FINAL REPORT

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Project n°:	
Title:	**Higher Education and Graduate Employment in Europe**
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Content

Abstract

From autumn 1998 to spring 2000, about 3,000 graduates each from 9 countries in the European Region (Austria, Finland, France, Germany, Italy, the Netherlands, Spain, Sweden, United Kingdom), one EFTA country (Norway), one of the Central and Eastern European countries in transition (the Czech Republic) and one economically advanced country outside Europe (Japan) provided information through a written questionnaire on the relationship between higher education and employment four years after graduation. Totally more than 40,000 graduates form institutions of higher education answered questions on their socio-biographic background, study paths, transition from higher education to employment, early career, links between study and employment, their job satisfaction and their retrospective view on higher education.

The study provided a unique opportunity to examine the extent to which the relationship between higher education and the world of work are similar or different among the Western European countries. This became more clear through the inclusion of one country each from the Central and Eastern European countries and one country outside Europe. The study also helps to understand the common elements and differences between various fields of study and occupational areas. It helps to look at current salient issues of higher education, i.e. equality, the role educational levels play, the demand for specialized or general competencies, the growing role of international mobility and of life-long education, the regional diversity in higher education. Last not least, the study allows to examine the extent to which socio-biographic backgrounds, educational experiences and achievements as well as the transition process determine early career and links between competencies and work assignments.

The study provides the most thorough comparative information on graduate employment and work and the links between higher education and graduate employment and work ever provided.

First results of the study were already published, and the overall study will yield a substantial number of publications in the near future: reports of the overall findings, country studies in comparative perspectives, thematic publications.

Beyond the substantive academic and policy relevance of its findings, the project aimed to provide the conceptual, methodological and instrumental basis for regular large-scale European graduate surveys in the future.

1 Executive summary

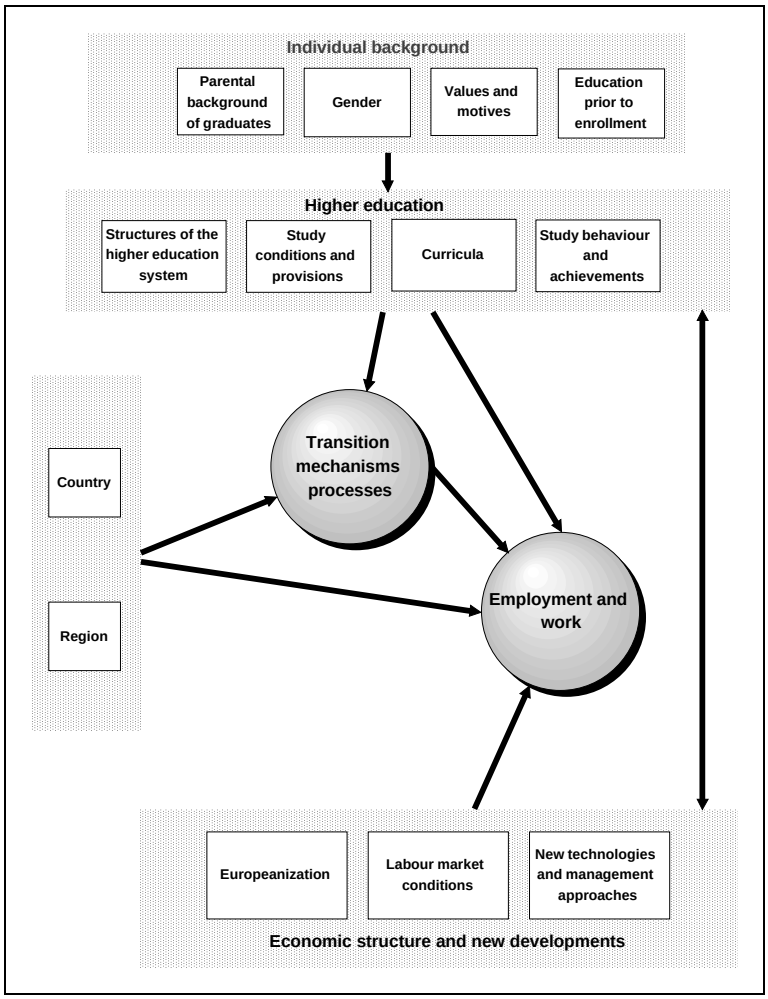
1.1 Objectives

The aim of the research project "Higher Education and Graduate Employment in Europe" was to analyse employment and work of graduates from institutions of higher education in nine European countries during the first years after graduation. Eight objectives were pursued.

- In-Depth Knowledge on Current Issues of Higher Education and Work
- Socio-biographic Background and Career
- Exploring European and International Dimensions of Graduate Employment and Work
- Identification of Early Career Trajectories
- Identification of Impacts of Higher Education
- Theoretical and Methodological Improvements
- Preparatory Study for a Regular Data Base

The project aimed to analyse current developments in the relationship between higher education and the world of work in Europe: new technological demands, new types of job roles in the wake of expansion of higher education, unemployment and other serious employment problems, the growing role played by social affective motivational competencies, the links between higher education and the region, and finally the emerging Europeanization and internationalisation of graduate work. In addition, the impacts on the early career of graduates of socio-biographical and educational background, structural and curricular diversity of higher education, study behaviour and experiences in the transition process from study to employment were analysed.

Chart 1.1 Framework of the Study



1.2 Benefits

Altogether the project aimed to provide a solid comparative account on employment and work of graduates from institutions of higher education in Europe. Information on employment and work of graduates from institutions of higher education is generally relevant

- for decision-making by politicians,
- as a valuable information base both for employers and leaders, managers and teachers in higher education,
- for educational and career decision-making by students.

Given the widespread consensus on the importance of such information, it is surprising to note how scattered and weak the available information up to now is. This study provided for the first time reliable comparative data.

1.3 Methodology

In the project, researchers from *various countries* intended

- to develop concepts, questionnaires and survey approaches suitable for a Europe-wide analysis and
- to survey representative samples of graduates from institutions of higher education in their respective countries.

A representative sample of persons who graduated between autumn 1994 and summer 1995 was intended to be drawn. The questionnaire addressed the socio-biographic profile of the graduates, their study experiences and (self-perceived) competencies acquired, their employment, work and careers since graduation and the links they perceive between education and work.

