the functions, the structure, the procedures, the processes and the products. Innovation is a key element in a 'high performance' enterprise.

Job rotation
A flexible work design strategy involving the movement of workers from one job (or set of tasks) to another without changing the work contract.

Just in Time
A work-organisational principle that is aimed at eliminating the stocking of parts that enters into the final product. Product parts are brought in the company just when they are needed for the ongoing production process. It relies on a great degree of integration between the sales, procurement and production departments.

Labour-Market Rigidity (and Flexibility)
The existence of legal, regulatory or customary obstacles to the frictionless matching of an unfilled job and an unemployed worker with the appropriate skills. Common indicators include excessively generous unemployment benefits, restrictions on hiring and firing, union work rules, a high minimum wage, downwardly rigid wages, tight regulation of working hours, stringent health and safety regulations.

Lean Production
A production approach designed to eliminate over stocking of components and unfinished goods through 'just-in-time' systems. The system requires detailed co-ordination of deliveries from suppliers and sub-contractors and tight control of stock levels in relation to the demands of the production process.

National competitiveness
"The degree to which a country can, under free and fair market conditions, produce goods and services which meet the test of international markets, while simultaneously maintaining and expanding the real incomes of its people over the long term" (*OECD*).

New Work Organization
New Work Organisation is the application of principles and practices within enterprises which aim to capitalise on, and develop the creativity and commitment of employees at all levels in achieving competitive advantage and in meeting the business and service challenges posed by the social, economic and technological environment.

Organisational culture
The shared attitudes, values, and expectations held by members of a given organisation.

Part-time work
Working for less than the legal arrangements as specified by national or sectoral labour agreements.

Productivity
Labour productivity, the most frequently cited aspect of productivity, is usually measured as output per hour worked. Total factor productivity (TFC) measures the contribution of all the factors of production to output.

Project team
Specific form of team working, often in place in relation to quality issues, which consist of employees who come together to solve a particular problem or accomplish a specific mission.

Quality
The degree to which the design specifications for a product or service are appropriate to its function and use, and the degree to which a product or service conforms to its design specifications.

Quality Circles
The work group which comes together to identify and solve problems in their work situation with the objective of improving the quality of the production or service, increasing productivity and reducing costs.

Quality of Working Life / Job Satisfaction
A state of employee morale and well being wherein the outcomes perceived from the job are matched very well with the employee's desires, values and belief system.
This recognises the social needs of people at work and balanced these with the business needs of the firm. It is argued that flexible workplace practices provide greater job satisfaction which, in turn, reduces absenteeism and staff turnover. It is suggested that there are five essential elements required to provide job satisfaction:

- that the job requires a variety of skills;
- that the job involves completion of an identifiable piece of work;
- that the job has a significant impact on others;
- that the job provides the worker with autonomy;
- that the worker receives feedback about performance.

Team working
An aspect of work organisation whereby a group of workers, usually between four and twenty, can make certain work-related decisions semi-autonomously, without reference to management (on such issues as the allocation of work; scheduling; quality control; time keeping and absence control; job rotation; co-ordination with other teams; and improving the work process).

Telework / Telecommuting
Work carried out by the use of computer and telecommunications, in order to overcome restraints in place and/or time of work. This working arrangement is carried out at home or close to home, for all or part of the time, thus introducing a more flexible work location.

Temporary Work
Work performed under a contract of limited duration. It includes fixed-term work and work done through a Temporary Work Agency.

Total Quality Management (TQM)
TQM is considered to be the successor of the quality circle idea, which encompasses many of the employee involvement and lean production concepts, with the objective of improving quality, reducing production waste and meeting customer demands. Team working and decision-making at lower levels, to facilitate higher quality performance, are important features of the process.

Working Time

The amount of time spent by a worker at work (including teleworking), measured in terms of hours per day, weekly, monthly or as annualised hours. Working time can also be qualified by a number of flexible arrangements, such as night and shiftwork; overtime; weekend work; part-time work; temporary working; or other forms of workplace flexibility.

Abstract

The aim of the project was to investigate the implications of the rapidly increasing labour market flexibility in Europe, which is the result of mainstream policy. It is suggested that there are potential adverse effects, which may occur in the longer term or may arise from idiosyncrasies in specific environments. Not all economies are similarly receptive to all types of flexibility and thus generalised benchmarks may be an oversimplification. The research focuses on small open economies, using the examples of Ireland, Finland, the Netherlands, Switzerland and Greece. The main topic of this investigation is the relationship between flexibilisation and long term competitiveness.

In order to meet its objective the research begins by focussing into a more detailed debate on what is flexibility and how it is perceived in different environments, in order to contribute to the academic debate on the lack of a universally agreed definition of flexibility and its various forms. The conclusion is that ***flexibility is far too complex to be covered by one name only***. The appropriate policy mix, the discretionary power of the various actors and the potential of effective intervention differs greatly from one form of flexibility to another. So a more sophisticated jargon and debate are needed before policies are adopted. The informal sector makes it even more difficult to anticipate impacts.

The project results offer some econometric evidence that (without denying traditional views that under certain circumstances numerical flexibility contributes to the decrease of unemployment) ***numerical and financial flexibility in the medium to long term may lead to deteriorating economic performance and reduced capacity to innovate***. In addition it was evident from the research that ***legal enforcement alone is insufficient for making markets more flexible***. If social acceptance and trade offs for labour are not in place, the new legislation will not succeed in changing social routines. Even worse, if the introduction of formal rules triggers social resistance it may even be counterproductive.

The fundamental changes in world production and trade suggest that the new economy requires more sophisticated models than those we have already experienced. Industrial relations are likely to be radically modified in the future. The lesson learned from the small countries is that there is a need for a refined approach in the enhancement of flexibility in Europe. Instead of looking for a generalised and standardised adoption of flexibility it is important to identify the key issues and challenges by type of country and adopt the measures that suit best each economic environment. European diversity calls upon a differentiated approach. This is best illustrated by the three out of the five small European countries studied, in which competitiveness and innovation were achieved with limited flexibility and consensus labour market policies. If this does not go against orthodoxy at least it complements it, and thus challenges the view that mainstream is the only viable option. There is no doubt that more flexibility is needed, but of what kind and for which circumstances it is more difficult to ascertain. Thus, new forms of flexibility, which would be a result of social experimentation, are needed. Unfortunately we identified a quasi absence of social experimentation in our case studies as elsewhere.

1 Executive Summary

Labour market studies often suggest that flexibility is the best way for increasing employment. Thus, in times of persistent unemployment making the labour market more flexible becomes policy orthodoxy without further refinements. The key objective of the project was to further investigate the implications of the increasing flexibility arising from these recommendations and identify potential adverse effects which may occur in the longer term or arise from idiosyncrasies in specific environments, which are not receptive to certain types of flexibility. The research focuses on small open economies, using the examples of Ireland, Finland, the Netherlands, Switzerland and Greece.

The main topic of this investigation is to what extent the flexibilisation of the labour market in Europe contributes to long term competitiveness, as well as to socially and economically sustainable development. There exist persuasive arguments in the literature that the new orthodoxy may be going too far. A substantial body of research on types of flexibility, which derives mainly from labour relations, sociological research and working conditions, suggests that flexibility reduces job security and workers' commitment and thus adversely affects productivity and creativity. On the other hand, research in economics focuses on the relationship between flexibility and employment. Thus economic or interdisciplinary research trying to empirically test the link between flexibility, employment, productivity and innovation is limited.

In order to meet its objective the research begins by focussing on a more detailed debate on what is flexibility and how it is perceived in different environments, in order to contribute to the academic debate on the lack of a universally agreed definition of flexibility and its various forms. It attempts to clarify the concept of flexibility and related issues, based on the literature and evidence selected from country and firm case-studies. Following this, an econometric approach using available variables, a number of case studies and two theoretical papers were combined to try and offer a broader set of conclusions on flexibility, its long term effects and its impact on the European social model.

The ***term "flexibility***" has been used in so many different ways in the kindred fields of labour economics, industrial sociology and political economy that it is very difficult to agree on its precise content and connotations. Distinguishing between "*tactical*" flexibility – the ability of a single-product firm to adjust output to exogenous shocks at relatively low costs – and "*Operational"* flexibility, as the ability of a firm to switch quickly between products was only the beginning of the debate. More currently, the term flexibility is used in a different way, to refer to the ability of firms (or economies) to swiftly vary the quantity and quality of *labour inputs* according to the fluctuations in demand for the product/service they produce/provide and according to the opportunities offered by the technological environment. Pressures for labour flexibility can be seen as originating from the supply-of-labour side (workers) as well as from the demand-for-labour side (employers). The supply side of labour flexibility concerns "worker friendly" practices such as voluntary part-time work and job enrichment, aimed at accommodating the variable (in terms of lifestyles and career paths) patterns of labour supply to the firm's organisation of work. The demand side concerns "employer-friendly" practices such as temporary employment or subcontracting, aimed at adapting the deployment of labour according to the variable (in terms of numbers and task requirements) patterns of firms' demand for labour.

Perhaps the most influential attempt to classify different types of flexibility is Atkinson's (1984). He distinguishes between "*numerical*" and "*functional*" flexibility applied to the peripheral and the core staff of a firm, respectively. Numerical flexibility refers to the firm's ability to vary the numbers ("headcount") of its peripheral workers according to the variations in production needs, through the use of temporary work contracts. Functional flexibility refers to the firm's ability to vary the content of labour inputs ("tasks") of its core workforce according to the firm's changing needs, through the use of multi-tasking, continuous training, and team working. In a more recent reformulation of Atkinson's original typology, a four-fold typology replaces the categories of "core" and "periphery" with the categories of "*internal*" and "*external"* to better capture (dubbed as "FINE": functional, internal, numerical, external). Within this typology, annualization of working time is considered a form of "internal-numerical" flexibility, while temporary work contracts (Atkinson's "numerical flexibility") is a form of "external-numerical" flexibility.

Financial flexibility is not included in this typology or in Atkinson's, but is rather appended as a special form of flexibility (implicitly likened to numerical or quantitative flexibility).

Another major distinction made in the literature is between internal or external types of "*organizational"* flexibility. Internal organizational flexibility refers to high-commitment work organizations or the "high-road" to human resource management, geared to quality competition; external organizational flexibility refers to more traditional (taylorist) work organizations or the "low-road" to human resource management, geared to cost competition. In this body of literature, firm and labour-market institutions, such as forms of labour participation in decision-making and employment protection legislation, that limit managerial discretion in hiring and firing (numerical flexibility), are considered as "rigidities" that result in "disequilibrium" only in the short-term, while it is emphasized that in the longer term these very institutions result in "dynamic" efficiencies, by stimulating technical and organizational innovation based on trust.

Despite its persistent ambiguities, the discourse on flexibility retains its vitality for a wide array of researchers, analysts, social partners and policy makers. The expansion of flexible working patterns such as part-time work, fixed-term contracts and agency work, as well as the emergence of novel workplace practices such as just-in-time production, seem to make the deployment of labour more flexible, while working life becomes more precarious and more exhausting than before. However, flexible production does not always conflict with labour's interests. While some workers are indeed suspicious of and threatened by the changes underway in work organisation, others welcome or even demand changes in the direction of more flexible work schedules, job enrichment, teamwork, upgrading of skills and provision of training. The needs of dual-earner families, the increased living standards and apparent limits to further increases are shifting many workers' priorities from the pursuit of higher wages to qualitative improvements in their working conditions. While increasingly more firms are appreciating that flexibility is a critical competitive advantage, they face several constraints or conditioning factors in implementing it – constraints that shape the type of flexibility that is ultimately chosen or rather the specific mix between (numerical and functional) types of flexibility, the way in which it is implemented, and its impact on competitiveness and labour relations. Measuring the specific impact of these constraints on companies' attempts to implement flexible work practices and work organisation is a central aim in most of the literature reviewed here, and a precondition for elucidating the choices available to policy makers in their efforts to ease the pains of transition to a more efficient and equitable organisation of production.

Policy tools and labour market institutions, in fact, vary considerably across the five countries studied. Labour market protection ranges from very low in Ireland (the 4th lowest in the OECD countries) to very high in Greece (15th in the OECD). The Netherlands, by far the most flexible European labour market, has a medium degree of protection, indicating that there is no straightforward correlation between flexibility and labour market protection. However, in all five countries, major legislative initiatives have been introduced, in view of increasing numerical flexibility. The example of Greece suggests, however, that legislation is not in itself a sufficient pre-requisite for promoting flexibility, if the implementation of the regulations cannot be enforced and if business is reluctant to introduce new forms of flexibility at the workplace. Moreover, the rigid formal regulatory system in Greece goes hand-in-hand with an extensive informal sector and a high share of migrant labour, thus reflecting the prevalence of atypical and less acceptable forms of flexibility..

Approaching functional flexibility is more complicated when studying a group of countries rather than a single country. Legislative initiatives in the five countries seem increasingly concerned with the promotion of functional flexibility by providing training opportunities to the workforce, but not so much with other aspects of fuctional flexibility such as internal organization and innovation. Even so, the share of adult population involved in training programmes varies considerably: it is highest in the flexible and wealthy economies of the Netherlands and Finland and negligible in Greece (no data exist for Switzerland and Ireland). Finally, public expenditure on education as a share of GDP ranges from a low 3.5% in Greece to a high 6% in Finland.

Overall, the Netherlands and Switzerland are the most flexible countries, whilst Ireland is the fastest growing and Finland the most competitive economy. Greece stands out as an idiosyncratic case, as it is formally the least flexible country but in practice it is the second most flexible one, if the pervasive violation of labour legislation and the great extent of the informal economy and of migrant labour are taken into account.

All countries studied have adopted legislation facilitating the introduction of flexibility in various forms in the ‘90s and increasingly so in the second half of the decade. It is interesting to note that there seems to be no correlation between the intensity of legislative initiatives and the actual degree of labour protection. However, one may suggest that formal legislation is

only a small part of the whole debate and addresses mostly numerical flexibility. The Netherlands, the European benchmark of flexibility, has based its model on the agreement with the unions rather than extensive and detailed regulation, thus suggesting that behaviours, routines and informal rules can be equally if not more consequential than laws.

In all countries studied flexibility has been adopted in the public sector as well, ranging from a radical change in Switzerland, where the employment status of civil servants has changed from tenured to terminable individual contracts, to the Greek situation, where despite legislative change part-time work in the public sector was not introduced, due to strong union opposition. This again confirms the limited impact of legislation.

Turning into the various forms of numerical flexibility (part-time work, fixed-term contracts and temporary agency work) there is beyond any doubt a growing trend, yet it is interesting to note that there are no unified patterns: Switzerland and the Netherlands have a high incidence of part-timework, whilst Finland and the Netherlands again rank high in fixed-term employment, followed by Greece. In the latter case, it is the high share of the agriculture and tourism sectors that affects the relatively high share of fixed-term employment.

An interesting feature appearing from the Greek case study is that the informal sector should be much more incorporated into the flexibility debate: Greece, by far the most protected and least flexible member state, has the highest share in the most flexible form of work, notably undeclared working relations. If one adds up the most frequently encountered forms of flexibility (something which is of course mathematically incorrect but is used for purposes of illustration) then one may end up with a very different picture of flexibility. If we take into account an "informal sector adjusted flexibility indicator" the order reverses thoroughly and one may suggest that countries with a strong informal sector (another aspect of the prevalence of informal over formal rules) do not need formal legislation on flexibility. Needless to say that informal flexibility may be higher but (even if neglecting the aspects of employees' rights and satisfaction) it is of relevance only to small firms and possibly certain sectors. Bigger firms, in particular in the manufacturing sector, hardly risk informal work.

One may, as a consequence, suggest that in an economy where the informal sector is very widespread efforts to make the labour force more flexible may have a very different effect than the one intended: instead of giving the opportunity to match voluntary flexibility with

the legal framework, they provide a tool to reduce labour costs, rather than concentrating all efforts towards a more rationally organised labour market.

The analyses pursued in the present project do not converge towards a systematic confirmation or rejection of the evidence from the literature. On the contrary, some of their results appear contradictory, partly because the variables used are different, or differently combined, partly because they refer to different countries and partly because some of them are based on statistical evidence, while others on subjective judgments of interviewees.

Overall, quantitative analysis suggests that:

1. It is very difficult to compare econometric results or even quantitative indicators drawn from the different case studies undertaken, because of the lack of agreement on a common definition and measurement of flexibility; data collection is influenced by the definitions and so are the results of studies.
2. The assumption that strictly defined numerical flexibility leads to increased productivity and reduced labour cost is not supported by statistical evidence, although it may be the case under certain conditions.
3. There is ample evidence that functional flexibility is positively correlated to labour productivity and this is supported both by statistical evidence and the interviews.
4. When examining the relationship between flexibility and innovation performance the results are mixed and there seems to be a need to distinguish between types of numerical flexibility before turning into general conclusions: R&D labour is typically numerically flexible, because of the nature of collaboration and increased mobility. Although R&D employment is a very low share of overall numerical flexibility, it is strongly correlated with innovation and can thus create problems of endogeneity.

Summing up the various results we conclude that:

1. ***Flexibility is far too complex to be covered by a single term only***. As indicated hereafter the policy mix, the discretionary power of the various actors and the potential of effective intervention differ greatly from one form to another. So a more sophisticated jargon and debate are needed.

2. There is serious evidence to suggest that (without rejecting traditional views that under certain circumstances numerical flexibility contributes to the decrease of unemployment) ***numerical and financial flexibility in the medium to long term may lead to deteriorating economic performance and a reduced capacity to innovate***.
3. ***Relying on formal rules alone in view of making markets more flexible is insufficient***. The study of the five countries illustrated that the introduction of new legislation does not automatically lead to its implementation. If social acceptance and trade-offs for labour are not in place, the new legislation will not succeed in changing social routines. Even worse, if the introduction of formal rules triggers off social resistance it may even be counterproductive. (Compare, for example Ireland and Greece: their starting position was similar, but they followed divergent groth patterns, not because of marked differences in legislative initiatives but because of striking dissimilarities in social partnership and in the enforcement of agreements).
4. The fundamental changes in world production and trade suggest that the new economy requires more sophisticated models than those we have already experienced. Industrial relations are likely to be radically modified in the future. The sooner policy makers are aware of the new tendencies emerging, the better.
5. The lessons learned from the small countries is that the current debate and the selective introduction of new labour market policies is best viewed from the perspective of Europe's comparatively larger member states with greater public expenditures on the social welfare state, rather than from the perspective of the smaller ones. And there may be a lot to learn from their success stories on engaged autonomy. However, one needs to be clear that consensus and job satisfaction, which seem an important ingredient of success, are unlikely to be triggered off by policy intervention. National crises can indded lead to a solution (see Finland in the early 1990s, Ireland in thye mid1980s, Austria after the Second World War, the Netherlands in the 1973-78 Dutch disease, as well as in the early 1980s business cycle downturn) and the deepening of social partnership. These paths, however, are neither desirable nor reproducible by policy design.

The main conclusion to be drawn form the project results is the need for a more diversified approach in the enhancement of flexibility in Europe. Instead of looking for a generalised and standardised adoption of flexibility, it is important to identify the key issues of change and see, in the European diversity, what is best suited for the following decades. There is no

doubt that more flexibility is needed, but what is more difficult to ascertain is of what kind and for which particular situations. It is suggested that the emerging new model will need to combine flexibility and innovation in order to avoid high cost and diminishing productivity . This will probably have to go together with skill enhancement. Reciprocity (expressed in some form of security, as in the case of the Nordic flexi-curity model) is needed to achieve that. In order to reach the appropriate level of reciprocity a lot of effort, policy intervention and imaginative experimentation are required. Because of limited statistical data, our evidence is strong in some countries but inconclusive for a general theory. Further research topics are suggested by the project results.

The conclusions have important policy implications related to

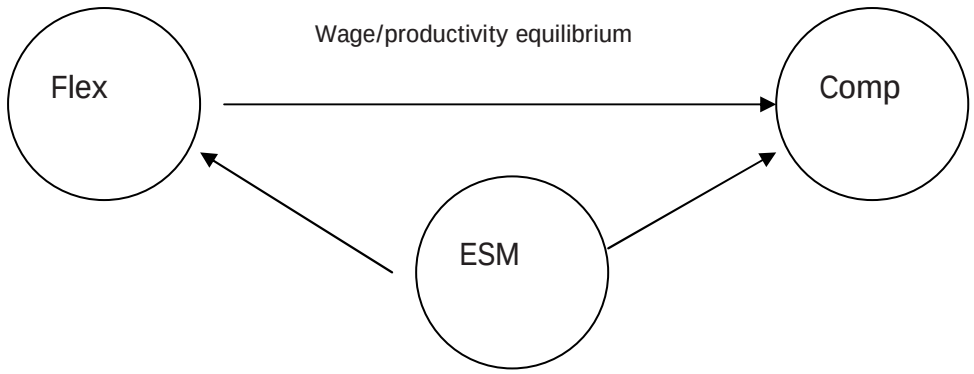
- the design of benchmarks
- the way national authorities design and implement legislation
- the perceived interaction between the informal sector and flexibility
- the need to experiment with new labour forms.

2 Background and objectives of the project.

2.1 The crucial elements and questions

The project was inspired by the debate (partly factual and partly ideological) on the future of economic progress and the welfare state in Europe. The Lisbon objective calls for global competitiveness, which requests at the same time improving quality and decreasing costs. One of the ways to achieve the latter is through the liberalisation and flexibilisation of the labour market. The apparently dominant link between flexibility and competitiveness, triggers concerns about important social characteristics and values. Hence, the study focuses on the relationship of the elements of the triangle Competitiveness (the target) – Flexibility (the means, as suggested by the dominant doctrine) and the extent to which the process of increasing flexibility undermines the European Social Model (ESM), trying to analyse each one of these notions in an effort to gain sufficient insight that will help avoid adopting over-simplified ubiquitous relationships.

Figure 2.1 The basic triangle



Often labour market studies suggest that flexibility is the best way for increasing employment. Thus, in times of persistent unemployment making the labour market more flexible becomes policy orthodoxy; potential refinements of types of flexibility that lead to employment and suit the economy are left out of the broad debate and *flexibility has become one of the main pillars of labour market policy*: while sometimes contestable by sociologists

as exacerbating social inequalities, phenomena of marginalisation, and social strife, it is seen as the best remedy to unemployment by neoclassical economists, who argued in the last two decades that the only way to increase employment and growth is through the reestablishment of an equilibrium of wages and marginal productivity of labour. This has made flexibility a new catchword and led most European governments and the EU policies equally towards the adoption of policies introducing labour market deregulation. However crucial questions like "what is flexibility really?", "what type of flexibility is more appropriate?" and "how is flexibility measured?", which are necessary to tailor flexibility to local environments, are not asked. Further questions are important: Via which mechanisms does flexibility lead to lower costs? Are there any side effects? Is it compatible with the status quo? Would a change in the status quo trigger side effects? All these are crucial questions, and unless they are carefully studied there is a risk to do more harm than good in the long term and in the wrong circumstances.

2.2 The objectives: checking whether orthodoxy and policy are going too far

The main objective of this investigation is to identify areas and mechanisms explaining (or suggesting that it is not possible to explain) to what extent the flexibilisation of the labour market in Europe contributes to long term competitiveness, as well as to socially and economically sustainable development – the ESM. On the one hand mainstream economics and policy making suggest the adoption of a generalised approach suggesting that *the more labour market flexibility the better*. The OECD, through the Employment Protection Legislation (EPL) benchmarking and recommendations for increasing flexibility in the national appraisals, the EU in the context of the open coordination for employment, as well as by individual countries through legislation and practice are trying to introduce as much flexibility as possible. For policy making there is often an impression that flexibility is the opposite to employment protection and thus the reduction of protection increases flexibility.

On the other hand there are good arguments in the literature that the new orthodoxy may be going too far. There has been a substantial body of research on types of flexibility, which derives mainly from labour relations, sociological research and working conditions suggesting that flexibility reduces security and commitment and thus reduces productivity and creativity.

The study tries to be interdisciplinary trying to apply both an economic argumentation empirically testing in selected cases the link between flexibility, employment, productivity and innovation and sociological aspects of the evolution of the ESM. In order to meet its objective the research focuses into a more detailed debate on what is flexibility and how it is perceived in different environments in order to contribute to the academic debate on the lack of a universally agreed definition of flexibility and its various forms. It tries to clarify issues of flexibility, based on the literature and evidence selected from country and firm evidence. After this discussion an econometric approach, using available variables, a number of case studies and two theoretical papers were combined to try and offer a broader conclusion on flexibility, its long term effect and its connection to the existence/creation of a European social model.

More specifically the objectives could be broken down into:

1. The effort to identify different national behaviours, studying countries with different structural contexts, legislation and evolving behaviour in the labour market,
2. The identification of links (or not) between flexibility and competitiveness
3. The interpretation of flexibility and its role in a European model.

2.3 The concepts and cornerstones

The concepts utilised in the study refer to the types of flexibility usually adopted, the types of firms and the model of flexibility they adopt, the different institutional set ups and evolution of flexibilisation in the European countries and the emerging tendencies that make the topic particularly attractive.

2.3.1 Identification of types of flexibility and firms that adopt them

In general, when talking of flexibility researchers and policy makers distinguish two flexibility strategies, which correspond to two ideal types of firms. Numerical flexibility (part-time work, fixed term contracts, temporary agencies) is the hallmark of the "hollow company", one that has a tiny core of stable personnel and a large periphery of precariously employed workers and a network of subcontractors. This firm's strong suit is price

competition, its investment strategies are short-term and thus unlikely to invest in training its workforce or in product or process innovation. The argument of its supporters is that the lack of employment security does not appear to have harmed the US economy and under the global pressures on price. But there is not sufficient knowledge on the particular sectors and the particular type of firms that adopt it, nor is there sufficient knowledge on how the European labour force will adapt to the generalisation of such a model.

Functional flexibility is associated with the "high-trust, high-performance firm". The firm is oriented toward quality competition and innovation, has a long-term investment orientation and invests in continuous training of its workforce and in developing collaborative, high-trust labour relations. The stability in employment patterns, the improved working conditions of the employees and the development of human capital associated with the high-trust firms adopting the strategy of functional flexibility has earned them the special attention of the European Commission and, to a lesser extent, the OECD as most likely to reconcile firm flexibility and competitiveness with employee security and social cohesion. However, not all companies have either the size or the skills to follow such a model, let alone the global competitive pressure sometimes may not allow for it.

These ideal types are far from the reality. Firm variables (size, sector, innovative patterns) but also country characteristics (going even beyond the classical debate mentioned in the literature between the Germanic and Anglo-Saxon models into potential specificities of each country) could enrich them and demonstrate mixes of labour flexibility and substitutes to it.

2.3.2 Study of flexibility-competitiveness under a different environment

The second objective was to study the road to flexibility in different institutional set ups. All European countries try, in one way or another, to legally impose and politically induce flexibility. But their path dependencies are different. In particular inherent structural characteristics of the production sector, growth patterns and the propensity to innovate are suggested to form key variables of the economy's ability to incorporate changes stemming from flexibilitation and turn them (or not) into longer-term competitive production patterns.

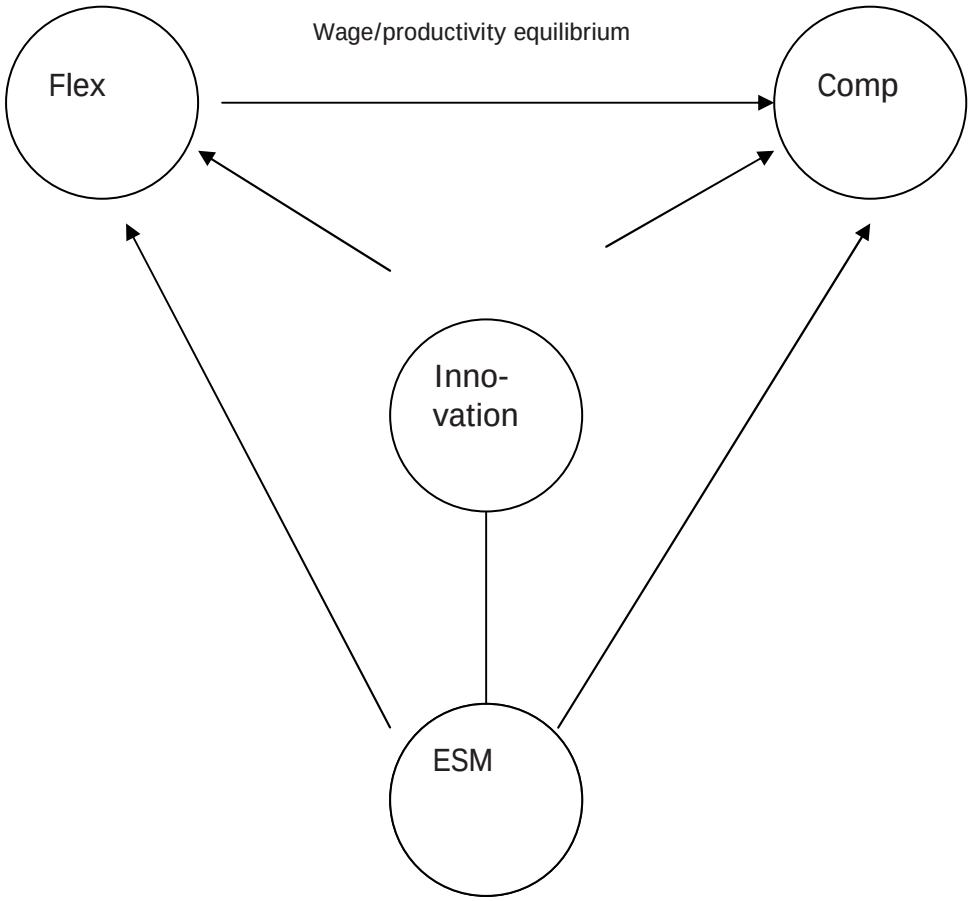
There is substantial diversity in European labour market policies, despite the experiences and common guidelines of the Open Method of Coordination. Hence the way and the degree of implementing flexibility varies considerably within Europe and consequences cannot be clearly attributed to policies. While more research was undertaken in the bigger member states, little is known about smaller ones, which are asked to comply with the new orthodoxy, without substantive evidence on the transferability of the flexibility conditions, hence the decision to focus on five small open economies.

In order to study these parameters the five countries studied (four EU member states, notably the Netherlands, Ireland, Finland, Greece and Switzerland, which is not part of the open coordination mechanism and may thus be seen as following a more autonomous path) were selected with very different characteristics in those particular areas during the period studied. The common element in all five is the adoption of formal legislation facilitating the introduction of flexibility, though in different periods of time and with varying tools and firm reaction. Their employment status and economic performance vary substantially though.

2.3.3 Introducing innovation to explain the differences

While labour market flexibility is a way to reduce cost the other way to promote competitiveness is innovation, which appears to be more strongly correlated with growth than any other variable in recent times. As a consequence the study of the links between labour market flexibility and innovation become crucial and need to be studied in detail. Differences in the relationship between flexibility and competitiveness or between the ESM and competitiveness but even between the ESM and flexibility may be explained by the cause and effect of each one of them on innovation. An additional element is added to the original triangle, and the indirect links, which affect the direct links of the three original elements are not sufficiently studied.

Figure 2.2 The basic triangle and the unknown influence of indirect links via innovation



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While there was no way to exhaustively test the indirect links and their effect on the basic triangle with the current state of knowledge and the resources of the project a variety of approaches were suggested to do so and enrich the debate. Hence, innovative performance was taken into the analysis as an additional variable.

The following table analyses the differences of the five selected countries as originally perceived. The idea was that since different degrees of flexibility should lead to corresponding competitive production structures there should be co-evolution between flexibilitation and innovation. However, the crude picture suggests that there is no clear pattern linking labour market flexibility with economic performance or the propensity to innovate. Either the variables are not connected or it is necessary to go deeper into the analysis on how work patterns are incorporated into business strategies. The ultimate objective of the research project was to further investigate these links.

Table 2.1: Major national characteristics relating flexibility and competitiveness

	The Netherlands	Ireland	Finland	Greece	Switzerland
Numerical flexibility	Early introduction	Medium	Medium	Late introduction	Medium
Unemploy-ment	Low	Strongly diminishing	High	Increasing	Low
Growth pattern	Close to EU average	Spectacular	Increasing	Increasing	Low
Production structure	Competitive, knowledge-based economy	Inward investment dominated with increasing local linkages	Mix of big and small high tech indigenous companies	Conventional	Mix of big and small high tech indigenous companies, internationally competitive
Propensity to innovate	High	Increasing	High	Low	High

2.3.4 Studying specific aspects of emerging tendencies

During the process of the research agenda it became evident that the countries studied did to some extent differ from the mainstream model of trying to imitate the US. Overall, Ireland, Finland and Switzerland were able to maintain existing levels of social cohesion, for example, in terms of income inequality and social inclusion, while creating economic and employment growth and introducing labour market flexibility. The Netherlands constitute a special case of success in flexibility. In contrast, other smaller European countries like Greece were less successful in terms economic and employment growth or labour market flexibility yet managed to build a stronger social welfare state albeit from a fairly low level in European terms.

The ability of some smaller European countries to balance economic success with social cohesion suggests that rumours of the end or death of the European Social Model (ESM) as a distinguishing feature of 'Europe' may be greatly exaggerated. These concerns about the end of the ESM tend to focus on the low economic growth and high unemployment in larger European countries, specifically Germany as the most populous and economically powerful of all the countries in Europe. Although smaller in size, the greater economic openness, high income per capita and continued social cohesion of these smaller European countries

indicates there may be something to learn from their experiences in terms of preserving the ESM in an increasingly neo-liberal global economy.

Studying these particular aspects was a need that emerged from the progress of the research and was not foreseen in the original design of the methodology.

3 Scientific description of the project results and methodology.

3.1 Methodology

3.1.1 The assumptions

The description of the background of the study explains why our knowledge from the literature, intuitive assumptions and conventional wisdom suggested some basic features that should drive the research when starting this project:

- Functional flexibility is preferable from the point of view of the work force and due to the satisfaction and trust building it is expected to lead to long term competitiveness. There is ample evidence on the former, coming from sociological research, while the latter is by far not generally validated.
- Numerical Flexibility is important for certain sectors and certain skills. Sectoral needs vary substantially from the point of view of the employer and type of flexibility (e.g. no application to big manufacturing companies except for shifts and overtime and most skilled work; part time in retail, fixed time contracts in tourism and agriculture). In some cases this is linked to international competitiveness (agriculture, tourism) in others to inflation considerations (retail).
- Educational aspects and skills play a major role and are the best way to make a labour force functionally more flexible. A link must exist between life long learning and flexibility.
- National policies seek flexibilisation but legislation hardly differentiates in terms of sectors. Legislation applies horizontally.

3.1.2 The research modules

In the short period of time and the limited resources of the project it was not possible to model and test empirically all the above starting points. Besides, the quality and depth of the

data varies substantially among countries. Thus it was decided to combine inputs for our research came from four different modules:

Module 1: An *extensive literature review*, which covers all important aspects of the definition of flexibility, its evolution and its link to performance, looking in particular into ways to define flexibility, to clarify overlaps and misunderstandings and to see what the links between flexibility, competitiveness and innovation seem to be.

Module 2: A study of legislations and measures (or sometimes proxies) that indicate the *basic features of the countries studied* in comparable form. In this context the aims were:

- to clarify how is flexibility pursued and implemented in each country,
- to enrich the debate on the various forms of flexibility (numerical and functional) and

to identify the merits and problems implied by each form.

Module 3: A selection of f*irm case studies*, indicating managerial policies and tendencies, to allow for a comparison of corporate strategies and culture in selected sectors. 25 firm case studies were planned to be used both to check, whether differences identified at the national level are also reflected at the firm level but also to offer initial suggestions on variations based on size, sector and innovative potential respectively.

Module 4: *Econometric evidence* from individual countries as well as aggregated to the extent that this was feasible with available data sets..

Their results were combined to help understand the direct and indirect links around and within the triangle studied as indicated on Table 3.1. What this table shows is the extent to which each one of the modules contributed to our conclusions and recommendations, regarding the key investigation, namely the understanding and measuring of flexibility, issues related to numerical and functional flexibility respectively and the issues that emerge. For this particular last topic the evidence was too limited and the need arose to go deeper into two additional themes, one investigating the potential of sharing employment and one on the potential emergence of a new European social model. The former was inspired by the increasing importance of networking, as a result of international competitive pressures: would it be possible to think of new forms of employer-employee sharing in the same way as firms

share intangibles? The latter was much more a result of the tendencies identified in the small open economies studied.

Table 3.1 Relevance of each research package for the key themes of the study (in %)

	Understanding and measuring flexibility	**Issues on numerical flexibility**	**Issues on functional flexibility**	**Combined issues and emerging models**
Literature	60	20	20	20
Country reports	30	20	20	20
Case studies	10	20	60	10
Econometric evidence		40		10
Additional theme studies				40
Total	100	100	100	100

The design and results of the four research packages are described in detail in Section 3.2. However, the real challenge was not to present the results of each research package scientifically but to recombine them into an effort to answer the key questions of our theme, notably:

1. *Understanding and measuring flexibility*, for which the literature review helped substantially but both country reports and case studies suggest that the literature is by far not exhaustive and as suggested by both the country reports and the case studies there are additional features one should consider, in particular now that flexibility is becoming a central element of labour and industrial policies
2. The role of *numerical flexibility*, which in the literature, as well as our hypotheses, takes the form of necessary cost savings, appears to diversify strongly between countries and firms and range from important and involuntary to totally irrelevant.
3. The role of *functional flexibility* is the most important one, as there is almost unanimous agreement on the literature on the relevance of new forms of work

organisation and the related improvement of human capital, but the way to capture it becomes very difficult as soon as one is trying to use it for econometric evidence.

4. Combined issues and potential *new models emerging* finally are the results of the overall study, claiming that it is high time to recognise that flexibility has to be introduced with country specific considerations and potentially lead to a new European Social Model.

3.2 Literature review

3.2.1 Definitions

The diffusion of flexible production in the last two decades is conditioned by historic changes in product markets, technology and labour markets. As a result of the globalisation of competition, the adoption of more efficient production methods by a remote competitor puts pressure on all others to follow suit – by adopting the same or similarly efficient new methods.