The project put emphasis on the acquisition and utilisation of competencies as well as on the needs of the employment system in various European countries. In this context, the question was raised as to how graduate employment and work change as a *response to technological developments*. Finally, the project paid special attention *to graduates not finding suitable employment*, as traditionally conceived, or facing unemployment. Though graduates tend to fare better on the labour market than non-graduates the project had to deal also with aspects of a growing frequency of social disadvantage and exclusion.

Chart 1.2 The Surveys

Graduate Survey	Interview with Graduates	Interview with Employers
N = about 40,000	N = 225	N = 225
Graduate Cohort 1994/95	Selected Areas	Selected Areas

The objectives of the survey required the use of a standardised mailed questionnaire as the core research instrument. With such a method it was possible to include a high number of graduates in each country in an efficient way as well as to elicit comparable and representative information on graduate employment and work. The development of questionnaires was based partly on the approaches and experiences of former surveys conducted in the European countries and partly on newly developed questions/items which had to overcome the pitfalls of prevailing terminologies and research approaches in individual countries.

The *major themes of the questionnaire* survey are named in Chart 1.3. The research teams in each country contributed to the conceptualisation of the study and the development of the questionnaires and were responsible for the translation of the "master questionnaire" into their respective language.

Chart 1.3 Themes Addressed in the Graduate Questionnaire Survey

- Socio-biographic and early education background variables
- Enrolment as well as study conditions and provisions
- Course of study and study behaviour
- Study achievements
- Job search and transition period
- Employment during the first three years after graduation
- Regional and international mobility
- Work content and use of qualifications
- Work motivation and job satisfaction
- Further professional education/training
- Career prospects

Persons were surveyed about *four years after graduation*. The proposed timing, first, took into account that professional training periods after graduation, as they are required or customary in some countries in some professional areas, might last up to two years. This timing, second, allowed us to analyse the transition to employment of those graduates who - after an award of degree equivalent to a bachelor's - continued academic study towards an advanced degree. Third, this timing enabled us to identify the first regular employment of graduates after a protracted transition period. Fourth, some early career stages could be analysed on the part of those who transferred to employment shortly after graduation.

The study was initially aimed to comprise nine *European countries*: Austria, Finland, France, Germany, Italy, Norway, Spain, the Netherlands, and United Kingdom. Parallel-studies were conducted in the Czech Republic, Sweden and Japan.

A broad *range of fields of study* was addressed in order to ensure that the range of factors discussed above was well represented in the survey.

The sampling ensured that *contrasting regions* in terms of centrality, economic and social conditions, etc. were included.

A *broad range of higher education* institutions was addressed in order to ensure that the range of factors related to institutional type is well represented in the survey. Students were surveyed who have been awarded the first degree or leaving certificate in the respective countries based on between 3 and 6 years of study.

The *sample size* had to be sufficient for a detailed and systematic analysis in terms of the above-mentioned research questions. The central criteria of the sampling should have sufficient variation within each country. It should yield at least about 3,000 responses from graduates in each country.

According to the local conditions the procedures *to get the addresses* of the graduates varied by country. In some countries the actual addresses of the graduates were available from a central database, while in others only addresses at the time of graduation were available from the institutions of higher education.

All *tasks regarding the conduct of the graduate* survey (collection/updating of addresses, mailing, check of questionnaires, coding, documentation of the coding and data editing) were done by the local research teams. Two reminder actions were undertaken in most of the countries. The procedures were adapted to the specific conditions in the respective countries, based on agreed principles.

The graduate survey was supplemented by in-depth case-studies through interviews with graduates and employers. First, these interviews enabled the research team to investigate rationales and motives more validly because people could describe their views in more complex oral statements. Second, the open structure of interviews was chosen because it was more suitable for addressing certain issues of which prior knowledge is very limited. The overall picture of the relationships between higher education and employment/work was enriched through information gathered from employers. Thus, whereas one of the interview studies addressed a selected group of the graduates previously surveyed through written questionnaires in greater depth, the other interview study addressed the views held by employers. These interviews enabled the research teams to contextualise analyses of the graduate surveys by paying attention to the national contexts of higher education and national differences in occupational and companies characteristics.

1.4 Results

The study confirms that graduates from institutions of higher education in most Western European countries faced relatively *positive employment and job prospects* in the second half of the 1999. in this period in which both many employers and politicians were seriously concerned with a too vast expansion of higher education and about tendencies towards over-education, these concerns seemed to be not only unfounded but also pushed away by widespread expectations that qualification requirements rise on the way towards a knowledge society.

For example, we observed on the basis of the survey that the graduates‘ average *search period* for the first regular employment lasts only about 6 months. The average *unemployment* ratio is 4 percent four years after graduation, and even most graduates from fields notoriously for employment market problems find their way towards satisfactory employment and work a few years after graduation.

Only about one fifth each of the graduates employed about four years after graduation state they make little professional *use of the knowledge acquired in the course of study* and that their work and employment situation is worse than expected.

Only 12 percent each consider their *occupational situation inappropriate* with respect to the level of their educational attainment and are *dissatisfied* with their job. Only 7

percent believe that higher education is superfluous for their kind of work and employment situation. Only four percent would not study if they could choose again.

The study on higher education and graduate employment demonstrates a substantial variety between European countries as far as higher education and its relationship to the world of work is concerned. This variety is fascinating in many respects.

In some countries long programmes prevail, in others short ones. In some countries a strong professional emphasis of higher education is noteworthy, in others the range of goals is more diverse. In some countries, reputational hierarchies among institutions of higher education play a major role, in others they are marginal. Some higher education systems encourage independent learning, others a stronger reliance on and communication with the teachers.

The variety might be inspiring; for example, the success of the ERASMUS student mobility programme is linked to the fascination of experiences in the other countries which contrast the educational environment at home.

Similarly, views differ between countries about close links between field of study and occupational areas or more flexible relationships, about the characteristics of a good graduate job, about the extent to which the existing job tasks are accepted or graduates want to contribute to social and political changes.

But often, the negative value-loaden term “disparity“ seem to be more appropriate than the more neutral or even positively meant term “diversity“: Europe is also diversified according to criteria where common values about “good“ and “bad“ prevail. In some countries, graduates have to spend a period of job search three times as long as in other countries but still face worse employment situations on average than those from countries where a rapid transition to employment is widespread. In most countries, only 1 or 2 percent of the graduates were unemployed most of the time during the first years after graduation, whereas in three countries this figure was 7-9 percent and in one country even 18 percent. The average gross annual income of full-time employed graduates in one country is only slightly more than 40 percent of the average income of the country where graduates receive the highest remuneration.