The ***term "flexibility***" has been used in so many different ways in the kindred fields of labour economics, industrial sociology and political economy that it is very difficult to agree on its precise notion and coverage. "*Tactical*" flexibility – the ability of a single-product firm to adjust output to exogenous shocks at relatively low costs – and "*Operational"* flexibility, as the ability of a firm to switch quickly between products was only the beginning of the debate. More commonly, however, flexibility is considered in a different manner, referring to the ability of firms (or economies) to swiftly vary the quantity and quality of *labour inputs* according to the frequent fluctuations in demand for the product/service they produce/provide and according to the opportunities offered by the technological environment. Pressures for labour flexibility can be seen as originating from the supply-of-labour side (workers) and from the demand-for-labour side (employers). The supply side of labour flexibility concerns "worker friendly" practices such as voluntary part-time work and job enrichment, aimed at accommodating the variable (in terms of lifestyles and career paths) patterns of labour supply to the firm's organisation of work. The demand side concerns "employer-friendly" practices such as temporary employment or subcontracting, aimed at adapting the deployment of

labour according to the variable (in terms of numbers and task requirements) patterns of firms' demand for labour.

Perhaps the most influential attempt to classify different types of flexibility is Atkinson's typology (1984). He distinguishes between "*numerical*" and "*functional*" flexibility applied to the peripheral and the core staff of a firm, respectively. Numerical flexibility refers to the firm's ability to vary the numbers ("headcount") of its peripheral workers according to the variations in production needs, through the use of temporary work contracts. Functional flexibility refers to the firm's ability to vary the content of labour inputs ("tasks") of its core workforce according to the firm's changing needs, through the use of multi-tasking, continuous training, and team working. Most influential and minimally departing from Atkinson's original typology is a four-fold typology that replaces the categories of "core" and "periphery" with the categories of "*internal*" and "*external"* (dubbed as "FINE": functional, internal, numerical, external). Elaborating this typology further, temporal flexibility is a form of "internal-numerical" flexibility, while temporary work (Atkinson's "numerical flexibility") is a form of "external-numerical" flexibility.

Financial flexibility is not included in this typology or in Atkinson's, but is rather appended as a special form of flexibility (implicitly likened to numerical or quantitative flexibility).

Another major distinction made in the literature between internal or external types of "*organizational"* flexibility. Internal organizational flexibility refers to high-commitment work organizations or the "high-road" to human resource management, geared to quality competition; external organizational flexibility refers to more traditional (taylorist) work organizations or the "low-road" to human resource management, geared to cost competition. In this body of literature, firm and labour-market institutions, such as forms of labour participation in decision-making and employment protection legislation, that limit managerial discretion in hiring and firing (numerical flexibility), are considered as "rigidities" that result in "disequilibrium" only in the short-term, while it is emphasized that in the longer term these very institutions result in "dynamic" efficiencies, by stimulating technical and organizational innovation based on trust.

Despite its persistent ambiguities, the discourse of flexibility retains its vitality for a wide array of researchers, analysts, social partners and policy makers. New forms of employment

such as fixed-term and agency work, and new workplace practices such as just-in-time production, seem to make the deployment of labour more flexible making working life more precarious and more exhausting than before. However, flexible production does not always conflict with labour's interests. While some workers are indeed suspicious of and threatened by the changes underway in work organisation, others welcome or even demand changes in the direction of more flexible work schedules, job enrichment, teamwork, upskilling and provision of training. The needs of two-earner families, the increased living standards and apparent limits to further increases are shifting many workers' priorities from the pursuit of higher wages to qualitative improvements in their working conditions. While increasingly more firms are appreciating that flexibility is a critical competitive advantage, they face several constraints or conditioning factors in implementing it – constraints that shape the type of flexibility that is ultimately chosen or rather the kind of mix between (numerical and functional) types of flexibility, the way in which it is implemented, and its impact on competitiveness and labour relations. Understanding of the specific impact of these constraints on companies' attempts to implement flexible work practices and work organisation is a central aim in most of the literature reviewed here, and a precondition for elucidating the choices available to policy makers in their efforts to ease the pains of transition to a more efficient and equitable organisation of production.

One set of constraints that need to be examined is the **economic environment** of the firm (actual and perceived): the nature of its competitors (large or small, new or established) and their strategies (expanding or downsizing, short-term or long-term), the type of markets for which they are producing (homogenised or not, niche or mass, remote or near, stable or fluctuating, saturated or emerging), and the product itself (high or low value-added). A second set of constraints is the **technological environment** of the firm, such as the degree of technological diffusion, the cost of technology relative to labour, and the skill endowment of the workforce. A third set of constraints is the nature of the labour market; clearly, the degree of unemployment and of labour market segmentation are likely to influence the degree to which the "right" workers for the right price at the right time are available. A third set of factors critical for the implementation of flexibility is the **legislative or normative environment** concerning the entry and exit from the labour market such as flexible forms of work (part-time, flexitime, temporary agency work, fixed-term work, teleworking), as well as regulations against dismissals. Last but not least, the implementation of flexibility is shaped by as well as shapes the **social systems** that affect the social acceptance of flexibility and

social cohesion. Most important among such factors are the "social wage" and the social security systems, inasmuch as they may supplement the increasingly variable income of the worker; the systems of collective bargaining; and the orientations of the social partners.

For the purposes of our research we distinguish two types of flexibility, which correspond to *two ideal types of firms*. Numerical flexibility is the hallmark of the "hollow company", one that has a tiny core of stable personnel and a large periphery of precariously employed workers and a network of subcontractors. This firm's strong suit is price competition, its investment strategies are short-term and thus it is unlikely to invest in training its workforce or in product or process innovation. Functional flexibility, on the other hand, is associated with the high-trust/commitment, high-performance firm. The firm is oriented toward quality competition and innovation, has a long-term investment orientation and invests in continuous training of its workforce and in developing collaborative, high-trust labour relations. The stability in employment patterns, the improved working conditions of the employees and the development of human capital associated with the high-trust firms adopting the strategy of functional flexibility has earned them the special attention of the European Commission and, to a lesser extent, the OECD as most likely to reconcile firm flexibility and competitiveness with employee security and social cohesion.

In reality, of course, ideal types do not exist. Firms seem to use both numerical and functional flexibility, as well as two "intermediate" types, which we discuss below, but in different extent and combinations.

3.2.2 Extended typologies of flexibility to match the real world

As Atkinson (1984) sees it, firms pursue flexibility by dividing their workforce, de jure or de facto, into a "core" of permanent workers that are subjected to functional flexibility and a "periphery" of temporary workers that are subject to numerical flexibility. The core-periphery hypothesis is undermined by recent evidence that contingent work and involuntary turnover of the permanent workforce are positively and significantly correlated. In other words, the working conditions of "core" workers are not effectively isolated from the precariousness of the working conditions of "peripheral" workers. Moreover, recent evidence from the U.K. indicates that part-time workers, contrary to popular notions, do not experience more job

insecurity than full-time workers, which suggests that one cannot readily lump them together with temporary workers as contingent, precarious and numerically flexible labour. Thus the core-periphery distinction is amended in newer conceptualizations of flexibility, wherein firms seek a balance or choose between "internal" and "external" flexibility.

Table I: The FINE typology of flexibility

	INTERNAL	**EXTERNAL**
FUNCTIONAL qualitative	Multi-tasking	Sub-contracting
NUMERICAL quantitative	Annualization Pay flex (voluntary part-time)	(involuntary) part-time, Temps, fixed-term, Work on call, teleworking

Subsequently, Atkinson supplemented numerical and functional flexibility with two additional types of flexibility, temporal and pay (financial) flexibility.

Temporal flexibility differs from the flexibility sought through adjustments in the numbers of the workforce. It seeks temporal adjustments in the deployment of the regular workforce through practices such as overtime, annualization, and flextime ("internal-temporal") or of the contingent, on-call workforce ("external-temporal"). It can be considered as a form of "numerical" flexibility in that it involves the numerical manipulation of labour inputs.

Pay or wage flexibility (of the level and structure of wages) refers to the ability of the firm to adjust wage costs to market fluctuations, and to differentiate wages depending on the performance of employees. Pay flexibility takes different forms, such as performance-related pay, and profit-sharing ("internal-financial"), and national or regional wage moderation agreements and derogations from wage norms in the form of "local employment pacts" or enterprise-level bargaining. Pay flexibility does not fit nicely within the FINE typology, but it may be regarded as a form of numerical flexibility inasmuch as it involves the numerical manipulation of the cost of labour inputs.

Table II lists the wide array of forms or practices of flexibility identified in the literature, which correspond to the four-fold typology (functional-numerical, internal-external).

Table II: Denotations of the FINE typology

	INTERNAL	**EXTERNAL**

FUNCTIONAL	Overtime Job-sharing Multi-tasking In-job occ. mobility Job demarcations Holidays Lunch breaks Paid leaves Health/safety rules Representation rights Right to organise Working conditions Job-related training Union power	Sub-contracting Task-contracting Educational levels
NUMERICAL	Voluntary part-time Irregular hours Weekend-work Working week Shift-work Dismissal protection Empl. Protection Coordination Decentralisation Payroll taxes Wage elasticity Union density Union coverage	Involuntary part-time Homework Casual work (on call) Fixed-term Seasonal ALMPs Housing flexibility Job mobility Occupational mobility Regional mobility Sectoral mobility Limited benefits duration Replacement ratio Minimum wages

A further the extended typology of flexibility attempts to link micro-conceptions of labour flexibility with meso- and macro-conceptions of organizational and societal flexibility – thus

incorporating the insights of a large body of literature on the alternative dimensions and configurations of flexibility.

Table III: Extended Typology of Flexibility

Forms of Flexibility	INTERNAL Core	EXTERNAL Periphery
FUNCTIONAL Task, Qualitative	Multi-tasking, teamwork, training,	Sub-contracting
CONTRACTUAL Numerical Employment Labour-market Quantitative	(Voluntary Part-time)	Temporary work Part-time work Hire-and-fire
TEMPORAL	Overtime, annualisation	Work on call, (seasonal)
FINANCIAL Wage Pay	Profit-sharing	Wage moderation
SPATIAL Geographic	Intra-company transfers Part-teleworking	Inter-company Lending Full-teleworking
ORGANISATIONAL HRM Industrial Relations	New HRM, High-road flex. Post-Taylorism Cooperative IR	Old HRM, Low-road flex. Neo-Taylorism Adversarial IR
SOCIETAL	CMEs: Centralized coll.b Re-regulation Stricter EPL,	LME: Decentral coll. B De-regulation Weaker EPL

The kinds of distinct claims made by the two camps on the impact of flexibility on performance are best illuminated by the way each camp addresses the issue of employment protection legislation (EPL). Indeed, the rules (and norms) concerning the facility with which

management can regulate hiring and firing are obviously of critical importance in encouraging or discouraging internal (qualitative) or external (qualitative) flexibility; the degree of strictness of EPL has a direct impact on the relative cost of each type of flexibility to management.

3.2.3 Linking flexibility with performance

There is also a significant and growing body of research linking qualitative or functional flexibility to improved corporate performance. These results appear in major national or sectoral surveys as well as international surveys, and their findings are verified and elucidated in respective case studies.

However, as more recent studies suggest, there is *no unanimity on the virtuous effects of functional flexibility on corporate performance.* Despite refinements in the methodologies used and despite the benefit of hindsight, the current state of research has yet to reach the maturity of a paradigm. Rather, we are witnessing the coalescence of two antagonistic paradigms of flexibility. One considers numerical (or contract or labour-market) flexibility as inimical to firm or economy performance while the other considers numerical flexibility the *sine qua non* of performance. The latter consider firing costs as an impediment to productive and innovation-seeking firms, while the former considers them as a building block of commitment-based innovation.

There are a number of practical and methodological problems in assessing the benefits for performance of flexible workplace practices. On the practical side, collecting company performance data is often hampered by the reluctance of companies to disclose the necessary detailed performance facts. More important, however, are the methodological problems involved. “To date, the relevant literature is distinguished by the fact that virtually no two studies measure HRM practices in the same way.” Studies of high performance work systems differ significantly as to the practices included, and sometimes even as to whether a practice is linked positively or negatively related to high performance.

In conclusion flexibility is a Janus faced imperative of modern production. Behind a smiling face that symbolizes a new balance between adaptability and security, flexibility has another,

menacing face that symbolizes a new marriage between short-term competitiveness and precarious work.

The debate on flexibility is likely to retain its centrality in political economy, management studies, industrial sociology and labour economics for some time as its vicissitudes are intertwined with the continuing debate on the optimal relationship between capital, labour and public policy.

The different perspectives and different evaluations of flexibility notwithstanding, there is a tacit consensus developing that the choice ahead is not between facilitating internal (functional) or external (contract) flexibility, but in finding the right balance between the two types. Still, finding such balance is likely to be an elusive (if worthwhile) endeavour. This is so not least because of the contradictory properties of the two types of flexibility.

3.3 Main findings from the country reports

Five country reports were produced with similar structures and using standardised indicators as presented on Table 3.2. The aim was to draw evidence on the different patterns of labour flexibility prevailing in the countries under study, and to identify similarities and differences. The countries studied in fact differ substantially in terms of their growth model, their productive structure, the levels of labour productivity, the industrial relations system and the labour market structures. The analysis of the respective country reports reveals a number of distinct national features and historical trajectories that are briefly presented below.

3.3.1 SWITZERLAND

The combination of a highly skilled and flexible workforce, a decentralised system of wage determination, the widespread use of new technologies, and a flexible and well functioning labour market have resulted in the enhanced competitiveness of the Swiss economy (ranking in the 7th position in the 2002 IMD classification). The country's economic performance is essentially based on the production of goods and services of high quality and technology content, product and process innovation, and the prevalence of functional rather than numerical flexibility.

The Swiss industrial relations system is a decentralised and well-functioning system. As there is no national agreement concluded between the social partners, the company-level agreements have acquired an increased importance. Wages are determined flexibly, through de-centralised negotiations. Unions have agreed on wage moderation in exchange for jobs.

No spectacular changes have taken place in the Swiss labour market in the last fifteen years with respect to new forms of labour flexibility such as part-time work, fixed-term contracts, temporary agency work, etc. The reason is that the Swiss labour market was already flexible before the period of economic stagnation.

The overall impression regarding the most important elements of Swiss labour market legislation in the last 10-15 years is one of a rather liberal labour legislation allowing the well-functioning of the labour market. According to the indicators of employment protection legislation developed by the OECD Switzerland is less restrictive than the Netherlands, Finland, Greece and Ireland.

The new Swiss Federal Labour Law (introduced in 2000), which is the most important reform in this field in the last years, led to a further numerical flexibilisation (night and shift work, retirement age, and so on). The transition from a passive to an active labour market policy also created scope for an increase of flexibility. The training provided and the operation of placement consulting helps unemployed persons to find a job more quickly.

With respect to functional flexibility, some important preconditions for functional flexibility seem to be fulfilled in many important sectors of the Swiss economy: high average educational level, job-related training, intensive use of information technologies and wide-spread flexible organisational practices at firm level seem to be *positively* correlated with each other; this tendency has been accentuated in the second half of the 1990s. Thus, overall, the available evidence shows that the Swiss labour market is developing in the direction of more functional flexibility, numerical flexibility having already in the nineties attained a satisfactory level.

The future outlook indicates that Switzerland will pursue a further flexibilisation of monthly and annual working hours, an individualisation of employment contracts, minimum

protection rules, and a further improvement of human capital. The emphasis, however, will be on functional rather than numerical flexibility, as this model fits in better with a highly educated workforce, the widespread use of ICT and the high level of innovation that prevail in the Swiss economy.

3.3.2 IRELAND

By the mid 1980s, Ireland was in the midst of a national economic crisis characterised by large current account and public debt, high taxation rates, low economic growth, soaring unemployment levels and mass emigration, particularly among the more highly skilled and educated. The Irish labour market was, by European standards, already relatively flexible and un-regulated with respect to traditional 'hire and fire' practices, wages, atypical employment, labour relations, work organisation and the use of migration as a safety valve. All these added up to a low skill and low added value economy and a modest welfare state that drew heavily on the anglo-saxon liberal, voluntarist model.

The resolution of the crisis began with the adoption of a continental European neo-corporatist approach that was launched with the decentralised social dialogue between the state, employers' associations and unions, that eventually led to the national agreement concluded in 1987 between the social partners. The five national agreements concluded during the period 1987-2000 have traded wage flexibility or moderation for tax cuts and fiscal rectitude to increase competitiveness, while selectively reforming and targeting expenditure in the social welfare and education and training systems, in view of maintaining social cohesion. The Irish social partnership process, both pragmatic and results-oriented, gradually forged a consensus culture and contributed to enhanced social cohesion and material benefits for all. At present, however, the widening gap between commitments of the partners and their implementation in practice is a sign that the partnership process has become too cumbersome, and may have reached its limits to rapidly respond to changes in the external and internal environment.

While certain forms of 'numerical flexibility' such as part time and fixed term work have increased over this period, regulation has also increased, providing greater employment security and rights for atypical workers. Changes in labour market rules were driven by

legislation, social partnership, collective agreements and EU directives and regulations. Thus, Irish labour market structures have gradually drifted away (but not totally) from the British based voluntarist traditions towards a European neo-corporatist model, creating a dual system of regulation that is a source of tensions.

The social partnership model has also been the driving force in promoting 'functional flexibility' in Ireland, especially with respect to lifelong learning and training schemes. The state actively intervened in investing in human capital, in view of achieving increased educational and skill levels for the population. This intervention has been particularly beneficial to women, whose labour market participation rates grew spectacularly. Moreover, firms in Ireland have significantly reorganised their workplaces, by introducing job rotation, quality circles, total quality management and team working. The transition to a functionally flexible workforce, however, remains a complex and difficult process.

Ireland's economic revival (the 'Celtic Tiger' period) led to a significant rise in employment levels, driven largely by consumption demand from the wealth generated in the domestic economy. Part-time work almost doubled its share of total employment, from 6.7% in 1983 to 12.3% in 1997. However, during the 'Celtic Tiger' boom from 1993 to 2001, the overwhelming majority of the jobs created were in full time employment. Thus, it is not clear whether the increases in the use of numerical flexibility (mostly part-time work and fixed term contracts) is an important factor in explaining the country's economic revival and employment growth. The end of the 'Celtic Tiger' in 2001 resulted in a drop in the growth rates and a rise in unemployment.

The main challenges facing Ireland in the near future appear to be, on the one hand, the removal of the organisational, cultural and financial barriers embedded in Irish firms, Irish culture and Irish state. And on the other hand, the resolution of the policy dilemma between the two different models of socio-economic development, the neo-liberal (Boston/London), or the neo-corporatist (Berlin).

3.3.3 FINLAND

Finland is ranked amongst the most competitive countries in the world. The *World Economic Forum (WEF)* ranks Finland as first and the *International Institute for Management Development (IMD)* as third. This top position Finland has gained in just a few years' time due to a remarkable transition in the 1990s from an investment-driven to an innovation-driven economy.

Severely hit by the recession in the early 1990s, that had been triggered off by the fall of the Soviet Union regime, Finland underwent a forced structural change from industry to services and a weeding of less viable companies (the exit rate of firms was very high). This process of "creative destruction" had a beneficial effect on the economy with surviving firms becoming even more productive than before. In addition, industrial policy was drastically re-oriented away from traditional activities towards innovation, based on knowledge and expertise.

The extraordinary performance of the Finnish economy in the post-recession years, that transformed Finland into one of the most competitive countries in the world, can be attributed to a number of factors that interacted to produce the so-called "Finnish miracle".

- ✓ Knowledge intensive growth: considerable long-term investment in *education* and life-long learning; high share of population in tertiary education
- ✓ Top rank performance in *R&D input*, predominantly private: Finland ranks 2nd in the world in R&D investment, devoting 3.6% (2001 provisional figure) of its GDP to R&D. The electronics industry accounts for 2/3 of total R&D expenditure, whilst Nokia Corporation alone accounts for 1/3 of the total expenditure.
- ✓ Finland is a leading provider of *ICT*, reflected in the high share of high-tech products (especially electronics) in total exports: *23%* of all exports in 2000 consisted of high tech products (as compared to a mere 7% in 1990).
- ✓ ICT *clustering* supporting the diffusion of ICT across the economy. Intense networking between firms.
- ✓ Decisive contribution of private firms in the success of the Finnish model: top performance has been *business-driven* rather than the outcome of public policies.

- ✓ High productivity growth, especially total factor productivity.
- ✓ Interplay between technology policy and liberalisation and deregulation policies; increased labour market flexibility.
- ✓ Relatively low unit labour costs of Finnish industry compared to other industrialised countries.
- ✓ Social consensus and active involvement of social partners in technological strategies.
- ✓ Institutionalised dialogue and collaboration between authorities, research institutes and companies.

However, despite the spectacular recovery of the Finnish economy since the mid-1990s and the top ranking productivity, the Finnish model still suffers from a number of *weaknesses* and *drawbacks*, that include: (a) low labour productivity overall, except for the business sector, (b) a weakly developed venture capital industry, (c) low proportion of SMEs innovating in-house, (d) a low proportion of new market capitalisations, and (e) a moderate GDP per capita ranking (9^{th} in the EU).

As for the labour market characteristics, unemployment, standing at 9.1% remains a severe problem, despite the relatively high employment growth rates since 1995 and the significant fall from the record-high level of 16.6% in the mid-1990s. An important feature of the labour market is the exceptionally high female employment rate, one of the highest in the EU (47.6% of the workforce are women). Finland, like all Nordic countries, also stands out for its high level of unionisation (79%), resulting to limited wage flexibility. Finally, the ageing of the population is reflected, like in the rest of the EU, in the rapidly increasing share of the elderly dependent population over the employed population.

Numerical flexibility is rather limited within Finnish firms. The most common form is fixed-term contracts that account for 11.5% of total employment, and are especially widespread amongst the age group 15-29 and educated women. By contrast, the incidence of part-time employment is relatively low, 11.1%, owing mostly to tax disincentives. Overtime work does not exceed 2% of all the hours worked in the economy.

Functional flexibility, on the other hand, is quite widespread. As a result, according to a recent survey, worker autonomy is considerable in over 60% of all workplace with more than

200 employees. Teleworking is also rapidly expanding and already involves 10% of the workforce.

The key features of the Finnish economy can thus be summarised as top rank performance in R&D input, knowledge-intensive growth, competitiveness and productivity growth, but less than average performance when it comes to employment and unemployment despite considerable recent improvements in the functioning of the labour market. A major concern and challenge is how Finland's competitiveness can be sustained in the future.

3.3.4 THE NETHERLANDS

A distinct feature of the Dutch growth model is its reliance on a culture of consensus ('overleg') and a corporatist system of labour relations that favoured social peace. Trade unions were convinced in the 1980s to trade off wage moderation in exchange for jobs and employment security (labour intensive growth). Undoubtedly, wage moderation and flexibilisation of labour relations led to a job-intensive growth and full employment. Indeed, the Netherlands experienced the most impressive employment growth among all EU countries during the 1980s and early 1990s. But wage moderation also led to low productivity growth, a decline in the speed of technological progress and the deterioration of the competitive position of Dutch industry. As labour is cheap and flexibly available, there is less incentive for investment in labour-saving technology. Hence, it appears that although labour market flexibilisation has increased employment, it has not resulted in higher GDP growth, because the positive effect on employment was almost fully offset by a decline in technological dynamism, resulting in lower labour productivity growth. Recently, there is increasing concern that the combination of (still) low productivity growth and a wage drift is worsening even further the competitive position of Dutch industry.

Labour relations are strongly influenced by the 'overleg' culture. Corporatist institutions like the Foundation for Labour and the tri-partite Socio-economic Council (SER) have always played a crucial role in the formulation of social policy.

Another beneficial effect of the corporatist 'overleg' culture was a good regulation of part-time work. Contrarily to most European countries, part-time workers in the Netherlands are

not considered as flexible workers. They have the same employment and social security rights (including protection against dismissal, pensions, etc.) as full-time workers. This made part-time work extremely popular. In the 1980s and 1990s, the Netherlands became the European champion of part-time work (accounting for 33% of total employment). Full employment and fast job growth are mostly due to the impressive increase in part-time employment. At the same time, other forms of flexible work (notably the hiring of temporary labour from private manpower agencies) were tolerated. Manpower agencies became a booming business in the 1980s and 1990s. During the 1990's, the law on 'Flexibility and Security' gave extra rights to people who work for manpower agencies. This probably reflected the need by manpower agencies to keep qualified 'core' workers in an increasingly tight labour market. Fixed-term contracts have always been limited in time length by the law. A fixed-term contract for 'try-out' periods of one or two years is normal (three years are the maximum).

Labour force mobility is very pronounced in the Dutch labour market: 10% (and in same years even more) of all personnel in firms during the 1990s were hired new or left the firm within one year. It should also be noted that roughly half of all people who find a job first have a flexible job. However, again roughly half of these flexible people pass on to a tenured job within 2 years. Only in recent years, with growing scarcity on the labour market, (numerical) flexibility is gradually diminishing.

Despite the fact that the Dutch labour marked is considered as being the most flexible in the European context, owing to the ‘overleg’ culture, this has not led to a deterioration of employment conditions and industrial relations. It can be claimed that in the case of the Netherlands, increased numerical flexibility went hand in hand with enhanced employment protection (known as flexi-curity).

3.3.5 GREECE

Greece, constitutes a unique case in the EU and despite the significant progress recorded in many areas, serious problems still persist. During the period under consideration, and despite an increase in growth and productivity, there are no signs of significant and effective efforts of structural changes. Incentives for firm reorganisation, education and training have

increased, albeit from a very low level (partly due to funding through the CSFs), but there are no quantitative indicators documenting progress in this direction.

The rigidity of labour market institutions until recently (especially in terms of formal legislation), encouraged the Greek entrepreneurs to operate partly or totally informally. Labour market reforms were introduced throughout the last decade, in an effort to strike a balance between employment and competitiveness, producing mixed results. As job creation was given priority over enhanced flexibility, the new overtime regulations actually increased rigidities for the manufacturing sector. At the same time, the encouragement of part-time work did not significantly increase total employment levels, but it reduced costs in the retail sector and selected services. Similarly, the encouragement of fixed term contracts mostly benefited the agricultural and tourism sectors. Overall, legislation facilitating and/or encouraging flexibility had isolated positive effects but a limited overall impact, partly because of the low share of the workforce affected and partly because it was unable to change deeply-rooted attitudes and policies. The formal manufacturing sector appears to have suffered rather than benefited from the modernisation effort. Thus, the predominance of informal activities and violations persists, while the formal part of the market has only marginally become more flexible.

Other institutional initiatives introduced over the past decade aimed at reducing unemployment and enhancing competitiveness by increasing labour market flexibility. The main labour market legislative initiatives include: the annualisation of working time (with workers' councils' consent), the encouragement of part-time work, the reduction of indirect labour costs for low paid workers, the rationalisation of the collective dismissals' system, the introduction of fixed term work, interim work and alternate work and the establishment of private employment agencies and temporary work agencies.

These changes had a mixed effect on competitiveness and a limited impact on labour market flexibility.

- Part-time work did not prove an efficient tool for flexibility, as it was not widely adopted, with the exception of retail trade, whilst recourse to fixed-term contracts remained more or less unchanged. The annualisation of working time was adopted by only a handful of companies, owing to the restrictive terms of implementation and reluctance on behalf of social partners. Teleworking, interim and alternate work,

temporary work agencies and externalisation are still very marginal, possibly because they are inconsistent with business practices and attitudinal characteristics.

- The violation of labour legislation remains very widespread, as the benefits of violation still seem to outweigh the cost of sanctions imposed. The legalisation of migrant workers, which reduces the scope for the violation of labour legislation within this large category of cheap labour, may have encouraged the exit of certain activities from the massive informal sector.

- Despite a rise in formal education, on-the-job-training and lifelong learning continue to absorb very limited funds and demonstrate a low effectiveness compared to other EU member states. Legislation to increase incentives for mergers and acquisitions was adopted, yet the average size of Greek companies remains small and the number of micro-firms is higher than in the other member states.

- The current institutional framework and incentives scheme often create confusion, occasionally even legal extremities and contradictions (e.g. in certain cases, social security regulations induce both employers and employees not to declare the labour relation or parts of it, thus reinforcing tendencies to informality.

Table 3.1: Economic data

	Switzerland	Ireland	Finland	Greece	Netherlands
IMD ranking 2002	7	10	2	36	4
IMD evolution	-3	-3	+1	-6	+1
Davos ranking 2002	5	22	1	43	3
Davos evolution	Stable	Stable	stable	-10	+1
Sectoral composition (share of employment, 1977)	agriculture=7.5% industry=40.5% services= 52.0%	agriculture=21.1% industry=31.0% services=47.9%	agriculture=15.1% industry=34.9% services=50.0%	agriculture=33.2% industry=292% services=37.5%	agricult.=5.3% industry=33.0% services=61.7%
Sectoral composition (share of employment, 2001, 2000 for Switz.)	agriculture= 4.5% industry= 26.4% services= 69.0%	agriculture=7.0% industry=29.0 services=64.0%	agriculture=5.8% industry=27.7%, services=66.4%	agriculture=16.3% industry=24.2% services=59.5%	agricult.=3.4% industry=19.8% services=76.7%
Science & technology in the labour force(2000) *	-	23.2%	16.0%	3.8% (1993!)	5.8%
Informal sector (% of GDP)	between 6%-8%	between 5%-10%	NO	between 27%-35%	14% *(not a very reliable estimate)*
Migration trend: increasing, stable, decreasing or cyclical	on the whole increasing, with a strong cyclical component	steadily rising (mostly returning Irish emigrants)	increasing: 1.9% of total popula-tion	steady influx of a growing number of illegal immigrants: 7.5%-9.5% of total population	fairly high during the 1990s, recently decreasing

Legal migration (% of labour force)	**22.6%**	**1.1%**	**1.6%**	**8-9%**	**2.9%**
Illegal migration	**severe restrictions on the admission of foreign workers**	**between 5 000- 15 000 persons (est.)**	**NO**	**over 500 000 (11.7% of LF)**	***nobody knows exactly!***
Participation rate in education and training (25-64 year olds) 2000	**-**	**0.0**	**19.6%**	**1.1%**	**13.6%**
Public spending on training (stock and trend)^		**616,6 ME significant rise**	**2,379 ME increasing**		**3,485 ME rising**
Private spending on training (% of payroll costs)	**-**	**3.0%**	**1.4%**		**2.8%**
Public expenditure on education as a % of GDP	**-**	**4.5%**	**6.0%**	**3.5%**	**4.9%**

^ includes initial vocational training, continuing vocational training and vocational training for the unemployed

Table 3.2 : Labour market quantitative data

	Switzerland	Ireland	Finland	Greece	Netherlands
Average annual hours worked per worker (2000)	1568	1690	1721	1921	1381
Share of overtime work in total employment (2000)	2.1%	36.4% of total work was above 40 hours	7.3% (2001)	✓ 80% of all employees work over 40 hours ✓ 20% of all employees work over 47 hours	1.5%
Regulations regarding overtime work	-	neutral	restrictive	restrictive	conditions laid down by agreements
Share of part-time employment (2001/2000 for Switz.) → involuntary part-time: (as % of total PT empl.)	24.4% 4.6%	16.5% 16.2%	12.2% 34.7%	4.0% 43.7%	42.2% 3.5%
Part-time evolution 1991-2001		1991: 6% 2001: 17%	1991: 9% 2001: 12.5%	1991: 4% 2001: 4%	1991: 32% 2001: 42.5%
Share of fixed term employment (2001/2000 for Switz.)	5.6%	3.7%	16.4%	12.6%	14.3%
Fixed term evolution	-	1991: 8.4%	1991: 18.2%	1991: 12.8%	1991: 8.2%

1991 – 2001		**2001: 3.7%**	**2001: 16.4%**	**2001: 12.6%**	**2001: 14.3%**
Temporary agency work	**-**	**5.2%**	**1.6% (est.)**	**negligible**	**4.0%**
Share of employees participating in continuous vocational training		**41%**	**50%**	**15%**	**41%**
Union density (EIRO data + national figures)	**22.5% (1994)**	**44.5%**	**79.0% (EIRO) 90.4% (incl. entrepreneurs)**	**32.5%**	**27.0%**

Table 3.3 : Institutional context on labour market issues

	Switzerland	Ireland	Finland	Greece	Netherlands
Labour Protection indicator (EPL rank 1998)	**low degree of protection: 6**	**low degree of protection: 4**	**moderate degree of protection: 8**	**high degree of protection: 15**	**moderate degree of protection: 9**
Major legislative initiatives regarding flexibility	✓ **Revision of the Federal Labour Law (2000)** ✓ **Unemployment Law**	✓ **The Worker Protection Act for Regular Part-Time Employees (1991)** ✓ **The Organisation of Working Time Act (1997)**	✓ **New Employment Contracts Act (2001)** ✓ **New Working Time Act (1996)** ✓ **Sabbatical Leave Act (1995)** ✓ **Earnings-related Pension Act (e.g. part-time pensions)**	✓ **introduction of part-time work and fixed-term contracts (1990)** ✓ **introduction of interim work, telework and of private employment agencies (1998)** ✓ **annualisation of working time** ✓ **incentives for part-time work** ✓ **rationalisation of the collective dismissals threshold (2000)** ✓ **regulation of Temporary Work Agencies (2001)**	✓ **Law on Flexibility and Security (1998)**

Introduction of flexibility in the public sector	**✓ Federal Personnel Law (2001): change of status of the civil servants from tenure to terminable individual contract**	**✓ Strategic Management Initiative (1996) ✓ Commitments in Partnership 2000 (1997) and Programme for Prosperity & Fairness (2000-2003)**	**✓ as in the private sector**	**✓ introduction of part-time work in 1998 (never implemented due to strong union opposition)**	**✓ almost as in the private sector (public sector employees enjoy a more generous unemploy-ment com-pensation system)**
Governance (centralised/decentralised)	**de-centralised (certain labour issues are cantonal jurisdiction)**	**centralised**	**de-centralised**	**centralised**	**centralised**
Collective dismissals restrictions	**not restrictive system (union consultation obligatory)**	**10% limit**	**details and procedures negotiated in incomes policy agreements**	**restrictive system (2% limit)**	**need to be approved by an external institution (e.g. Labour Court)**

Industrial relations system	✓ **Highly decentralised system. Large degree of autonomy from the state.** ✓ **Industrial peace.**	✓ **High degree of co-ordination** ✓ **Dual regulation system: anglo-saxon voluntarist system and European neo-corporatism (social partnership)** ✓ **Consensus culture (social partnership process)**	✓ **Centralised collective bargaining, both bi-partite and tripartite.** ✓ **High degree of consensus**	✓ **Bi-partite collective bargaining** ✓ **Weakly institutionalised tri-partite social dialogue.** ✓ **Low level of consensus**	✓ **High degree of co-ordination** ✓ **Corporatist system** ✓ **Consensus culture (overleg)**
Training legislation	**compulsory training after 3 months of unemployment**	**National Training Fund Act (2000)**	**continuous education available to all**		**The Labour Office offers a lot of training to unemployed. A lot of training also provided through collective agreements**

Sources:

- *CEPR (2000), REGULATION AND LABOUR MARKET PERFORMANCE, Discussion Paper, EPL Ranking*
- *Stefano Scarpetta (OECD)*
- *IMD: National Competitiveness, Trends-overall, 2001 & 2002*
- *World Economic Forum: Current Competitiveness Index Ranking, 2000 & 2001*
- *Labour force Survey results 2000 & 2001, Eurostat: employment figures, S&T, involuntary part-time work, participation rate in education and training*
- *Eurostat, structural index: life-long learning*
- *Eurostat Newcronos: public expenditure on education*
- *Employment in Europe, 2002: part-time work evolution, fixed-term work evolution*
- *OECD Employment Outlook: total annual hours worked*
- *OECD Historical Statistic, 2000: Industrial structure of GDP*
- *OECD Annual Report, 2000, Trends in International Migration: migration figures*
- *EIRO (European Industrial Relations Observatory): regulations regarding overtime work, union density*
- *National report: qualitative information*

3.3.6 Conclusions from the country analyses

In terms of economic performance, great variations across countries persist. Ireland and Finland have a rapid growth rate; the Netherlands and Switzerland are highly competitive, whilst Greece has the lowest competitiveness ranking. The structure of the economy is very similar in 4 out of the 5 countries (a growing service sector, and a shrinking manufacturing sector), with the exception of Greece, where the share of the primary sector is considerably higher.

In terms of quantitative labour market data, the differences between the 5 countries under study are quite striking, depriving us from the possibility of obvious causality links. Overtime work is quite important in Greece and Ireland, while it is negligible in the Netherlands and Switzerland. By contrast, part-time work is more widespread in countries with little overtime work. Thus, the incidence of part-time work is very low in Greece, whilst it is quite low in Ireland and Finland and very widespread in the Netherlands (less so in Switzerland). It is worth noting that involuntary part-time work is higher in the countries with a low share of part-time employment. Fixed-term contracts are quite important in Finland, the Netherlands and Greece, while temporary agency work is relatively diffused only in the Netherlands and Ireland.

The institutional context of labour market issues also varies considerably across the five countries. Labour market protection ranges from very low in Ireland (the 4th lowest in the OECD countries) to very high in Greece (15th in the OECD). The Netherlands, by far the most flexible European labour market, has a medium degree of protection, indicating that there is no straightforward correlation between flexibility and labour market protection. However, in all five countries, major legislative initiatives have been introduced, in view of increasing labour market flexibility. The example of Greece suggests, however, that extensive legislation is not in itself a sufficient pre-condition for promoting flexibility, if the implementation of the regulations cannot be enforced. An extensive informal sector and a high share of migrant labour usually reflect the prevalence of atypical and less acceptable forms of flexibility, as is the case for Greece.

Approaching functional flexibility is more complicated when studying a group of countries rather than individual ones. Legislative initiatives in the five countries seem increasingly concerned with the promotion of training. Coming to quantitative data, the share of adult population involved in training programmes varies considerably: it is highest in the flexible and wealthy economies of Netherlands and Finland and negligible in Greece (no data exist for Switzerland and Ireland). Finally, public expenditure on education as a share of GDP ranges from a low 3.5% in Greece to a high 6% in Finland.

Overall, the Netherlands and Switzerland are the most flexible countries, whilst Ireland is the fastest growing and Finland the most competitive economy. Greece stands out as an idiosyncratic case as it is formally the least flexible country, but in practice it is the second most flexible, if the pervasive violation of labour legislation and the great extent of the informal economy and of migrant labour are taken into account.

All countries studied have adopted legislation facilitating the introduction of flexibility in various forms in the ‘90s with increasing intensification in the second part of the decade. It is interesting to note that the intensity of legislation is by far not correlated with low labour protection. While the indication is subject to criticism, because in some countries there is federal rather than national legislation, in others there is a different scope and coverage in the law, one may at least suggest that formal legislation is only a small part of the whole debate and addresses numerical flexibility. The Netherlands, the European benchmark of flexibility, has based its model on the agreement with the unions rather than extensive and detailed regulation, thus suggesting that behaviours, routines and informal rules are a lot more.