Moreover, regional differences within countries come into play. It is worth noting in this respect that regional disparities are relatively higher in the poorer countries of Western Europe than in the richer ones, thus contributing to the overall disparities beyond disparities between countries.

Altogether, the study shows that higher education and the relationship between higher education and employment vary in most respects more substantially by country than by field of study. There are more frequent “national“ cultures than “disciplinary“ cultures in the relationships between higher education and the world of work; in addition, disparities between countries overshadow diversity according disciplines.

It should be added, though, that a more realistic view on the common elements and differences among Western European countries was provided by the inclusion of the Czech Republic and Japan into the project. This made aware that there are some

elements in spite of the visible diversity. For example, the case of Japan shows that the smooth process of study and transition to employment might have its price in providing students with a lesser chance of acquiring broad experiences beyond the core domains of higher education thus being equipped with a smaller range of professionally relevant competencies upon graduation.

There are perennial debates in higher education about the value of pursuit of knowledge for its own sake versus emphasis on utility for economy and society, about learning professional skills versus laying foundation for subsequent in-career learning processes, about the critical versus adaptive role of higher education, etc. Thereby, most experts agree that the adaptive and utilitarian pressures on higher education increased in recent decades as a consequence of massification of higher education, the move towards a knowledge society and a growing utilitarian social climate.

Most graduates appreciate their study and believe that learning in higher education was useful for coping with the job tasks they took over. Yet, there is widespread critique on many aspects of higher education – certainly to a varying degree across countries and fields. Obviously, many graduates wish that higher education should prepare students better to be in the position to transfer knowledge to the work environment and to the job tasks the graduates are confronted with.

In the majority of European countries, students spend a substantial part of their – often prolonged – study period in order to acquire experiences and competencies they are less likely to acquire in the classroom. Obviously, many students consider this more valuable than believing those who advocate “efficient“ study in terms of a short and smooth “pass-through“.

Values of students and graduates are so different and the experiences in the world of work are so numerous that any claim for a single dominant culture of higher education seems to be irrational wishful thinking. The perennial debates on the function of higher education against the world of work might have the beneficial function that the diversity of higher education is not surpressed by dominant modes of a so-called Zeitgeist.

The project demonstrates the opportunity of research co-operation across national and disciplinary boundaries. A unique major international questionnaire survey on higher education and the world of work was undertaken. The project was very successful in

- identifying common interests in information on graduate employment and work and their linkages to higher education irrespective of national and paradigmatic diversity in this thematic area,

- exploring the organisational and methodological opportunities and pitfalls in undertaking graduate surveys in various European countries,

- helping to understand new trends in graduate employment and work and the European diversity and disparity as well as common elements in those respects.

- providing a basis of experience for the substance and processes of future regular surveys on graduate employment and work.

Three limitations became visible as well:

- A project of that complexity and ambition can hardly be efficiently administered with the strong degree of decentralisation envisaged in the TSER programme.

- Many salient issues cannot be sufficiently addressed without a trend analysis. Therefore, the value of such a study would substantially grow if the core themes were surveyed regularly.

- The project could not cope sufficiently with the relative broad list of specific topics it wanted to address (new technologies, conditions of women, precarious markets, regional diversity, internationalisation etc.), because room for each specific section remained small.

As a practical consequence, we recommend regular surveys of that kind with a somewhat more centralised organisational structure and with a mix of regular core themes and a few additional themes on a rotating basis.

The authors of the study deliberately stopped short of discussing at length the practical implications of the research results. They are aware that the practical implications might be differently assessed and that the actors in the field are both knowledgeable in interpreting these findings as well as inclined – as many highly educated and influential professionals - not to accept a too strong role of researchers on higher education and society in interpreting the practical implications of the research findings. But the authors are convinced that the project provides an extraordinarily valuable source of information for reflection on the future of the relationship between higher education and the world of work.

1.5 Value of the Study in General

The study provides the most thorough comparative information on graduate employment and work and the links between higher education and graduate employment and work ever provided. To conduct and to bring to a successful end such a large and complex study in an area of high research and public interest is undoubtedly an achievement.

1.6 Thematic Areas of Major Findings

The study provides salient information on

- the changed graduate labour market in Western Europe in the 1990s,

- the specific conditions and dynamics of transition,

- the diversity of “success“ criteria in graduate employment and work,

- the impact of socio-biographic profiles, study conditions and provisions, study behaviour and transition processes and the employment and work graduates,

- the European diversity and disparity in graduate employment and work,

- specific themes, e.g. employment and work of women, regional disparities, international mobility in the course of study and after graduation, etc.

1.7 Policy Implications

First activities of dissemination prior to the completion of the study yielded four results as regards policy implications:

- Representatives of governments, the world of work, of higher education institutions as well as students, teachers and graduates themselves are highly interested in the results and consider them thoughtful for practical and policy implications.

- The rich material is notably suitable to trigger off the debate what we can learn from our European neighbours in shaping the conditions and the substance of higher education, the transition mechanisms as well as graduate employment and work.

- The policy implications are interpreted differently by the various actors. Their reflection processes are less likely to be stimulated in a creative way, if the researchers themselves discuss the policy implications at length. On the contrary, the researchers might undermine their reputation if they provide detailed reasoning on policy implications rather than presenting the material for a subsequent dialogue on policy implications.

- The policy value of such a study will grew substantially if such a study was not only conducted once, but triggered off in a time series of analysis of graduate employment and work.

Therefore, the policy implication can be described best after such a dialogue between the researchers and the practioners will have taken place on a broad scale (cf. the dissemination activities of the project).

1.8 European Research Co-operation

The co-operation of researchers from 12 countries was extraordinarily valuable for

- the identification of a common conceptional frame and common research instruments suitable to undertake a valid internationally comparative study,

- the adaptation of the country questionnaires to the specific conditions in each country,

- finding optimal ways of contacting graduates, co-operating with institutions of higher education and other agencies in processes of administering the study,

- the interpretation of the European diversity in the thematic areas of the project

The co-operation in such a decentralized team with different institutional backing and different methodological expertise had its price as well. The process of conducting the study was often slowed down by the "slowest boat".

The co-ordination work necessary for getting a joint data set and to undertake the analysis according to similar structures and conceptional frameworks required time, effort and energy far beyond expectation. The project would have collapsed, if not all partners had been willing to spend more time and funds on the project than planned in the application.