In all countries studied flexibility has been adopted in the public sector as well, ranging from a radical change in Switzerland, where the employment status of civil servants has changed from tenured to terminable individual contracts, to the Greek situation, where despite legislative change part-time work in the public sector was not introduced, due to strong union opposition. This again confirms the limited relevance of legislation.

Turning into the various forms of numerical flexibility (part-time work, fixed-term contracts and temporary agency work) there is beyond any doubt a growing trend, yet it is interesting to note that there are no unified patterns: Switzerland and the Netherlands demonstrate a high relevance of part-time shares, while Finland and the Netherlands again rank high in fixed-term employment, followed by Greece. In the latter case it is the high share of the agriculture and tourism sector that determine the need.

An interesting feature appearing from the Greek case study is that the informal sector should be much more incorporated into the flexibility debate: Greece, by far the most protected and least flexible member state, has the highest share in the most flexible form of work, notably undeclared working relations. If one adds up the most frequently encountered forms of flexibility (something which is of course mathematically incorrect but is used for purposes of illustration) then one may end up with a very different picture of flexibility. If we take into account an informal sector adjusted flexibility indicator" the order reverses thoroughly and one may suggest that countries with a strong informal sector (another aspect of the prevalence of informal over formal rules) do not need formal legislation on flexibility. Needless to say that informal flexibility may be higher but (even if neglecting the aspects of employees' rights and satisfaction) it is of relevance only to small firms and possibly certain sectors. Bigger firms, in particular in the manufacturing sector, hardly risk informal work.

Table 3.4: Combining various forms into a single flexibility indicator

	CH	IRL	SF	GR	NL
Part-time	**24.4**	**16.5**	**12.2**	**4**	**42.2**
Fixed-term	**5.6**	**3.7**	**16.4**	**12.6**	**14.3**
FI	**30**	**20.2**	**28.6**	**16.6**	**56.5**
Rank FI	**2**	**4**	**3**	**5**	**1**
Informal	**7**	**8**	**--**	**31**	**14**
Flexibility plus informal sector	**37**	**28**	**28**	**46**	**70**

Rank including informal sector	**3**	**4**	**4**	**2**	**1**

One may as a consequence suggest that in an economy where the informal sector is very widespread efforts to flexibilise the labour force may have a very different effect than the one envisaged: instead of giving the opportunity to match voluntary flexibility with the legal framework, they offer a way to reduce cost in non-tradables instead of shifting all efforts towards a more rationally organised labour market.

As a short conclusion: voluntary or involuntary numerical flexibility, complementarities between part-time and overtime, sectoral adjustments for countries with important seasonal activities like agriculture and tourism and last but not least the role of the informal sector should be taken into account when deciding the pace and direction of labout market flexibility.

3.4 The case studies

3.4.1 Methodological remarks

Because of the well-known difficulties to capture firm level data on flexibility with aggregated indicators, the methodology foresaw in-depth case studies in selected firms in the participating countries. A minimum of 5 firm-case studies per country was agreed, which was then increased because of the decision to include some atypical organizations, like hospitals. The survey data, processed here, is based on a total of 30 organisations from Finland, Greece, Ireland, the Netherlands, and Switzerland.

The case studies were based on a standard questionnaire to assure comparability of some of the findings and then there was a broader discussion with the interviewees to capture specific characteristics. The questionnaire included a broad set of quantitative and qualitative questions covering aspects of personnel policies related to flexibility strategies and trends. The target was to shed light on the need of flexibility in different

types of firms, and to identify differences and similarities in the flexibility measures actually implemented in companies operating in the five small European countries under study. Apart from general information about the company, the questionnaire contained questions on the company's innovative and R&D activities, flexibility of labour, management of human resources, and the impact of labour flexibility on working conditions, industrial relations and firm performance.

The surveyed companies were selected according to a classification of firms originally introduced by Pavitt (1984) amended later to include a separate category on ICT-intensity in order to enable comparisons of companies following different types of business innovation strategies. The Pavitt classification was chosen mainly because it categorises firms according to their technological requirements as well as sources and directions of technology. The Pavitt classification, in its latest version, distinguishes between five categories of firms: science-based, supplier-dominated, scale-intensive, specialised sub-contractor, and IT-intensive. Pavitt (2001) defines the five categories as follows. *Science-based* firms found their business activities on R&D. Thus, in science-based firms technological accumulation is derived from the firms' R&D departments, for which reason they are also substantially dependent on the knowledge, skills and techniques emerging from academic research. In *supplier-dominated* firms technical change is brought about by suppliers of machinery and other production inputs, while the firm itself does not rely on in-house R&D. *Scale-intensive* firms are mass-producers, in which technology emerges as the design, building and operation of complex production systems or products. *Specialised sub-contractor*[1] firms produce inputs into their client firms' systems of production in the form of machinery, components and, increasingly, also software. Technological accumulation takes place through the design, building and operational use of these specialised inputs. The *IT-intensive* firms represent a more recent type of firms, which has emerged especially in the services sector. The technology strategy of the IT-intensive firm is geared to design and to operate complex systems for processing information.

[1] For simplicity, the term "sub-contractor" is used throughout, although the term might be slightly misleading in cases where the company has more the character of a specialised supplier.

The selection of companies was by no means meant to be representative. Instead, the goal was to roughly typify firms. The agreement among the consortium members was to select companies with over 50 employees, known already to the researchers as willing to cooperate. The reason for that is that the questionnaire was too long and the requirements very

The distribution of the surveyed companies across these five categories is the following: six science-based firms (two from Finland, one from each of the other four countries), five supplier-dominated firms (one from each country), seven scale-intensive firms (two from Finland and the Netherlands, one from each of the other three countries[2]), five specialised sub-contractor firms (one from each country), and five IT-intensive firms (two from Greece, none from the Netherlands, one from each of the other three countries). In addition, a hospital was surveyed in two of the countries (Finland and Greece) to highlight the strategies adopted in organisations that can be characterised as "half-public".

The majority of the surveyed companies are well established in the sense that they have existed in their present form for tenths of years; only three of them have been founded in 1997 or later. Two out of five companies are independent. Four of the seven Finnish companies are part of a conglomerate, with the mother company being domestic. All of the Irish companies are part of a foreign-owned conglomerate. Corresponding information on the dependent companies in the other three countries is mostly missing. No less than 86 per cent of the companies have undertaken profound structural changes in their organisation over the last three years (1999 – 2001), while only half of them expect there to be important structural changes also in the foreseeable future.[3] *Structural changes in the near-history have been undertaken in practically all companies irrespective of firm category and country*. The only notable exception is the category of supplier-dominated firms, where only the Dutch and Swiss companies report there to have been structural changes in the organisation over the last few years. When it comes to the near future, all Irish companies and nearly all

[2] Note that the Swiss scale-intensive company might deviate from its counterparts in the other countries, as it is a banking firm and not a "traditional" mass-producer.
[3] With one exception only, the one-half of the companies expecting important structural changes in the foreseeable future had experienced major structural changes in their organisation also in the near-history.

Dutch companies expect important structural changes to be undertaken, while almost all Greek companies expect no fundamental near-future changes in their organisation. For Finland and Switzerland, the situation varies from company to company, which adds to the lack of any systematic differences between the different firm categories.

3.4.2 Case study evidence on numerical flexibility

The study on ***numerical labour flexibility*** and economic performance with evidence from the experience of firms in the five small European economies studied finds that part-time and fixed-term contracts are the most widespread practices for numerical flexibility. *Over time, numerical flexibility increased, with part-time work growing faster than fixed-term contracts.* The relationship between different forms of numerical flexibility shows that work on call is complementing fixed-term contracts (positive correlation), whereas there is no significant relationship with part-time work, while temporary work is not correlated at all with the other forms of numerical flexibility.

The study finds a systematic positive correlation for numerical flexibility and flexible working hours over the year, but no relation to other forms of flexible working time. Numerical flexibility and compensation schemes are systematically related, with differences by form of numerical flexibility. On the contrary, there is no relationship between numerical flexibility, on the one hand, and labour turnover, duration of employment and the degree of organization of labour force on the other.

The motives for using part-time and fixed term work are different. Part-time work is primarily the result of voluntary decisions of employees, i.e. it is supply-driven, while in case of fixed-term contracts, demand factors, such as demand fluctuations, labour shortages, etc. are the dominant force. The study also finds that outsourcing (and unspecified adjustments of a firm's structure) is most frequent in firms with medium and high numerical flexibility. Outsourcing, i.e. "external" flexibility is thus complementary to "internal" numerical flexibility.

As far as numerical flexibility and some key determinants of economic performance are concerned, there is no significant relationship between technology use and numerical flexibility, neither positive nor negative. Human capital (basic qualification as well as training) and numerical flexibility is negatively correlated (transaction costs, firm-specificity of part of training, tacit knowledge). Various aspects of (new) workplace organization such as teamwork, job rotation, decentralized decision-making or internal job mobility can be interpreted as indicators of functional flexibility. The relationship between these organizational variables and numerical flexibility may show whether the two types of flexibility are substitutes or complements. The findings with respect to the characteristics of workplaces at the time the cases studies were conducted (2002) are mixed. Finally, occupational mobility and numerical flexibility are substitutes. Other dimensions of workplace organization such as teamwork, job rotation and job autonomy are not correlated with numerical flexibility. With respect to the change of organizational practices over time, we find that firms with high numerical flexibility increasingly introduce elements of new workplace organization.

If we do not distinguish the results by the specific form of numerical flexibility, the hypothesis of numerical flexibility fostering economic performance is not confirmed. The firms whose workforce is highly flexible in numeric terms perform worse than "low-flexibility" companies (performance change: negative correlation with the development of sales, profits, and employment over time). In case of part-time work we get similar results as with the overall flexibility. However, the negative correlation with efficiency/productivity and the competitive position (which are perhaps the most important performance measures) is only weak. Firms with many fixed-term work contracts are more innovative, efficient/productive and competitive as well as employment creating than firms who do not much rely on this form of numerical flexibility.

In more detail:

Forms and characteristics of numerical flexibility

1. Numerical flexibility is an important practice for an increasing number of firms. Part-time and fixed-term work contracts are much more prevalent than other

forms of numerically flexible work arrangements such as work on call or temporary work. Firms consider part-time and fixed-term contracts (as well as work on call) as substitutive elements of their strategy of numerical flexibilisation.

2. Since part-time work, in many instances, is based on permanent contracts, numerical flexibility might be higher in case of fixed-term contracts, work on call, etc.; the flexibility of part-time work rests to a significant extent on variation of hours.

3. We find a systematic positive relationship between numerical flexibility and flexible working hours over the year but no relation to other forms of flexible working time. Numerical flexibility and compensation schemes are systematically related, with differences by form of numerical flexibility. Compensation according to volume/quality of output is positively related to fixed-term and temporary work, whereas some of the more general forms of incentive-oriented compensation (profit sharing, bonuses, etc.) are concentrated on firms with low numerical flexibility. We do not find evidence for a correlation between numerical flexibility, on the one hand, and labour turnover and the degree of organisation of labour on the other.

4. The motives for using part-time and fixed-term work are different. Whereas the former are supply-driven (mostly voluntary decisions of employees), the use of the latter depends primarily on demand factors (demand fluctuations, labour shortages, etc.).

5. Outsourcing and some unspecified structural adjustments to the rapidly changing economic environment are positively related to numerical flexibility. “External flexibility” seems to complement flexible work arrangements (“internal flexibility”).

Numerical flexibility and firm-level performance

1. Technology (R&D, ICT, innovation), human capital (education, training) and workplace organisation are important factors determining productivity growth. If

these factors are negatively related to numerical flexibility, we expect that this type of flexibility also has a negative (or at least no significant) impact on performance.

2. Human capital: We find a strong negative relationship between human capital (education as well as training) and numerical flexibility. The reason for this result might be the firm-specificity of (part of the) training and the importance of tacit knowledge embodied in the permanent work force. In these circumstances, high numerical flexibility involves high transaction costs.

3. Technology: The results are somewhat mixed. The use of ICT and computer-based manufacturing technologies is not systematically related to numerical flexibility. This finding is not very surprising: one the one hand, ICT knowledge, to a certain extent, is tacit, whereas, on the other hand, hardware and much software can easily be bought on the market; in addition, temporary use of specific skills (fixed-term contracts) is an instrument to overcome a firm's knowledge deficiencies. The results for innovative activity are ambiguous. The intensity of R&D input (in terms of expenditures or personnel), which is the most convincing R&D indicator, is negatively correlated with numerical flexibility; this result can be explained in the same way as in case of human capital (firm-specific tacit knowledge implying high transaction costs of numerical flexibility). However, other measures of innovative activity (e.g. introduction of new products onto the market) do not correlate with this type of flexibility.

4. Workplace organisation: The results again are mixed. Internal job mobility is most prevalent in firms with low numerical flexibility. However, other dimensions of workplace organisation (team-working, job rotation, decentralised decision-making), do not show a clear relationship with numerical flexibility. Information on the change of the importance of new work practices over time shows that firms with high numerical flexibility tend to increase the use of new work practices more intensively than low-flexibility firms.

5. The results with respect to the relationship between human capital, technology and workplace organisation, on the one hand, and numerical flexibility on the other

(negative or, at least, no correlation) can be interpreted as (indirect) evidence for a negative (or no significant) impact of numerical flexibility on firm performance.

6. More direct evidence is found by correlating numerical flexibility (and its most important components) with a number of performance measures. Overall, numerical flexibility is negatively related to (the change of) a firm's performance. We get the same result for part-time work (although for some performance indicators the negative correlation is rather weak). In contrast, the relationship between the use of fixed-term work and performance is positive. This difference may be explained by the fact that part-time work is primarily the result of voluntary decisions of employees (which do not seem to be in line with the interests of employers), whereas fixed-term contracts clearly reflect the demand of employers.

3.4.3 Case study evidence on functional flexibility

The study on ***functional flexibility*** using micro data from companies in the five small European countries studied suggests that two of the available indicators reflecting the company's economic performance or market environment - the change in total sales over the past three years, and the kind of markets (local, domestic or global) in which the company mainly operates - shows no statistically significant correlation whatsoever with any of the investigated functional flexibility indicators. These indicators are the increased decentralization of decision-making, the group work and the job rotation.

Group work as well as increased decentralization of decision-making has a positive or very positive effect on the company's level of employment, while about one-third of the companies consider job rotation to have a positive effect on employment. Nearly all the companies state group work, job rotation and increased decentralization of decision-making to have a positive or very positive impact on the skills of the employees.

A great majority of the companies perceive job rotation and increased decentralization of decision-making to attribute considerably to efficiency and productivity. Their perceptions with respect to group work are more diverging, although two out of three consider the impact of group work to be positive or very positive. However, there are some companies, which consider group work to harm rather than improve efficiency and productivity.

Virtually all companies assess group work as having a positive or very positive influence on their innovative activities. A similar assessment is given in relation to job rotation, but with the emphasis on "positive" rather than "very positive". When it comes to increased decentralization of decision-making, about half of the companies judge the impact on their innovative activities to be positive or very positive, while the other half consider this mode of functional flexibility to leave their innovative activities more or less unaffected.

Group work as well as increased decentralization of decision-making is perceived by about two-thirds of the companies to influence the competitive position positively or very positively. The other companies judge the effect to be negligible, while one (Finnish) company even assesses the impact of group work to be negative. For job rotation the most frequent assessment is a "positive" influence on the competitive position of the firm, with only one (Greek) company considering the effect to be very positive. All in all, the responding companies typically consider group work, job rotation and increased decentralization of decision-making to be important or even crucial for their economic performance and adaptability to a changing business environment.

In more detail:

Comparison of the intensity of use of teamwork reveals a high cross-country average intensity level in the science-based and IT-intensive firms, but also in the companies belonging to the categories of scale-intensive and sub-contracting firms, if ignoring the non-use cases. Least team-working appears in the supplier-dominated firms, except for the Finnish case. There are occasionally even notable country differences

in the intensity of use of teamwork, and no clear-cut ranking of the five countries across the different firm categories, either.

The use of job rotation programmes is, at least formally, considerably less frequent than the use of teamwork. All in all, teamwork turns out to be a widely used functional flexibility strategy in the five small European economies under study, with Finland and Ireland ranking highest. Furthermore, team work is often, but not always, supplemented with a certain use of permanent job or task rotation programmes. This is particularly true for the sub-contracting and IT-intensive firms, but not for the science-based firms, which might be explained by an exceptionally high degree of specialisation in science-based jobs and tasks.

Individual autonomy and decision-making has remained fairly constant or has increased somewhat in the great majority of the surveyed companies. From a firm-category point-of-view, the scale-intensive and the IT-intensive companies seem to have experienced the clearest increase in individual autonomy and decision-making, whereas the direction of change has rather been the opposite in the science-based companies.

A flexible organisation with extensive use of group work, job rotation programmes and/or decentralised responsibility for decision-making inevitably becomes more dependent on strategic human resource management practices involving recruitment of higher educated people as well as continuous investment in human capital. The evidence was mostly inconclusive, however some results are relevant: Despite a non-negligible amount of missing information, the company responses do seem to indicate that also temporarily hired persons participate regularly in training both on and off the job. Indeed, a comparison of the reported numbers of training days suggests that the temporary staff is, on average, trained as much as or only slightly less than the permanent personnel, a finding that contradicts the hypothesis of temporary employees receiving no or little training. In all five countries under study, (the surveyed) companies tend to provide their whole personnel with training opportunities both on and off the job. Broadly speaking, the temporary staff does not seem to be in a clearly less advantageous position as compared to the permanent personnel. Nor do

the higher educated seem to be in a markedly more favourable position compared with the rest of the company's personnel.

The supplier-dominated, scale-intensive and IT-intensive firms mostly indicate their learning of new skills on the job to have increased somewhat over the past few years, with mainly the Greek counterparts indicating a substantial increase. For the science-based and sub-contracting firms the spread in answers is larger due not least to the Irish firms noting their learning of new skills to have remained fairly unchanged. The main picture mediated by the correlation coefficients for the indicators measured in terms of realised and perceived changes is that higher educational levels clearly facilitate the implementation of functionally flexible workplace organisation models.