The project not succeed to yield as many high-quality studies on specific thematic areas (gender, region, precarious labour market, impact of new technologies, internationalisation, etc.) as expected. The number of themes was too large to allow for in-depth information gathering in a framework of a project which focuses on a questionnaire survey.

1.9 Future Research

The project underscored the widespread notion that a regular system of surveying graduate employment and work is timely. From the experience of the study, we would argue that

- the timing (4 years after graduation) and the size (about 3,000 graduates per country) were good options,

- such a study should be undertaken about every 3-5 years,

- it should have a core questionnaire supplemented by one or two rotating specific themes,

- A standard procedure for co-operation should be established with institutions of higher education in order to facilitate the tracing of addresses,

- The data processing and data analysis should be undertaken by a smaller European unit along with country consultants from all countries included in the study,

- Interview studies of select groups of questionnaire respondents as well as other group of actors (e.g. employers) are suitable to explain in-depth some key phenomena addressed in the questionnaire survey. They should be undertaken in addition to the questionnaire survey suggested in order to provide a broader framework for explanation of the findings.

2 Background and objectives of the project

The aim of the research project "Higher Education and Graduate Employment in Europe" was to analyse employment and work of graduates from institutions of higher education in nine European countries during the first years after graduation. Eight objectives were pursued.

- In-Depth Knowledge on Current Issues of Higher Education and Work
- Socio-biographic Background and Career
- Exploring European and International Dimensions of Graduate Employment and Work
- Identification of Early Career Trajectories
- Identification of Impacts of Higher Education
- Theoretical and Methodological Improvements
- Preparatory Study for a Regular Data Base

The project aimed to analyse current developments in the relationship between higher education and the world of work in Europe: new technological demands, new types of job roles in the wake of expansion of higher education, unemployment and other serious employment problems, the growing role played by social affective motivational competencies, the links between higher education and the region, and finally the emerging Europeanization and internationalisation of graduate work. In addition, the impacts on the early career of graduates of socio-biographical and educational background, structural and curricular diversity of higher education, study behaviour and experiences in the transition process from study to employment were analysed.

3 Project Results and Methodology

3.1 Objectives

The aim of the research project "Higher Education and Graduate Employment in Europe" was to analyse employment and work of graduates from institutions of higher education in nine European countries during the first few years after graduation. Eight objectives named in Chart 3.1 were pursued.

Chart 3.1 Objectives of the Study

- In-Depth Knowledge on Current Issues of Higher Education and Work
- Socio-biographic Background and Career
- Exploring European and International Dimensions of Graduate Employment and Work
- Identification of Early Career Trajectories
- Identification of Impacts of Higher Education
- Theoretical and Methodological Improvements
- Preparatory Study for a Regular Data Base

3.1.1 In-Depth Knowledge on Current Issues

The project addressed current issues of graduate employment and work. It aimed to provide information on the ways in which graduates cope with the most urgent and pressing challenges in the 1990s. Substantial findings were expected, among others, regarding the following questions (see Chart 3.2):

(1) *Technology*: How do employment and work change in the technologically most advanced sectors of production and services, and how do graduates master these changed tasks?

(2) *New employment and upgrading:* What changes in occupational sectors and work tasks occur as a consequence both of the increase in student enrolment and of growing labour market problems? How do graduates fare in sectors viewed hitherto as marginal for graduate employment, in positions traditionally not considered suitable for graduates or in newly emerging occupational roles?

(3) *Unemployment:* What happens to graduates who experience longer than average periods of unemployment immediately after graduation? What are the impacts of re-training and other counteracting measures? What are the effects of early employment problems on the subsequent stages of professional life?

(4) *Regional disparities:* How does employment and work differ according to region? What are the specific conditions of higher education in economically and socially disadvantaged regions? To what extent do we observe regional mobility of graduates from disadvantaged regions, and what are the consequences of this mobility both for the disadvantaged and for other regions?

(5) *General knowledge, attitudes and social skills:* What role do aspects as general knowledge, attitudes and social skills play for job performance during the early years after graduation?

3.1.2 Socio-Biographic Background and Career Opportunity

The study, on the one hand, raised the question as to whether the relationships between socio-biographic background (parental education, employment and wealth, gender, and regional background), education (over various stages) and career have changed in the 1990s. On the other hand, the study aimed to establish the extent to which overt links between higher education and employment are spurious and have to be attributed to the different student intake.

3.1.3 Exploring European and International Dimensions of Graduate Employment and Work

The study aimed to be the first of its kind providing representative information on the extent to which graduate employment and work have already become European and international. It aimed to show, for example,

- how many graduates from European institutions of higher education get employed in other European countries or in countries outside Europe;
- what role foreign language proficiency plays on the job;
- how important European and international communication and co-operation are for graduates' work tasks, to what extent knowledge of culture and society of other European countries is employed;
- whether temporary study abroad or enrolment in programmes strongly emphasising the European dimension have a corresponding impact on graduates' subsequent employment and work assignments.

Information of this kind is a pre-requisite for assessing the specific needs for European higher education policies as well as the impacts of prior policies and activities in this area.

3.1.4 Identification of Early Career Trajectories

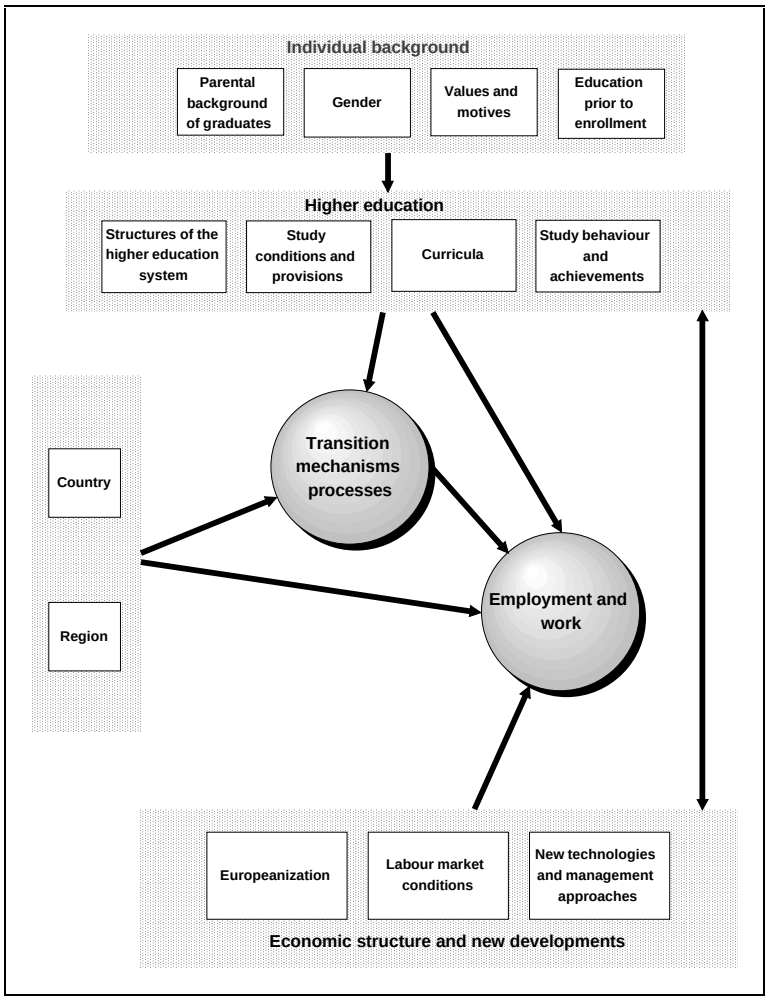
The analysis focused on the transition from higher education to employment and on employment and work during the first four years after graduation. As educational paths were identified retrospectively, the study allowed to examine the trajectories over a

substantial period of the life-course. The study analysed inner dynamics and the relative autonomy of the transition process, i.e. the extent to which job search, transitory employment and unemployment etc. on the part of the graduates, guidance, counselling and assistance in job search on the part of higher education institutions and employment agencies, as well as recruitment policies on the part of the employers, shape the graduates' early career stages.

3.1.5 Identification of Impacts of Higher Education

The project, further, aimed to overcome the limitations of most existing statistics and surveys which do not allow to understand the impact of the various dimensions of higher education on graduate employment and work. In surveying the provisions and conditions of higher education and key aspects of study behaviour, this study aimed to provide evidence of different degrees of success or failure in preparing students for professional life. Also, it aimed to examine the impact of different models of diversification in Europe.

Chart 3.2 Framework of the Study



(1) *Structures of the higher education system:* The study aimed to establish the links between types of programmes, types of higher education institutions and differences of institutional and departmental reputation on the one hand and, the graduates' careers on the other.

(2) *Curricular impacts:* The questions were raised as to whether certain curricular thrusts within the major fields of study - for example the extent of general knowledge versus specialisation, disciplinarity versus interdisciplinarity, academic versus professional emphasis, etc. - turn out to be significantly relevant for graduate employment and work.

(3) *Study behaviour:* The survey also addressed - retrospectively - the graduates' actual study behaviour prior to graduation. Available research suggests that the ways students' make use of study conditions and provisions are more powerful in explaining study outcomes than the conditions and provisions as such.

(4) *Study achievements:* The survey addressed former students' achievements in terms of grades, and possibly other achievement measures used by the institutions of higher education. This allowed to analyse the extent to which achievement of higher education predicts career success and will help to explain the discrepancies between study achievements and early career success.

3.1.6 Theoretical and Methodological Improvement

The project aimed to contribute to *theoretical innovation and methodological improvement* in the area of research into higher education and employment. On the one hand, the project provided an opportunity to examine the need for revision of prevailing concepts in economics and sociology as regards the relationships between higher education and employment in the light of changing technologies, values, management and personnel policies as well as endemic uncertainties and vagueness as regards acquisition and utilisation of academic knowledge. On the other hand, the project team devoted a considerable component of its joint efforts to the development of a genuinely comparative methodology suitable for analysing competencies, employment and work in Europe. Categories were chosen or newly developed which are sufficiently neutral and polyvalent to allow for a comparative study of employment, work and utilisation of knowledge in a substantial number of European countries.

3.1.7 Preparatory Study for a Regular Data Base

The study aimed to serve as *a first step towards a regular data base on graduate employment and work in Europe*. For this purpose, available expertise was brought together in research team in order to

- develop concepts and a respective terminology suitable to analyse the varied European traditions in this domain in a genuinely comparative manner, i.e. identifying functional categories to overtly different phenomena and definitions;

- identify the best possible solution for analysing complex relationships between higher education and employment, work and career within the typical potentials and limits of standardised questionnaires; and
- provide a detailed design of a graduate questionnaire survey and a master questionnaire which could serve as a model for regular graduate surveys in the European Union.

3.1.8 Benefits

Altogether the project aimed to provide a solid comparative account on employment and work of graduates from institutions of higher education in Europe. Information on employment and work of graduates from institutions of higher education is generally relevant

- for decision-making by politicians,
- as a valuable information base both for employers and leaders, managers and teachers in higher education,
- for educational and career decision-making by students.

Given the widespread consensus on the importance of such information, it is surprising to note how scattered and weak the available information up to now is. This study provided for the first time reliable comparative data.

3.1.9 Making Use of the Potentials of Comparative Study

A comparative study in Europe can be more valuable than national studies in several important respects. The study was expected to serve

- as a de-mystification of concepts prevailing in individual countries - for example regarding the typical problems of certain fields of study, the role of short-cycle higher education for employment and work, etc. - by showing contrasting evidence from other societies;
- or, in contrast, to identify macro-societal factors which play a role in determining graduate employment and work;
- to determine the position of one country in a comparative perspective. Such "bench-marking" of a problem frequently mobilises efforts for change more readily than debates within a national context;
- to develop a conceptional framework for a study which is not biased by the idiosyncrasies of individual countries, but allows to analyse problems in a genuinely comparative perspective.

3.2 Methodology

3.2.1 Overview

In the project, researchers from *various countries* intended

- to develop concepts, questionnaires and survey approaches suitable for a Europe-wide analysis and
- to survey representative samples of graduates from institutions of higher education in their respective countries.

A representative sample of persons who graduated between autumn 1994 and summer 1995 was intended to be drawn. The questionnaire addressed the socio-biographic profile of the graduates, their study experiences and (self-perceived) competencies acquired, their employment, work and careers since graduation and the links they perceive between education and work.

This representative questionnaire survey ought to be supplemented by *interview surveys with graduates and employers* which allow for a more comprehensive understanding of the relationship between education and work. Graduates' perceptions and interpretations of their competencies, job roles and life goals ought to be analysed in selected areas, notably those undergoing the most rapid and most challenging changes. The other interview study addressed the views held by employers (see the overview in Chart 3.3).