3.5 Econometric evidence

Empirical research, based on both macroeconomic and microeconomic data, was part of the project complementing the literature and case study analysis. Three studies were undertaken trying to identify links between flexibility and performance, two based on existing country-specific microeconomic databases and one on macro-variables, namely:

1. A study on micro-evidence selected in Switzerland, which investigates numerical and functional labour flexibility at firm level and potential implications for performance and innovation
2. A study based on micro data in the Netherlands, far the longer and most flexible economy of the five studied
3. A macro study on labour market flexibility, productivity and national economic performance

3.5.1 The results of the Swiss firm analysis

The results of this analysis are based on a paper with a primary goal is to determine the relative importance of numerical and functional flexibility with respect to a series of performance, cost and innovation measures at firm level in Switzerland. Based on

detailed statistical evidence systematically gathered in Switzerland the results of the Swiss firm analysis conclude that numerical flexibility in the narrow sense, denoted by the extent of firms using part-time and temporary work is not widespread in the Swiss business sector. According to the data, 23.8% of firms report that part-time work is very important for them and 19.5% of them that temporary work is very relevant. There are no significant effects of the two variables for numerical flexibility with respect to the export share and the labour cost share of sales. Part-time work and annualisation of work (a variable for numerical flexibility in a wide sense fixing working time within a year rather than within a day, week or month), correlates negatively with average labour productivity and labour costs per employee (after controlling for technology, workplace organization and industry affiliation). On the contrary, there is no correlation between temporary work and labour productivity or labour costs per employee. Thus *the widespread assumption that numerical flexibility increases productivity and competitiveness is not supported by micro-evidence in Switzerland.*

When innovation measures are used as dependent variables, a somewhat different pattern of numerical flexibility emerges. Two of the *innovation variables correlate positively with the variable for temporary work,* indicating presumably the existence of demand for specialized services: innovative firms have R&D departments, which hire high-skilled research personnel from specialized firms, in the framework of exchange contracts or even short term contracts because the personnel itself does not want longer term commitments. There is also a positive correlation of all three-innovation variables with the variable for working time flexibility within a month. This conclusion on positive correlation at the micro-level indicates *the need for further research, where numerical flexibility is distinguished between numerical flexibility of unskilled and skilled workers. Most of the literature does not make any distinction, however, mixing the two may lead to misleading econometric conclusions.*

Functional flexibility defined as the result of the combined use of new organizational practices such as team-work, job rotation, shift of competences from managers to employees, flattening of management hierarchies, etc. is rather widespread in the Swiss economy compared to other OECD countries. Functional flexibility proxied by the composite variable ORGANS, which is constructed as the sum of the standardized

values of the six variables related to new organizational practices (team-work, job rotation, decrease of the number of managerial levels, overall transfer of competences from managers to employees, competences of employees to solve autonomously production problems and to contact customers), shows a clear positive effect on labour productivity, confirming our theoretical knowledge. The study could not find any significant effects for all other performance and costs variables. As to the cost variables, the conclusion is that functional flexibility is "cost neutral", because it enhances firm capabilities without changing firms' factor mix.

Numerical and functional flexibility as measured in this study are not complementary with respect to the performance measures. The Atkinson hypothesis of the core-periphery model of the firm cannot be confirmed.

3.5.2 The results of the Dutch firm analysis

The Dutch micro-study suggests that various forms of external flexibility (except for labour hired from manpower agencies) do indeed contribute to lower wage costs, while internal flexibility (changing function or department in the same firm) does not. High percentages of hours worked by people hired from manpower agencies have a positive effect on profits, irrespective of whether the firm undertakes R&D activities or not. However, less knowledge intensive firms (not undertaking R&D) have significantly higher profits if there is a high inflow or outflow of personnel, while more knowledge-intensive firms have not (they even have an insignificantly negative sign). Internal flexibility seems to have no systematic impact on profits, but there is a difference between firms that are or are not R&D-oriented. Firms that have no R&D have a weakly significant (at 10% level) negative coefficient. Finally, high shares of people on temporary contract have no impact on profits.

The evidence from micro data in the Netherlands presents also results on flexibility, sales and employment growth. Firms with higher internal flexibility indeed experience above-average sales and employment growth. The indicators of external flexibility generally have positive but insignificant signs, while a high rate of people joining or leaving the firm has no significant impact on sales growth. Furthermore, we

cannot exclude the possibility that, among innovative firms, a high rate of inflow and outflow of personnel will have a negative impact on the growth of labour productivity. A high rate of internal mobility indeed has positive effects on both sales and employment. A high rate of people on temporary contracts has no significant effect on sales, the sign of the coefficients being positive among non-innovators and negative among innovators. However, high rates of temporary contracts increase employment in non-innovating firms, indicating that their growth of labour productivity is significantly lower, while the opposite holds for innovating firms. The outcome with respect to workers hired from private manpower agencies is remarkable. *Among innovators it has a highly significant positive effect on both sales and employment, while among non-innovators it has a negative but weakly significant effect on sales and an insignificant effect on employment (implying that labour productivity may be negatively affected by hired labour*).

3.5.3 Macro-economic variables linking GDP, productivity and real wage growth

The macro-study for the five participating countries finds that in four out of the five Flex.Com countries, real GDP growth is relatively insensitive to changes in real wage growth. Real wage growth restraint has a (significant) negative impact on labour productivity growth in all FlexCom countries, mainly by retarding the rate of "wage-led" (induced) technological progress. This suggests that there exists a "complementarity" between productivity growth and equity. Real wage growth restraint and labour market flexibilisation do not constitute a "win-win" strategy leading to higher productivity and employment growth. In addition, the theme paper's analysis shows that the investment response to changed profitability is strongest in the Netherlands and Switzerland, and it is extremely weak in Greece and Ireland. This implies that any strategy aimed at reviving aggregate activity by means of real wage moderation and improved profitability will be relatively (if not completely) ineffective. Export growth is remarkably insensitive to changes in relative unit labour cost, even in the FlexCom countries that are very open to international trade.

The empirical analysis leads to two sets of policy implications. On the negative side, it concludes that a strategy of real wage growth restraint (in conjunction with a more general labour market flexibilisation) will not work. On the positive side, any strategy aimed at transforming the EU into a technologically dynamic and internationally competitive economy with low unemployment should include higher (rather than lower) real wage growth and less (rather than more) labour market flexibilisation. The higher real wage growth will lead to an (small) increase in GDP growth and more importantly to a substantial increase in productivity growth.

3.6 Thematic investigations

3.6.1 A different approach to flexibility: is there a potential for labour sharing

There is ample evidence that there is a need for changes in the labour market. The variety of forms of flexibility promoted and the use of the EPL to measure this change is one way of dealing with the problem in the way that policy makers have chosen to use. However, atypical employment and *fresh thinking* in the labour market is coming from all actors and directions:

Employers in the private request more flexibility, trying to minimise fixed cost and adapt to the flexible production mode that has succeeded Fordism; however the most progressive among them, managing competitive firms, realise the need to match this attitude with an active human resources policy, which will ultimately assure commitment and productivity. Individual companies themselves are looking for specific models to adapt to the new circumstances, like Volkswagen, creating a common instrument with the local authorities in Wolfsburg, IKEA in the Basque country trying to incorporate marginal parts of the labour force, KRAFT introduces models for coping work with family life, to mention just a few. In a project called PRYO an approach was tested to involve employees and to counter the possibility that a network might be considered an exclusive club for managers. Employees were exchanged so that different firms could learn from one another. The project gave rise to ideas on organisational efficiency, building the competence of the employees

exchanged and the capacity of their organisations to learn. The participating firms reported that their problem-solving ability had improved. However, this remained strictly in the one employer – one employee relationship.

Flexible working patterns are introduced to the public sector with short time lags after the private sector; the public sector, which at least in Europe has to cope with its obligations to the Stability and Growth Pact cannot ignore the need to reduce labour costs. Thus both numerical flexibility and sub-contracting are widely used. Specific initiatives to share labour in the context of Employment Pacts are observed, such as certain cases in the employers' groupings in the agricultural sector in France or regional schemes to protect dismissals in Germany.

Public authorities realise the burden of the welfare state and try to find ways to increase the average age of the working population introducing incentives (often through part-time packages, in an effort to lengthen work period and compare with US standards: in Europe 38.6% of the 55-64 years old population is employed, compared to 58% in the US) for higher ages to remain in the labour force.

Countries like the Netherlands (with the Polder model) change their long standing attitudes towards labour in an amazing peace climate agreed between employers and trade unions. Other countries with a long standing tradition of a welfare state adopt more flexible working models but this is either not increasing uncertainty (as the case of flex-security in the Scandinavian countries), or the public sector takes over the cost of retraining as in Switzerland.
Finally, there is a growing share of the population, which appears willing to test new alternatives. Many younger people or specific groups of the population, like young mothers or elderly, prefer part-time jobs that would allow them for more free and family time. A gradual exit from the labour market is more and more discussed.

Policies and the regulatory system are adapting accordingly. The main function of labour law is no longer to simply restrict but to facilitate the use of atypical employment. This trend has started and even the strongest labour unions have been unable to halt the slow but sure erosion of traditional forms of work based on full-time employment, clear occupational assignments, and a well-established career

pattern over the life cycle. But these new needs and attempts are still very far from an agreed general new social model.

However, all this change still takes place in the context of the conventional one employer – one employee relationships. Is there a need and/or a way to change that? Globalisation, characterised by ever-increasing international trade and foreign investment flows, brought with it new forms of inter-firm co-operation, with increasing numbers of firms expanding their activities beyond their traditional boundaries, spawning world-wide networks based on innovative forms of communication and collaboration. In this context firms need to improve their technological competencies and learning abilities in order to be able to innovate and offer what markets demand. But there is a significant spatial dimension to many kinds of learning activities...industrial agglomerations located in one place rather than some other create environments in which production experience and skills can be accumulated, exchanged and preserved in the local workforce and entrepreneurial community. The ability to assimilate and transfer scientific and technological knowledge that is not completely codified, likewise, is greatly influenced by the opportunities offered by direct personal contact among the parties involved. The key concepts at that level of analysis are geographical and cultural proximity, often encountered at sub-regional (local) level, but also sometimes in localities that spread through regions. What matters is the sense of firms and the labour force that they share a history, values and responsibility, with these non-market factors contributing to the creation of collective goods.

Would it be possible to match this new need with a new model of formally sharing employees by a broader network of firms? Informally this is encountered sometimes de facto in highly qualified jobs on a project basis: for common research or marketing projects collaborating firms agree to share personnel hired by one of them for a common purpose. Legally this does not constitute a new form of employment, because the one employer-one employee relationship is maintained. However, practically though it does. Resources (including human resources) are poled for a specific project and through this pooling there is a share of risk and a creation of externalities. This cannot be formally adopted with more than one company hiring the same employee. With the current labour legislation this is unthinkable. Such an

approach is too ambitious at that stage. Ways out are tested with the Temporary Working Agencies (TWAs) model and some specific initiatives. This thinking passes by intermediary organisations entrusted with the mission to manage the continuity of professional life independently of the discontinuity of work. These can be groups of employers, or professional intermediaries, temporary working agencies, which do not have the classical mission of a productive company but are expected to make the labour market more fluid, and thus allow the members of the group to share employees they do not want to (or even cannot in the case of shortage of skills) employ full time. There are many forms of sharing employees. The most common one is through placement services, but IT contracting (in particular call centre and Helpdesk) are also increasing in terms of relevance. There are also internal forms of sharing (within groups, holdings or collaborating companies) and some specific initiatives stemming from local development policies. What is disappointing is that *there is disappointingly limited social experimentation* in this field.

"Temporary agency" means any natural or legal person who, in compliance with national law, concludes contracts of employment or employment relationships with temporary workers in order to post them to user undertakings to work there temporarily under their supervision.

There is a change of the mode, the role and the perception of the TWAs from covering short term vacancies and act as an intermediary for financial flexibility to an active role of forming and offering high quality personnel, training to cope with market changes. Successful big multinational companies like IBM, Philips and Michelin are known to make agreements with TWAs in the national and international level. In this role TWAs merge their activities with head hunters and offer a block of services facilitating HR departments.There are several reasons why temporary agency work may be a suitable means of allocating labour to work. These are related, firstly, to risk diversification; secondly, to the productivity gains accruing from a more efficient division of labour; thirdly, to the increased degree of flexibility afforded to the firm; and finally, to enhanced efficiency of the labour market due to the improvement in the matching of personnel and jobs.

At the same time there are some serious concerns about agency work, linked mainly to industrial relations:

- The importance of equal treatment as regards pay and working conditions for agency workers and workers in the firms to which they are assigned.
- In practice TAW appears to be even more insecure than (for example) limited duration contracts.

In the major competitors of Europe the situation shows also a need for labour sharing. The pressures on Japanese firms to lower cost through labour market adaptation are much greater. Employment agency activities were severely restricted until in the last couple of years of the 1990s. The *Japanese labour law* can be characterized by its wide coverage but the Japanese Employees Pension Plan & the Employees Medical Insurance Act have lower coverage rates for part-time workers and agency temporaries. Similarly the wage rate of Japanese part-time workers is relatively low(big gap with regular workers). Labour laws and regulations designed to protect workers often do not apply to workers in part-time, temporary or other non-standard arrangements, so government policy creates an incentive for firms to use these arrangements to circumvent the costs of such regulation. The *labour market in the U.S* is well known as "flexible" and "dynamic". Independent contractors, agency temporaries and leased employees face a challenging and difficult situation: Generally, the regulations on the temporary help business have been dramatically changed from a strict license and registration system to a liberalized one, yet facing in some cases severe criticism. Other countries, like *Korea,* are actively searching among other forms of contingent working and temp work agencies have been accepted as a legitimate means of enhancing labour market flexibility in furtherance of economic and societal objectives in Korea.

Circumstances differ significantly from country to country within Europe. The market share of private agencies in job placement measured initially in 8 EU countries stated that it is only high in the Netherlands and the U.K (and the Flemish community in Belgium). In the latter countries private placement overlaps to a large extent placement by TWAs, which can combine placement with commercial activity. The European Commission issued its draft Directive on temporary agency work in March

2002, which has not yet been adopted. . It aims at providing some minimum standards for the workers employed through the TWAs and at introducing the principle of non discrimination. The crucial point is that TWAs are not seen as a social experimentation covering new needs. This is related mainly to the social resistance they encounter and the reluctance to experiment.

The results from the questionnaires and case studies of the study show that companies are very willing to share employees and they do it in a variety of forms: dedicating high quality personnel to joint projects and subcontracting low qualification jobs.

In conclusion there seems to be a need and a maturing environment for a "job-sharing" approach that would go beyond the simple part time sharing into sharing of personnel among employers (via or not via an intermediary). There are ways of doing it in mutual benefit, but there is resistance to social experimentation with it.

3.6.2 Flexibility in Smaller European countries: the case of engaged autonomy

The popular perception during much of the 1990s was that Europe's national economies are sclerotic and their labour markets over-regulated. The American economy grew and grew creating new jobs, while most of Europe's economies barely grew at all, creating more unemployed people than new jobs. Yet, there were a few mostly small and more open European countries that bucked this trend and appeared immune to this 'Euro-disease'. Among these more successful smaller European economies are Ireland, The Netherlands, Finland (from the mid-1990s) and the longer term success story of Switzerland. Overall, these smaller European countries were able to maintain existing levels of social cohesion, for example, in terms of income inequality and social inclusion, while creating economic and employment growth and introducing labour market flexibility. In contrast, other smaller European countries like Greece were less successful in terms economic and employment growth or labour market flexibility yet managed to build a stronger social welfare state albeit from a fairly low level in European terms. This ability of some smaller European countries to balance economic success with social cohesion indicates there may be something to

learn from their experiences in terms of preserving the European Social Model (ESM) in an increasingly neo-liberal global economy.

Consensual decision-making processes in public policy appear to be one of the factors that have allowed these smaller countries to better balance economic and social interests. Of particular importance is '***engaged autonomy***' or the state's direct and indirect incorporation of trade union and business groups, including globally competitive firms, in coordinated decision-making processes that address dependence on the external environment by continuously adjusting policies to balance socio-economic interests in competitiveness with sovereignty and equity. In this sense, the preservation of the ESM at the national level in these smaller European countries depends not just on the state but on the participation and implementation of the national ESM at the firm level. The experiences from these countries open a new strand in the debate by focusing on the emergence of new European social models in the smaller European countries of the Flex.Com research project. Flexibility here refers to the ability of the social partners in these smaller countries to incorporate parts of the Anglo-American neo-liberal model to spur growth, employment, innovation and competitiveness, while at the same time providing as much security as possible from the elements of the ESM to individuals as citizens, workers and members of social groups and associations. In this way, the flexibility of the ESM represents ***attempts by the social partners in these smaller countries to combine flexibility while preserving the European Social Model***.

Of particular importance is the tendency for these smaller European countries to use corporatist style partnership arrangements to negotiate social consensus about the balance between flexibility and security, on the one hand, and economic competitiveness and social cohesion, on the other. It is often through these partnership processes – at the national, regional, sectoral, industrial, local or firm levels – that the flexibility of the ESM is worked out in detail, adjusting to the rigours of economic globalisation, implementing EU regulations and adapting both to fit the contours of the country's path dependency, institutional configurations and culture. Consensus decision-making works best the more accurate and widely gathered is the partner's knowledge about the internal and external environments faced by their sub-section of

society. This works best in a culture of honesty and truthfulness embedded in institutional interactions of trust.

This is not to say that the five smaller European countries continually use partnership processes to flexibly adapt the ESM to their particular conditions or that, if they use partnership, they do so in the same ways. At the same time, these national variations may prove important in explaining different responses to balancing flexibility and security. Further, the ways firms organise their use of work practices like numerical and functional flexibility is not simply a reflection of national processes and policies, whether or not of a partnership kind.

Diversity though is important and there is no uniformity in this engaged autonomy. Corporatism of the Netherlands and Switzerland is influenced by the global adaptation of their larger firms.

Engaged autonomy is a state strategy involving the social partners embedded in a process of consensual decision-making to overcome the state's dependence on the external environment and actors by devising and revising policies that continuously adjust its socio-economic interests and outcomes, balancing competitiveness with sovereignty and equity. Further, engaged autonomy presumes that firms within each state attempt to coordinate their relationships with other major actors including employees, trade unions (if unionised) and state institutions. In this sense, firms adapt their strategies to coordinate with the outcomes of these internal relations with other actors.

At the same time, firms – especially larger more global firms – within the state are often more directly affected by the external environment and can be invaluable sources of knowledge and potential policy innovations and, if they choose to, drivers of the engaged autonomy process. The link in this case is mediated by the firm's position within the country's national developmental path including the evolution of the national institutional configuration and interrelationship with the national culture. The more 'the firm' as a relational actor is embedded within this national developmental path, institutions and culture, the more likely it is to coordinate its corporate strategy to the relational interests of other actors in the national society,

particularly to balance the firm's 'economic' interest with societal interests such as cohesion and equality. It is possible then, and more probable under certain conditions, that 'global' firms act in support of public compensation.

Thus, it is important to link contemporary strategies of engaged autonomy to the trajectory of national development paths, particularly to better understand the flexibility of the European social model in smaller states and firms and the emergence of new ESMs in these countries.

From the countries studied three are ranked in the top five and four in the top ten of the most globalised nations in the world in 2002. The four of the states represent different waves of membership in the European integration process, with one special exception of popularly determined non-EU or EEA membership in Switzerland. Thus, the Netherlands is one of the six original founder members of the then EEC; Ireland joined in the second wave with the Denmark and the UK; Greece became a member in the staggered third wave in 1981 followed by Portugal and Spain in 1986; and Finland joined along with Austria and Sweden in the fourth wave in 1995.

Given that each of the four countries has been an EU member for varying lengths of time, this allows for a comparison in terms of how closely their national ESMs approximate to the Commission's ideal European social model and how much their national ESMs reflect institutional configurations of the path dependencies prior to entry into the EU. Switzerland is the control case here as it has not adopted any the acquis communitaire and does not officially transpose European law such as directives into national law (unlike, for example, the EEA member Norway). As such, the Swiss case raises the question of whether or not a European state can have a European social model without being an EU member and directly participating in the EU's social integration process?

Finally the five smaller European countries in the Flex.Com project are also interesting with respect to their differing trajectories of socio-economic development. Finland and Ireland both moved from the European semi-periphery to the core by the end of the 1990s. However, Finland built and largely maintained a Nordic social corporatist society and social democratic welfare state through its deep recession in

the early 1990s and transformation into a knowledge-based information society. Ireland, on the other hand, built a social partnership process from the late 1980s and experienced a rapid period of 'catch-up' from the mid-1990s referred to as the 'Celtic Tiger', but maintained its traditional liberal welfare state and society in a restructured liberal corporatist form. At the same time, the Netherlands cured the 'Dutch disease' of the 1970s, arresting its slide from the core towards the semi-periphery. It did this largely through consensus based policy innovations, continually revising its model of liberal corporatism to create a new 'Dutch Miracle' albeit one largely based on wage flexibility through atypical employment particularly part-time work. Compared to these changes, Switzerland remained steady on traditional course maintaining its global niche economic strategy devised in the late 1700s over a minor recession in the early 1990s, while gradually improving its conservative liberal welfare state. In economic terms, Greece is the outlier of this group at the moment: while the Greek economy continues to grow, its lack of a 'catch-up' period means that its GDP per capita remains substantially below the other four countries. On the other hand, Greece like the other Southern European welfare states has built up its social welfare system since the 1980s in spite of comparatively less resources and without a fully functioning consensus decision-making process

The four more economically successful of these countries had all adopted by the 1990s the 'small' country strategy of encouraging specialist niche firms producing high quality goods for export markets. Of these four, Ireland is the only one that depends almost solely on foreign owned firms for the success of this strategy and thus has created an added dilemma of dependence for itself: the country has become less dependent in general by becoming more dependent in particular on foreign firms located in Ireland. In contrast, Finland has become more like The Netherlands and Switzerland described above in that its most successful companies such as Nokia have made the transition from national firms that export to global companies that internationalise production within a national corporate culture that still conducts much of its R&D in the 'home' country.

Further, these four countries had each adopted a form of engaged autonomy devising consensus based decision-making processes that attempt to continuously adjust national policies to the country's external environment while balancing internal socio-

economic interests. However, the precise form that engaged autonomy takes in each country has been shaped by national institutional configurations and cultural traditions, influencing changes to the country's economic performance and national social model. It is also constructive here to compare and contrast the less successful Greek with the more successful Irish experience since both countries in the early 1980s could be characterised as having centralised yet inefficient states linked to social and economic groups and individuals in part through clientism, patronage and corruption and surrounded by a large black economy. What happened in 'Ireland' that did not to the same extent in 'Greece'?

The main argument of the analysis of the five small countries in relation to a ESM is that differences in national strategies of engaged autonomy shape changes in the social model adopted. In particular differences in relative success in achieving the goals of the national strategies in terms of institutional capacity and performance influence modifications to the terms of national and firm level ESMs. Two crucial factors in determining relative success of the national strategies of engaged autonomy are the effectiveness of consensus decision-making institutions and processes and the embeddedness of globally competitive large and medium firms in these countries.

All of the Flex-Com countries, except Greece have (or have recently constructed) relatively effective consensus decision making institutions. In Finland, Irelnad and the Netherlands the activation of consensus institutions was precipitated by national economic crises. In each country, the state led by the governing parties took the lead in facilitating consensus among the other social partners. In the Dutch case, the governing parties have also periodically intervened to alter the terms of the consensus strategy, pressuring the social partners and the electorate to accept major public sector and social welfare reforms. However, the Dutch governing parties have been less successful in altering the economic terms of the national strategy, particularly in pressuring the firms to move from atypical "employment revival" to use their increased profitability and investment revenue to focus on new innovative, globally competitive and high value added products and services. The Greek case is interesting because it has not yet been able to create fully functioning consensus institutions.

The lessons learned from the small countries is that the current debate and the selective introduction of new labour market policies is best viewed from the perspective of Europe's comparatively larger member states with greater public expenditures on the social welfare state and not from the perspective of the smaller ones. And there may be a lot to learn from their success stories on engaged autonomy.

A brief tabular overview of the above results is presented in Appendix 1. A more detailed analysis of the combination of the results within the frame of the study objectives is analysed hereafter:

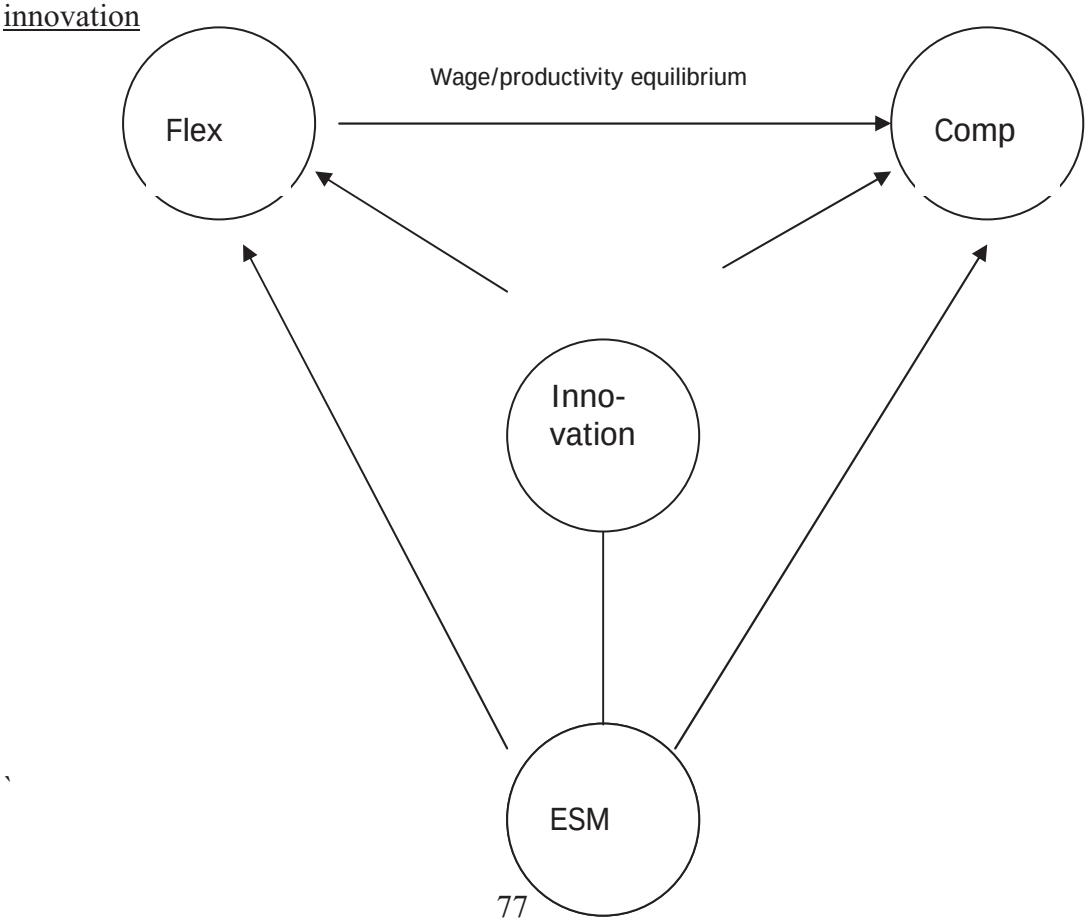
4 Conclusions and policy implications.

Clear and generalisable causality on the relationship between flexibility and competitiveness could not be found in the preceding analysis. Neither is there evidence that the European Social Model leads to diminished competitiveness. What the project has really identified are some key issues on how these direct links may be affected via the influence each one of them has on innovation, suggest some conclusions and recommendations.

4.1 Enriching the understanding of the links via innovation

Evidence from the work undertaken suggests that the direct and clear links are strongly affected by the introduction of innovation into the debate: the positive contribution of flexibility to competitiveness via low cost may be mitigated/annulated by a longer term effect of diminishing productivity attributed to a lower propensity to innovate.

Figure 4.1 The basic triangle and the unknown influence of indirect links via innovation



Similarly the negative impact of the ESM is contradicted by the evidence of countries, where engaged autonomy proved to contribute rather than hamper competitiveness without creating barriers to flexibility.

4.2 In search of a new orthodoxy

Mainstream economics consider cost saving as the most important component in global competition. Flexibility, which leads to the improvement of resource allocation, is an important component of competitiveness triggering growth and welfare. Making the labour market more flexible has become a policy orthodoxy adopted by the OECD, by the European open coordination for employment and by individual countries.

However, when policy evolution is studied in detail, two important conclusions need to be kept in mind:

1. Flexibility is a very complex notion and using the same term as a common denominator for many different meanings (let alone policy guidelines) can mislead both research and policy.
2. The popular perception during much of the 1990s was that Europe's national economies are sclerotic and their labour markets over-regulated. The American economy grew and created new jobs, while most of Europe's economies barely grew at all, creating more unemployed people than new jobs. So Europe as a whole is taking a direction towards the American standards. But evidence shows that alternative models can also be successful with less flexibility and more security than what the US system suggests.

While Europe is gradually modifying its social policies to adapt to neo-liberal doctrines connected to the Stability and Growth Pact requirements, there is an increasing number of concerns raised. They emerge from the divide between those scholars adopting price competition as a priority, which is by many others considered as the low road leading to reduced welfare. For their part the latter promote the adoption of the high road, which is competing on innovation and quality and thus

requests the development of skills. This would request investments in knowledge, which employers are unlikely to offer in the case of flexible work. Besides, evidence from research in psychology and sociology is defending the need to respect industrial relations and assure workers satisfaction. This, in their view, not only improves working conditions but, due to the satisfaction of the workforce, it leads to better overall results in the long run.

The main merit of the project results lies in its interdisciplinarity. It analyses the arguments from the point of view of sociology but includes, to the extent that this was allowed by the resources of the project, economic empirical evidence, which cannot generally prove, but offer a strong evidence of selective cases, where increased flexibility was achieved at the cost of productivity growth.

The key objective of the project was to *investigate the economic implications of the increasing flexibility* arising from these recommendations and identify potential adverse effects, which may occur in the longer term or be a result of the idiosyncrasies of specific environments, which are not receptive to certain types of flexibility. The research focused on small open economies, four of which are highly competitive (though following different trajectories) and one, which for years demonstrates the lowest economic performance among EU-15.

Intended results were largely achieved in the analysis, and two unintended results emerged through the study; for one at the beginning the notion of flexibility was believed to be unambiguous and then it proved necessary to further elaborate on it; at the same time the significant differences of Greece requested a deeper analysis, which led to the need to introduce the role of the informal sector as a notion competing with or complementing flexibility, depending on the economic structure of a country. With this perspective the conclusions can be summarised around four axes:

a) The definition, clarification of notion and classification of flexibility.
b) The relationship/causation between labour market flexibility and economic performance.
c) The potential of new forms of work that might be more suitable to the new economy.

d) The merits and potential of the social models adopted by the small countries studied.

A: The definition, clarification of notion and classification of flexibility.

As with all orthodoxies and dogmas we found a certain over-simplification in the use of the notion of labour market flexibility. While certain aspects are clear, it is utterly unclear what we mean when speaking of "flexibility" in general.

Numerical flexibility, attacked by trade unions, is the hallmark of the "hollow company", one that has a tiny core of stable personnel and a large periphery of precariously employed workers and a network of subcontractors. However, *it is the only type of flexibility which can easily be promoted by legislation*. Thus, when economic and employment policies are called by the international business community and the OECD to demonstrate their progress towards flexibility it is mainly through their Employment Protection Legislation rank that they can do so. A quick response to the need for "flexibility" in order to improve the investment climate and attract foreign capital in the short term is the adoption of new legislation, facilitating part time, fixed term labour and the promotion of Temporary Working Agencies. The danger of short-termism is inherent.

Functional flexibility is associated with the high-trust, high-performance firm. The firm is oriented toward quality competition and innovation, has a long-term investment orientation and invests in continuous training of its workforce and in developing collaborative, high-trust labour relations. The stability in employment patterns, the improved working conditions of the employees and the development of human capital associated with the high-trust firms adopting the strategy of functional flexibility has earned them special attention. Global, competitive firms, or bigger national companies adopt these models. However, policy making can only indirectly and in the long run affect this type of flexibility. To modify firm behaviour policy makers need a persistent policy and a patient public budget: high investments in life-long learning with accompanying quality control that would improve the firm-public trust relationship would be the foundation of such a policy. To introduce such a long-

term approach to exit from vicious circles is not easy as it also depends on an effective administration to organise and monitor publicly supervised learning.

Financial flexibility on the other hand, the ability of firms to reduce overall labour costs, is a result of collective bargaining, macroeconomic conditions and overall labour relations. Here again, the role of policy making is limited, in particular in countries where the state does not have a dominant role and social partners agree without state intervention. But lower EPL helps to create the market conditions for lower salaries.

To make things more complicated *the most flexible labour market is the informal economy*. Despite general agreement on the negative consequences of informal activities in other cases, it cannot be denied that the black economy constitutes flexibility par excellence. This means that when introducing flexibility one should keep in mind the extent to which new, more flexible forms will substitute informal with formal labour relations and the extent to which they will simply not be adopted by the market, because informal relations will still be preferable.

In the real world these forms are never "pure" and thus, when speaking of flexibility, either in the academic world or in terms of policy, one may addresses all of them together, one or any combination of them, in different degrees. So a first important conclusion is that it is important to be precise when the notion of flexibility is used alone. In other words: ***flexibility is far too complex to be covered by one name only***. As indicated hereafter the policy mix, the discretionary power of the various actors and the potential of effective intervention differs greatly from one form to another. So a more sophisticated jargon and debate are needed.

B: On the relationship between labour market flexibility and performance

We consider that our work has contributed with evidence on three basic aspects:

1. There is serious evidence that (without denying traditional views that under certain circumstances numerical flexibility contributes to the decrease of unemployment) ***numerical and financial flexibility in the medium to long term may lead to deteriorating economic performance and reduced capacity to innovate***. This is a result we have from empirical evidence in the Netherlands, which can be explained by previous general evidence from international organisations that non-permanent employees receive less training. It may of course be argued that some economies (already very productive) have the luxury of neglecting comparative productivity growth to assure a better social model. This is not sustainable in the long term and in addition for less competitive countries at the starting point of flexibilisation this may prove a disaster.
2. ***Relying on formal rules alone for making markets more flexible is inefficient***. The study of the five countries demonstrated that the introduction of new legislation does not lead automatically to its adoption. If social acceptance and incentives for accompanying informal changes are not in place the system (or some of its parts) will not respond to the new legislation. Even worse, if the introduction of formal rules triggers social resistance it may even be counterproductive. Relevance of enforcement (compare Ireland with Greece: they started at the same initial position but the difference is not because of the legal position as marketed it is social partnership and enforcement).
3. Evidence from the comparison of the results of the four successful four countries studied suggests that a key issue is that the adopted ***flexibility*****,** whatever its form, ***needs to be in mutual interest*** and there are ways to do that. Voluntary numerical flexibility or the introduction of new forms of labour which will somehow combine flexibility with security are general success cases.

C: On the need to experiment rather than adopt: ***The potential of new forms of work that might be more suitable to the new economy.***

The fundamental changes of world production and trade suggest that the new economy requests different models than those we have already experienced. Industrial relations are likely to change and possibly be radically modified in the future. The sooner policy makers are aware of the tendencies of change the better.

However, the basic legal instruments, which are governing labour since the second world-war at least, continue. The forms of flexibility currently introduced are usually based on the one employer one employee relationship. Job satisfaction and creativity are at the discretion of employers and human resources management processes, not tackled by law or policy. But companies need to innovate to be competitive in countries with high labour cost and thus, in this changing world, European workers need to become more productive, creative and innovative. To be ready for the forthcoming changes it is important to start experimenting on how this can be done. We know that the influence on commitment and creativity is exercised not through the formal contract of work but through trust and empowerment. Policy making has not succeeded in that respect.

Experiments of new forms are mostly limited in the creation of Temporary Working Agencies, which vary considerably in their tasks, legislative environment in the member states and social acceptance. Very few experiments exist which do not adopt labour sharing in its classical numerical form (more part-timers for the same job) but where employers join forces to share employees in different ways, with or without public incentives. It is argued that in the changing economic environment more of this experimentation will be needed.

D: The merits and potential of the social models adopted by the small countries studied.

The four economically most successful of the small countries studied suggest success stories outside the orthodox neo-liberal labour policies. “Engaged autonomy” seems to be their weapon. This is a state strategy involving the social partners embedded in a process of consensual decision-making to overcome the state’s dependence on the external environment and actors by devising and revising policies that continuously adjust its socio-economic interests and outcomes, balancing competitiveness with sovereignty and equity. Further, engaged autonomy presumes that firms within each state attempt to coordinate their relationships with other major actors including employees, trade unions (if unionised) and state institutions. In this sense, firms adapt their strategies to coordinate with the outcomes of these internal relations with other actors.

At the same time, firms – especially larger more global firms – within the state are often more directly affected by the external environment and can be invaluable sources of knowledge and potential policy innovations and, if they choose to, drivers of the engaged autonomy process. The link in this case is mediated by the firm's position within the country's national developmental path including the evolution of the national institutional configuration and interrelationship with the national culture. The more 'the firm' as a relational actor is embedded within this national developmental path, institutions and culture, the more likely it is to coordinate its corporate strategy to the relational interests of other actors in the national society, particularly to balance the firm's 'economic' interest with societal interests such as cohesion and equality. It is possible then, and more probable under certain conditions, that 'global' firms act in support of public compensation.

The main argument of the analysis of the five small countries in relation to a European Social Model is that differences in national strategies of engaged autonomy shape changes in the social model adopted. In particular differences in relative success in achieving the goals of the national strategies in terms of institutional capacity and performance influence modifications to the terms of national and firm level ESMs. Two crucial factors in determining relative success of the national strategies of engaged autonomy are the effectiveness of consensus decision-making institutions and processes and the embeddedness of globally competitive large and medium firms in these countries.

The lessons learned from the small countries is that the current debate and the selective introduction of new labour market policies is best viewed from the perspective of Europe's comparatively larger member states with greater public expenditures on the social welfare state and not from the perspective of the smaller ones. And there may be a lot to learn from their success stories on engaged autonomy. However, one needs to be clear that consensus and job satisfaction, which seem an important ingredient of success, are unlikely to be triggered by policy intervention. National crises lead to a solution (Finland 91, Ireland mid'80s, plus Austria after the Second World War, NL 73-78 Dutch disease plus early '80s business cycle downturn)

and the creation of social partnership. These are neither wishful not reproducible by policy design.

E: Final remarks and further research suggestions

The project results may be summarised in the need for a more sophisticated approach in the enhancement of flexibility in Europe. Instead of looking for a generalised and easy adoption of flexibility it is important to identify the key issues of change and see, in the European diversity, what is best suited for the coming decades. There is no doubt that more flexibility is needed, but of what kind and for which circumstances it is more difficult to answer. It is suggested that the emerging new model will to combine flexibility and innovation in order to avoid high cost and diminishing productivity at the same time. This will probably have to go together with skill enhancement. Reciprocity (expressed in some form of security, as in the case of the Nordic flex-security) is need to achieve that. To reach that a lot of effort, policy intervention and imaginative experimentation are needed.

Because of limited statistical coverage our evidence is strong in some countries but inconclusive for a general theory. Further research is needed, of which indicatively we mention:

1. A generalisation of the econometric study of the link between different measures of flexibility and relative productivity growth;
2. A systematic investigation of the link between flexibility and education/life-long-learning: does it make sense to increase flexibility without a corresponding amount of increasing education and knowing who will carry the cost?
3. What is the relationship between the adoption of more numerically flexible forms of work, increasingly adopted by legislation and the market tendencies for outsourcing, subcontracting and telework as new forms of flexibility?

4.3 Policy implications at various levels

There are some important policy implications if the above conclusions are to be taken into consideration. The way to summarise them is that "*flexibility should be promoted in context rather than out of context*". Evidence suggests that although the above leitmotif looks self-evident, it is often not adopted. Policy makers probably prefer a standardised, hopefully generally valid approach of simple legislation enhancing numerical flexibility, than a deeper and more sophisticated approach.