The project put emphasis on the acquisition and utilisation of competencies as well as on the needs of the employment system in various European countries. In this context, the question was raised as to how graduate employment and work change as a *response to technological developments*. Finally, the project paid special attention *to graduates not finding suitable employment*, as traditionally conceived, or facing unemployment. Though graduates tend to fare better on the labour market than non-graduates the project had to deal also with aspects of a growing frequency of social disadvantage and exclusion.

Chart 3.3 The Surveys

Graduate Survey	Interview with Graduates	Interview with Employers
N = about 40,000 Graduate Cohort 1994/95	N = 225 Selected Areas	N = 225 Selected Areas

3.2.2 The Research Instrument

The objectives of the survey required the use of a *standardised mailed questionnaire* as the core research instrument. With such a method it was possible to include a high

number of graduates in each country in an efficient way as well as to elicit comparable and representative information on graduate employment and work. The development of questionnaires was based partly on the approaches and experiences of former surveys conducted in the European countries and partly on newly developed questions/items which had to overcome the pitfalls of prevailing terminologies and research approaches in individual countries.

The major themes of the questionnaire survey are named in Chart 3.4. The research teams in each country contributed to the conceptualisation of the study and the development of the questionnaires and were responsible for the translation of the "master questionnaire" into their respective language.

Chart 3.4 Themes Addressed in the Graduate Questionnaire Survey

- Socio-biographic and early education background variables
- Enrolment as well as study conditions and provisions
- Course of study and study behaviour
- Study achievements
- Job search and transition period
- Employment during the first three years after graduation
- Regional and international mobility
- Work content and use of qualifications
- Work motivation and job satisfaction
- Further professional education/training
- Career prospects

3.2.3 Cohort of Graduates

Persons were surveyed about four years after graduation. The proposed timing, first, took into account that professional training periods after graduation, as they are required or customary in some countries in some professional areas, might last up to two years. This timing, second, allowed us to analyse the transition to employment of those graduates who - after an award of degree equivalent to a bachelor's - continued academic study towards an advanced degree. Third, this timing enabled us to identify the first regular employment of graduates after a protracted transition period. Fourth, some early career stages could be analysed on the part of those who transferred to employment shortly after graduation.

3.2.4 Country

The study was initially aimed to comprise nine European countries: Austria, Finland, France, Germany, Italy, Norway, Spain, the Netherlands, and United Kingdom.

3.2.5 Field of Study

A broad range of fields of study was addressed in order to ensure that the range of factors discussed above was well represented in the survey.

3.2.6 Regions

The sampling ensured that contrasting regions in terms of centrality, economic and social conditions, etc. were included.

3.2.7 Institutions of Higher Education and Degrees

A broad range of higher education institutions was addressed in order to ensure that the range of factors related to institutional type is well represented in the survey. Students were surveyed who have been awarded the first degree or leaving certificate in the respective countries based on between 3 and 6 years of study.

3.2.8 Sample Size

The sample size had to be sufficient for a detailed and systematic analysis in terms of the above-mentioned research questions. The central criteria of the sampling should have sufficient variation within each country. It should yield at least about 3,000 responses from graduates in each country.

3.2.9 Tracing of Names and Addresses

According to the local conditions the procedures to get the addresses of the graduates varied by country. In some countries the actual addresses of the graduates were available from a central database, while in others only addresses at the time of graduation were available from the institutions of higher education.

3.2.10 The Conduct of the Survey

All tasks regarding the conduct of the graduate survey (collection/updating of addresses, mailing, check of questionnaires, coding, documentation of the coding and data editing) were done by the local research teams. Two reminder actions were undertaken in most

of the countries. The procedures were adapted to the specific conditions in the respective countries, based on agreed principles.

3.2.11 Data Analysis

The data analysis was to a great extent centrally undertaken in Kassel, i.e. at the institutional base of the project co-ordinator. However, all partners were equipped to undertake the analysis themselves. They were provided with complete data sets, thus being in a position to pursue more detailed studies regarding their respective areas of specialisation and their country in comparative perspective.

A data base with the international data file (SPSS system file) was developed by the research team at the University of Kassel. The strategies of data analysis were discussed and developed in two workshops. Special emphasis in the data analysis was put on procedures of multivariate analysis.

3.2.12 The Interview Studies

The graduate survey was supplemented by in-depth case-studies through interviews with graduates and employers. First, these interviews enabled the research team to investigate rationales and motives more validly because people could describe their views in more complex oral statements. Second, the open structure of interviews was chosen because it was more suitable for addressing certain issues of which prior knowledge is very limited. The overall picture of the relationships between higher education and employment/work was enriched through information gathered from employers. Thus, whereas one of the interview studies addressed a selected group of the graduates previously surveyed through written questionnaires in greater depth, the other interview study addressed the views held by employers. These interviews enabled the research teams to contextualise analyses of the graduate surveys by paying attention to the national contexts of higher education and national differences in occupational and companies characteristics.

3.3 Project Management Structure

3.3.1 Overall Project Co-ordination

The *co-ordination* was rested with the Centre for Research on Higher Education and Work of the University of Kassel (Wissenschaftliches Zentrum für Berufs- und Hochschulforschung der Universität Gesamthochschule Kassel). Prof. Ulrich Teichler and Harald Schomburg were the co-ordinators of the project both in terms of the administration of the project as well as the research process, notably the graduate survey.

The Centre at the University of Kassel produced the International data base (SPSS system file) and assisted the data analysis of the other research groups whenever needed.

The *additional studies* were co-ordinated by other members of the research team. Dr. Egbert de Weert (CHEPS, University of Twente) was responsible for the employer interviews and Prof. Paul Kellermann (University of Klagenfurt) was responsible for the graduate interviews. The interviews were conducted in each country by the respective members of the research teams.

3.3.2 Tasks of the Partners

The project was undertaken jointly by researchers from 9 European countries. Similar surveys were undertaken in close co-operation in three other countries (Sweden, Czech Republic and Japan).

Thematic division of labour: Each group was in charge of analysing the theories and methods employed regarding certain thematic areas, for example the impact of diversification, regional differences in higher education, or changing relationships between higher education and employment/work in the wake of Europeanization.

Joint responsibilities: The details of the research design and the survey instruments (questionnaires and interview guidelines) were based on in-depth co-operation and joint agreement.

Taking over local tasks: The researchers were in charge of all the processes of surveying in their respective country. They also analysed graduate employment and work in their respective countries and contributed to the progress reports.

3.3.3 Workshops

Four project workshops were arranged in order to provide the opportunity for face-to-face communication in the most crucial stages of the project:

- The workshop on “Design and Methods“ served the final fine-tuning of the research design as well as final decisions regarding the questionnaires and interview guidelines. Responsible: Instituto Valenciano de Investigaciones Economicas, S.A., Valencia.
- The workshop on “Data Collecting and Coding“ was held in Kassel in order to establish general rules and recommendations for the data handling (not funded by TSER). Responsible: University of Kassel.
- The workshop on “Data Analysis“ provided the opportunity to discuss the findings of the questionnaire survey and to decide about major thrusts of the analysis. Responsible: University of Turku.

- The workshop on "Results" allowed for a final critique and mutual advice regarding the manuscripts, i.e. both the comparative chapters as well as the national reports. Responsible: University of Bourgogne, Dijon.

3.4 Modifications and Specifications of the Original Project Plan

3.4.1 Predominant Implementation of the Original Research Design

So far, we reported the content and the procedures and the projects as they were envisaged in the application phase and actually implemented. Altogether, the project followed very closely the original design.

However, there were some modifications and specifications of the projects. Notably, first, the size of the activity was eventually enlarged. Second, the time to conduct the study and the analyse the results turned out to be longer than anticipated.

3.4.2 Twelve Countries Included

Nine countries had been involved in the preparation of the project and were awarded support by the European Commission in the framework of the TSER programme: Austria, Finland. France, Germany, Italy, The Netherlands, Norway, Spain and the United Kingdom. The majority of researchers involved in this research project have already co-operated for various years in the framework of the Consortium of Higher Education Researchers (CHER), i.e. the Europe-based association of researchers in the area of higher education who are interested in comparative research. Regular co-operation in conferences, training seminars and joint publications has led to a common basis of knowledge in this area as well as to mutual trust in creative co-operation.

Chart 3.5 Countries Involved, Participating Institutions and Project Directors in the Respective Countries of the Project

Austria	Prof. Paul Kellermann	Institut für Soziologie, Universität Klagenfurt
Finland	Prof. Osmo Kivinen	Research Unit for the Sociology of Education (RUSE), University of Turku
France	Prof. Jean-Jacques Paul	Institut de Recherche sur l'Economie de l'Education (IREDU), Université de Bourgogne
Germany	Prof. Ulrich Teichler and Harald Schomburg (Co-ordinators)	Wissenschaftliches Zentrum für Berufs- und Hochschulforschung, Universität Gesamthochschule Kassel
Italy	Prof. Roberto Moscati	IARD Istituto di Ricerca, Milano
Norway	Dr. Per Olaf Aamodt	Norwegian Institute for Studies in Research and Higher Education (NIFU), Oslo
The Netherlands	Dr. Egbert de Weert	, Centre for Higher Education Policy Studies (CHEPS), University of Twente
	Dr. Rolf van der Velden	Research Centre for Education and the Labour Market, Limburg Institute for Business and Economic Research (ROA), Maastricht
Spain	Prof. José-Ginés Mora Ruiz	Instituto Valenciasno de Investigaciones Economicas (IVIE), Valencia
United Kingdom	John Brennan	Quality Support Centre, The Open University (OU), London
Parallel studies (not financed by TSER)		
Japan	Keiichi Yoshimoto	Faculty of Education, Kyushu University and Japan Institute of Labour
Czech Republic	Dr. Pavel Kuchar	Institute of Sociological Studies, Charles University, Prag
Sweden	Dr. Gunilla Bornmalm-Jardeloew	Dept. of Economics, Göteborg University

When support for the project was awarded, the project coordinator approaches researchers in other European countries and other industrialized countries and asked them whether they were willing to join the project. Naturally, they had to raise funds for costs of their country themselves.

Actually, three countries joined the project as associate members:

- Sweden,
- The Czech Republic and
- Japan.

An overview of the countries involved, the participating institutions and the project directors in the respective countries is provided in Chart 3.5.

The enlargement of countries turned out to be very useful. Sweden enlarged the participation of EU countries, and the Czech Republic and Japan turned out to be different cases in many respects which put the intra-EU similarities and differences into perspective.

3.4.3 Survey Eight Years After Graduation

In two of the twelve countries, i.e. the Netherlands and Japan, a representative study was undertaken as well on graduates from institutions of higher education 8 years after graduation. Although a cross-sectional design was chosen, i.e. surveying at the same time of a previous cohort. This study provides in two countries an overview on the change of the relationships between higher education and graduate employment during the 1990s.

3.5 Results of the Field Phase of the Graduate Survey

3.5.1 More than 110,000 Graduates Addressed

In the project proposal, it was suggested that the individual countries should define the sample size according to anticipated return rates in order to ensure that the about 3,500 responses eventually would be available. Assuming an average response rate of at most 50 percent, a need was seen of mailing the questionnaire to at least 63,000 graduates.

Actually, in the period from Oct. 1998 to Sept. 1999 117,000 graduates were sent questionnaires. In Italy, the survey was personally administered. In all other countries except for Spain and Japan , two reminder mailings followed the initial mailing. In Spain and Japan, only one reminder mailing was undertaken.

The enlargement of graduates sampled had three reasons:

- Three additional countries were included.
- In some countries, the drawing of a representative sample was enlarged because a lower return rate than 50 percent was anticipated.
- In some countries, specific studies were combined with the major study. For example, specific groups were included which did not fit the general definition of the target group (e.g. graduates from 2-year programmes). In addition, the researchers of a few countries offered individual institutions to undertake a specific study on their graduates and therefore increased the number of persons to be included.

This in turn required to define the target group as well as the respondents belonging to the representative twelve country studies. According to the definition chose, slightly more than 100,000 graduates of the target group were addressed. More than 40,000 responded. The return rate was on average about 39 percent. It varied from 50 percent in Norway to slightly more than 30 percent in a few countries and 15 percent in the case of Spain (see Chart 3.6).

Chart 3.6 Return Rate of Questionnaires of the European Graduate Survey, by Country (percent)

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Although not all countries achieved the objective to get back at least 3,000 questionnaires, this objective was reached for all the countries with a high number of graduates. The lower number of returned questionnaires from Austria, Finland and Sweden seems not to be a problem for the data analysis taking into account the structure of higher education in these countries.

According to the national reports of the field phase, also the quality of the returned questionnaires seems to be high.