The case of the EPL benchmark is one example of the above remark. Flexibility should not be interpreted as the opposite to labour protection It is suggested to adopt ***benchmarks on "total flexibility***" rather than using EPL as a proxy. EPL, the rules (and norms) concerning the facility with which management can regulate hiring and firing are obviously of critical importance in encouraging or discouraging internal (qualitative) or external (qualitative) flexibility; the degree of strictness of EPL has a direct impact on the relative cost of each type of flexibility to management. Thus EPL is used (and abused) by policy makers (in particular international ones) as a proxy for "labour-market flexibility". But this is an orthodoxy that can lead to serious misunderstandings and adverse effects. Given the very different reaction of sectors, national cultures and types of companies to the various forms of flexibility (not always captured by EPL or not adequately weighted) EPL is only a useful simplified measure for comparisons, which should be further elaborated to be used as a policy instrument. EPL scores as benchmarks are dangerous. When speaking of flexibility, or designing labour market policies, it is important to be more sophisticated and explain what kind of flexibility is targeted. Simplistic approaches suggesting that "the labour market will become more flexible" should be avoided because when implemented they may be taking the wrong direction.

It is further suggested for every member state, which wants to demonstrate increasing labour market flexibility to accompany each new law or broader measure with an ***impact assessments of adopted flexibility.*** This will help avoid adopting the easier but possibly not most effective ways of flexibility. Such impacts will have both an economic and policy component and need to be explicit. Indicative investigations for such an impact analysis should include:

- Which sectors are most likely to adopt the new arrangement? Numerical Flexibility is important for certain sectors and certain skills. Sectoral needs vary substantially from the point of view of the employer and type of flexibility (e.g. no application to big manufacturing companies except for shifts and overtime and most skilled work; part time in retail, fixed time contracts in tourism and agriculture). In some cases this is linked to international competitiveness (agriculture, tourism) in others to inflation considerations (retail).
- To introduce flexibility one needs to remember that legal acts make not sense; the accompanying inceptives and enforcement have to be studied and put in place to assure their implementation.
- Are the flexible employees likely to receive training and how will it compare to permanent employees?
- What is the expected/target size of employers/employees adopting the new form?
- What would be the alternatives (e.g. Pseudo-entrepreneurs, telework, sub-contracting etc)
- Is it likely to be adopted voluntarily by at least part of the labour force affected (job satisfaction)
- What is its anticipated effect on long term training of the labour force (would it be amplifying a core-periphery division within firms or in the whole of the economy?)
- In particular for less competitive economies what is the expected influence on innovation potential
- How does this flexibility introduction interact with current informal labour relations: substituting for them or not?

The case of the ***informal economy as a form of flexibility*** has to be taken seriously into consideration. In particular for the cohesion countries and many of the new member states the introduction of more flexibility will have to be seriously studied and see how they interact with each other. For these countries it is also particularly important to see how potential changes will affect life long learning and thus their already low productivity and innovation potential.

Finally, it is strongly recommended to experiment with new forms of labour sharing and flexible arrangements that may look revolutionary at the present circumstances. Ingredients for their success would be imaginative legal provisions, mutual benefit, flexibility, security and learning. Very few experiments showing the way exist. The TWAs may also prove to have double face: those promoting externalities through training and tenure of their employees should be differently treated. If legislators or policy incentives use a differentiated approach for them, they can prove an instrument for change.

From the above general policy suggestions the different levels of governance in the EU can pick their own role:
The role of the EU

1. Mediate to build a shared vision for a new social model, responding to the overall change
2. Stimulate/monitor the building of bridges between employers and employees
3. Avoid generalisation and promote the research needed as well as more sophisticated benchmarks
4. When adopting legislation or recommendations (e.g. green paper on partnership for a new organisation of work) investigate the possibility for new experiments linking flexibility with security through new forms of labour sharing

The role of national policy makers is mainly in the very careful establishment of the impact assessment of the introduction of new labour flexibility acts.

Finally the role of regional policy makers but also collective organisations would be in the promotion of new experiments of labour sharing.

4.4 Linking conclusions and recommendations

The following table demonstrates how conclusions and recommendations are linked:

Conclusions	***Policy implications***
1. Merits and potential of the social models adopted by the five countries studied 1.1 Engaged autonomy: consensual decision making, co-ordination between firms and other major actors (state, employees, institutions) 1.2 Global firms are more likely to balance the firms' economic interests with societal interests, thus acting in support of public compensation 1.3 At the micro-level consensus and job satisfaction are unlikely to be triggered off by policy intervention only. Similarly, at the aggregated level the creation of social partnership cannot be the product of policy design.	
2. Definition and typology of flexibility 2.1 Need to always specify what is meant by the term *flexibility* 2.2 Flexibility cannot be imposed solely through institutional measures 2.3 *Numerical and wage flexibility* cannot be enhanced without the	Flexibility is used as an encompassing term thus leading often to confusion and even abuse of the term and the adoption of piecemeal policy interventions, which do not correspond to the particular needs of the economy Do not rely on legislation only Cautious adoption of new legislation facilitating the expansion of part-time work, fixed-term contracts and temporary

appropriate legislation 2.4 By contrast *functional flexibility* can be introduced by market forces alone, independently of intervention 2.5 Legislation can indirectly stimulate functional flexibility in the long run 2.6 The *informal economy* is flexibility par excellence, thus under certain circumstances cancelling out the impact of legislated flexibility	agency work in order to avoid "short-termism" High investments in life-long learning, quality control, effective administration to organize and monitor learning is recommended keeping in mind that this will have a visible impact only in the medium to long term, in combination with a conducive macroeconomic environment
3. Links between flexibility and economic performance 3.1 Labour market flexibility may be very beneficial for economic performance but there is no generally confirmed, automatic and long term correlation; the results are context specific 3.2 Numerical flexibility in the long run may lead to deteriorating economic performance and reduced capacity to innovate 3.2 Social consensus and incentives contribute to the achievement of positive performance	In the case of less competitive economies the introduction of flexibility has to be very carefully scrutinised, otherwise it risks to reduce costs in the short term but jeopardise the adoption of a knowledge economy based development model in the longer term Commitment/incentives from employers and policy makers for labour and social consultation are important elements for increasing the likelihood of a positive contribution of a more flexible labour market strategy Commitment/incentives from employers and policy makers for identifying, raising

3.3 Mutually beneficial forms of flexibility also contribute to positive performance	awareness and implementing mutually beneficial forms of flexibility are also important elements for increasing the likelihood of a positive contribution of a more flexible labour market strategy
4. The potential of novel working practices in the new economy 4.1 The changing economic environment requires new and different models of working practices 4.2 Workers' commitment and creativity are ensured through trust and empowerment, not through formal contracts 4.3 Prevailing experiments are limited to TWAs and labour pools	More experimentation in new working practices (socially acceptable forms of TWAs, labour sharing) is needed
	Need for a more sophisticated approach for the enhancement of flexibility in Europe. It is important to identify the key issues of change and avoid technocratic approaches. Flexibility should be promoted in context rather than out of context with systematic policy appraisals.

5 Dissemination of results

The dissemination of the results of Flex-Com has been a collective effort of the five partners, organized along seven types of activities. An effort to have the results of the project published in a book form by a major publisher is still underway. Each partner has contributed to the dissemination process, albeit in different proportions, depending primarily on the respective national culture and the availability of communication venues. Taken together, the dissemination initiatives along these seven dissemination activities have succeeded in publicizing Flex-Com to a wide range of audiences that we selected as likely to be interested in and to benefit from the research. These audiences consisted of the social partners – especially their research institutes – policy makers, industrial relations practitioners, students and researchers of relevant academic fields, and – to a lesser extent – the general public.

1) A key means of dissemination of the program's profile, methodology and results has been the **website**. The site, www.flexcom.org, has two distinct access points; one of them is open to all visitors, while the other allows access only to the members of the consortium through a password so that members can post draft versions of their work for early feedback purposes. The site has so far been visited approximately 2,100 times, a number which is expected to increase significantly as the project's final results become available.

2) Special arrangements were made by the partners of the project in each country to publicize and discuss the (early and final) results of the project in meetings with "**user groups**," consisting of policy makers and representatives of the social partners. There were two such meetings in each of the five countries involved. In a couple of instances it was not possible to schedule a group meeting; in such cases meetings were carried out on an individual basis. In many cases the arrangement of user group meetings was hampered by a certain lack of familiarity/enthusiasm of the prospective participants for research projects such as our own. However, once scheduled, the

meetings were interesting and the participants felt to have benefited especially from the international/comparative aspects of the results.

In the case of Netherlands, the user groups involved representatives of:

- the Central Employer's Association, Department of Social Affairs
- the Ministry of Economic Affairs, Department of General Economic Policy
- the National Christian Trade Union Movement
- the National Confederation of Trade Unions

In Greece, the user groups involved representatives of:

- the Labour Institute of the General Confederation of Workers of Greece
- the Institute of Economic and Industrial Research (of the Association of Greek Industries)
- the Association of Super Market Businesses of Greece
- the Experts Council of the Minister of Labour
- the General Confederation of Greek Small Business & Trades
- the Labour Inspectorate
- the National Confederation of Greek Commerce
- the Greek Manpower Organisation

In Finland, the user groups involved representatives of:

- the Ministry of Labour
- the Ministry of Industry and Trade
- the Confederation of Finnish Industry and Employers
- the Central Organisation of Finnish Trade Unions
- the Employers' Federation of Service Industries
- representatives from other employers' organizations, banks, insurance companies, and trade.

In Switzerland, the user groups involved representatives from:

- the Federal Ministry for Economic Affairs, Labour Directorate
- the Swiss Employer Association
- the Swiss Confederation of Trade Unions

In Ireland, the user groups included representatives from:

- the National Economic and Social Council
- the National Centre for Partnership and Performance
- the Chambers of Commerce of Ireland
- the Irish Business and Employers' Confederation
- the Irish Small and Medium Enterprises' Association
- the National Economic and Social Foundation
- the Irish Congress of Trade Unions
- the trade union MANDATE
- the public sector union IMPACT

3) Another aspect of dissemination has been **awareness raising** through the mass media, such as newspapers, radio and TV programs, as well as public speeches and public postings in relevant websites.

Most active in this regard has been the Dutch team who cited the Flex-com project in the following venues:

- Kleinknecht and Naastepad: "In de fuik van de loonmatiging" ("Dutch economy trapped in self-created wage moderation"), *Volkskrant,* 28 January 2002, p. 7
- Naastepad: "Is een loonstop goed voor de economie?" ("Wage stop: good for the economy?"), *Bondgenoten Magazine*, **1** (6) 25, October 2002.
- Naastepad: "Loonmatiging is slecht voor groei arbeidsproductiviteit" ("Wage moderation is bad for the growth of labour productivity"), *Het Financieele Dagblad*, 25 September 2002, p. 7.
- Naastepad: "Nederland door loonmatiging in het slop" ("The Netherlands economy going down because of wage moderation") *NOVA/NOS: Nederland kiest*, 3 February 2003.
- Naastepad: "Alleen Turkije investeert minder in kennis" ("Only Turkey invests less in knowledge"), *PW Vakblad*, February 2003.

- A. Kleinknecht: "Loonmatiging leidt tot Oost-Europees groeimodel" ("Wage moderation leads us to an Eastern European growth model"), interview in journal *Zeggenschap* Vol. 14, no. 1, April 2003, no. 1 p. 4-7.
- Kleinknecht, A.: "Tweejarige loonstop maakt crisis erger" ("Freezing wages during 2 years makes the crisis (even) worse"), column in newspaper *TROUW*, 1 November 2003.
- Kleinknecht, A.: "De Nederlandse productiviteitscrisis" ("The Dutch productivity crisis"), interview in *WDR* (Westdeutscher Rundfunk), Köln, 3 April 2003.

The Finnish partner's initiatives included:

- A speech given at a seminar for private business organization people, February '03
- An article in the *Forum för Ekonomi och Teknik* 5/2003 (Swedish-speaking journal on economics and technology);
- An interview in Radio Extrem, April 2003.
- Publication-announcement on ETLA website, www.etla.fi/english/main

The initiatives of the Swiss team in this regard included an
article in the KOF ETH (Swiss partners' institute) monthly journal "Monats-bericht Konjunktur" (February 03), available from KOF website http://www.kof.ethz.ch

4) A common venue for the dissemination of research results is the **participation in conferences**. So have Flex-com results been disseminated through conference papers.

The Greek team's initiatives in this field included two papers:

- Tsipouri: "Temporary Agency Work" paper delivered in European Presidency-EFLWC Conference in Alexandroupolis, May 2003
- Gavroglou: "Labour market flexibility and competitiveness: an overview" paper delivered in PAEP's international conference Modelling the Labour Market: Realities and Prospects, Athens, October 31, 2003.

The Dutch team's conference paper was Kleinknecht's "The job creation miracle in the Netherlands: What can others learn?", Paper for the workshop Innovation, Employment, and Economic Growth (University of Bologna, Faculty of Statistics and Department of Economics) 28 and 29 November 2003.

Two conference papers were delivered by the Swiss team:

- Arvanitis: "Numerical and functional labour flexibility at firm level: are there any implications for performance and innovation? Evidence for the Swiss Economy", paper delivered in PAEP's international conference Modelling the Labour Market: Realities and Prospects, Athens, October 31, 2003.
- Arvanitis, Hollenstein, Marmet: "Numerical labour flexibility and economic performance: what can we learn from the experience of firms in small European economies," paper delivered in PAEP's international conference Modelling the Labour Market: Realities and Prospects, Athens, October 31, 2003.

The Irish team delivered two conference papers:

- 'Immigration without an Immigration Policy: The Irish Experience of Turning On and Off the Tap', Sociological Association of Ireland Annual Conference, April 2003;
- "Land of Conditional Welcomes", European Summer School on Migration, Identity and Diversities, Bamberg, Germany, September 2003.

5) Flex-com has been publicized to a specialized but broad audience through **discussion papers** as well as **academic papers**.

The Swiss team has produced several discussion papers, which are available for downloading from the website www.kof.ethz.ch:

- KOF Working Paper No. 64, July 2002 (Swiss National Report)
- KOF Working Paper No. 79, September 03 (theme paper based on firm case studies)
- KOF Working Paper No. 80, September 2003 (econometric study with Swiss firm data)

The Finnish team has produced two discussion papers and one academic paper, which can be found at ETLA's web site:
http://www.etla.fi/finnish/research/publications/searchengine/:

- "Functional Flexibility Strategies: Evidence from companies in five small European economies - Finnish theme report", ETLA Discussion paper No. 875, 2003.
- "Finnish national report," ETLA Discussion paper No. 874, 2003.
- Jenny Oksanen: "Knowledge and learning in the determination of the optimal form of firm organization"; Master's thesis, University of Helsinki, October '03. Published as a discussion paper in ETLA's series, No. 873, 2003.

The Irish team has produced three academic papers:

- Gerry Boucher & Gráinne Collins: "Having One's Cake and Being Eaten Too: Irish Neo-Liberal Corporatism", *Review of Social Economy*" (forthcoming);
- Gerry Boucher & Gráinne Collins "Land of Conditional Welcomes", in *Sociological Chronicles* Volume 4, Peillon, M. and Corcoran, M. (eds) (forthcoming)
- Boucher and Wickham: "Training Cubs for the Celtic Tiger: The Volume Production of Technical Graduates in the Irish Education System", *Journal of Education and Work*, Volume 17, No. 2, 2004.

The Dutch team has produced six academic papers:

- Kleinknecht and Naastepad: „Schattenseiten des niederländischen Beschäfti gungswunders", in: *WSI-Mitteilungen*, Vol. 55 (6), June 2002, p. 319-325.
- Kleinknecht and Naastepad: "Is loonmatiging goed voor de export?", in: *Economisch Statistische Berichten*, Vol. 87 (2002), p. 624-626.
- Kleinknecht and Naastepad: "De wonderbaarlijke verdwijning van de innovatieve dynamiek", in: A. Witteveen, M. Zegveld & A. van Witteloostuijn (editors): *De grote lijn.. Strategie en strategisch management*, Schiedam: Scriptum, 2002, p. 199-219.
- Kleinknecht: "Made in Germany: ieder nadeel heb z'n voordeel", in: *ESB Dossier*, Vol. 87 (no. 4387), December 2002, p. D13.

- Kleinknecht and Naastepad: "Much Ado About Nothing? Growth, Productivity and Employment in the OECD's 'New Economy'", in: J. Ghosh & C.P. Chandrasekhar (editors): *Work and well-being in the age of finance*, New Delhi: Tulika Books, 2003, p. 120-146.
- Kleinknecht: "Causes of the Dutch job miracle: There is no free lunch!", in: *De Economist*, Vol. 151 (September 2003, no. 3), p, 329-333.

6) Another form of dissemination used by Flex-com members was a special meeting that took place on October 8, 2003 in Dublin between the Coordinator of Flex-com Prof. Tsipouri and representatives of the European Foundation for the Living and Working Conditions, for the presentation of the results of the project.

7) The dissemination efforts included the (co-)**organization of a conference**, namely the international conference organized in Athens by the Greek partner's organization, PAEP. The conference, Modelling the Labour Market: Realities and Prospects, took place on October 31, 2003. Session IV of the conference was dedicated to the presentation of the results of Flex-Com.

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Appendix 1: Overall conclusions from empirical evidence

The five analyses above do not converge to a systematic acceptance or rejection of the evidence from the literature. On the contrary some of their results appear contradictory, partly because the variables used are different, or differently combined, partly because they refer to different countries and partly because some of them are based on statistical evidence, while others in subjective judgments of interviewees.

In a tabular form the results may be presented as follows:

	Numerical flexibility (gener)	Part-time work	Temporary work	Manpower agencies	Functional flexibility
flexible working hours over the year	+				
adjustment of working time according to demand changes	no corr				
individually tailored working hours	+' +				
labour turnover	no corr				
duration of employment	no corr				
pay according to volume and quality of output	+				
incentive-oriented pay scheme	-				
pay according to collective wage agreements	no corr				
technology use	no corr				
human capital	-				
occupational mobility	subst				
team work	no corr				
job rotation	no corr				
job autonomy	no corr				
average labour productivity		-	no corr		+
labour costs per employee		-	no corr		

competitive position		-			+' or '++'
export share		no corr	no corr		
labour cost share of sales		no corr	no corr		
innovation			+		+
profits			no corr	+	+' & -'
sales growth	no corr		no corr	+' (*)	+
employment					+' or '++'
economic performance	-				+

(*) among innovators [see Nether]

Overall, quantitative analysis suggests that:

2. It is very difficult to compare econometric results or even quantitative indicators from case studies, because of the lack of agreement on a common definition and measurement of flexibility; data collection is influenced by the definitions and so are the results of studies.
3. The assumption that strictly defined numerical flexibility leads to increased productivity and reduced labour cost is not supported by statistical evidence, although it may be the case under certain conditions.
4. There is ample evidence that functional flexibility is positively correlated to labour productivity and this is supported both by statistical evidence and the interviews.
5. When examining the relationship between flexibility and innovation performance the results are mixed and there seems to be a need to distinguish between types of numerical flexibility before turning into general conclusions: R&D labour is typically numerically flexible, because of the nature of collaboration and increased mobility. Although R&D employment is a very low share of overall numerical flexibility, it is strongly correlated with innovation and can thus create problems of endogeneity?

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