The profile of the respondents was compared with the profile of all 1994/95 graduates according to national statistics in the 12 countries. As it slightly modified, a final weighing was undertaken so that the respondents in the final data base are representative according to type of institution and degree, field of study and gender. Actually 36,694 graduates from the 12 countries were included in the representative "final data base" (see Chart 3.7) on which the analysis is based.

Chart 3.7 Graduates included in the Final International Data Base, by Country (count)

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3.6 The Standard Questionnaire and National Variations

The project aimed to develop a joint questionnaire for all countries as far a agreement could be reached. It was obvious, however, that

(a) national categories have to be employed in some cases for types of schooling, higher education institutions, occupations etc.,

(b) different concepts on education and work prevail in countries which cannot be met by simple translation,

(c) the researchers participating in the project might prefer different concept and thus would not be able to agree on a common questionnaire,

(d) views could vary on the length of the questionnaire which would be accepted by the graduates.

These problems, notwithstanding, the participating research teams largely agreed on a 16 pages-questionnaire with about 80 questions and 600 variables. Among the 9 countries supported by the TSER programme, about 95 percent of the questionnaires are identical except for national categories. The questionnaires of the other three associated teams match the master questionnaire to about 80 percent. Notably, they wee somewhat shorter.

3.7 The Timing of the Study

The overall study took substantially longer than envisaged. According to the initial time-table, the data gathering and the establishment of national data set should be undertaken between summer 1998 and February 1999. Within the subsequent 12 months, an international data set was expected to be produced, the data should be analysed an a final report eventually should be ready by the end of February 2000.

For three reasons, the process was delayed:

- First, it turned out to be more difficult than anticipated to trace addressed at the institutions of higher education in some countries. Therefore, the overall period of surveying started later and became more protracted. On average, graduates were surveyed four years after graduation instead of three to three and a half years initially envisaged.

- Second, the technical details of the national data sets turned out to be so heterogeneous that the production of a common 12-country data set was enormously time-consuming.

- These two delays could not be accommodated with the working schedules of the staff in charge of the projects in some countries. Some were eventually not anymore available at the time a definite data set was ready. The participating research institution had to provide additional resources in order to complete the analysis.

Therefore, this final report is completed 37 months after the start of the project instead of 27 months after as initially envisaged. Still, some work remains to be done in order to produce a publishable report.

3.8 Overview of the Technical Progress

December 1997	Start of the project
May 1998:	First project workshop, “Design and Methods”, in Valencia (Spain)
July/August 1998:	Pretest of the Graduate Questionnaire
September 1998:	Informal meeting of the project group in Kassel (Germany)
October 1999:	Final version of the master questionnaire
November 1998:	Start of the field phase in most of the countries
February 1999:	Second project workshop, “Data Collection and Coding”, in Kassel (Germany)
May 1999:	End of field phase in most of the countries.

August 1999	First provisional international data file
	Frequencies and basic tables of the graduate survey
September 1999	End of the field phase in all countries
	Draft reports of the survey results
	Third project workshop, “Data Analysis”, in Turku (Finland)
June 2000	Forth project workshop "Results" in Dijon (France)
July 2000	Formal end of the project
October 2000	Final international data base (version 4)
December 2000	Submission of the final report to the European Commisson

Chart 3.8 Updated Schedule of the Project

Phase	Main tasks	Time/Duration
1	Concept development and themes of the questionnaire; review of literature; preparation of field phase; tracing of addresses; development of master questionnaire	Dec 97 to Jun 98
	Workshop on "Design and Methods"	May 1998
	Outcome: Master questionnaire *Report:* First progress report	15th of July 1998
2	Development of national questionnaires, translation and printing; tracing of addresses (continued); field phase of the surveys; development of code books; data entry, editing and cleaning; frequencies and basic tables	July 1998 to May 1999
	Workshop on "Data Collection and Coding"	Feb. 1999
	Outcome: Master code-book; national survey data sets and documentation; basic tables *Report:* Second progress report, annual report	31st May 1999
3	Development of the international data file; data analysis; interviews with graduates; transcriptions and translation of interviews; first drafts of scientific reports	June 1999 to November 2000
	Workshop on "Data analysis"	September 1999
	Outcome: First European data sets and documentation; tables *Report:* Third progress report	1st of September 1999
4	Final analysis: Country reports; draft of European reports	October 1999 to June 2000
	Final workshop on "Results"	June 2000
	Revision of European reports *Outcome:* International data sets and documentation; tables *Report:* Final report; country reports, European report	November 2000
	Dissemination of results	2000 - 2001

3.9 Major Findings of the Survey: Graduates Four Years After Graduation

3.9.1 Introduction

From autumn 1998 to spring 2000, about 3,000 graduates each from 9 countries in the European Region, one EFTA country (Norway), one of the Central and Eastern European countries in transition (the Czech Republic) and one economically advanced country outside Europe (Japan) provided information through a written questionnaire on the relationship between higher education and employment four years after graduation. They respondents answered questions on their socio-biographic background, study paths, transition from higher education to employment, early career, links between study and employment, their job satisfaction and their retrospective view on higher education.

The study provided a unique opportunity to examine the extent to which the relationship between higher education and the world of work are similar or different among the Western European countries. This became more clear through the inclusion of one country each from the Central and Eastern European countries and one country outside Europe. The study also helps to understand the common elements and differences between various fields of study and occupational areas. It helps to look at current salient issues of higher education, i.e. equality, the role educational levels play, the demand for specialized or general competencies, the growing role of international mobility and of life-long education, the regional diversity in higher education. Last not least, the study allows to examine the extent to which socio-biographic backgrounds, educational experiences and achievements as well as the transition process determine early career and links between competencies and work assignments.

First results of the study were already published, and the overall study will yield a substantial number of publications in the near future: reports of the overall findings, country studies in comparative perspectives, thematic publications. This is a brief summary of major findings as they are visible in the thematic reports written by the members of the international research team in the year 2000.

3.9.2 The Educational Paths and Attainments

Almost half of the graduates surveyed had attended each 12 or 13 years of schooling prior to enrolment in higher education. In some countries, 12 years or 13 years is the common pattern for all types of programmes allowing for entry to higher education, in some countries the required duration varies according to the type of higher education.

More than three quarters of the respondents had successfully completed academic secondary education. This was true for more than 90 percent from Finland, France and Spain as well as Japan. In contrast, almost half of the Dutch graduates had gone other paths in primary qualifying for entry into non-university higher education institutions.

In nine countries (not in Sweden, the Czech Republic and Japan) the respondents were asked whether they had spent some time after the award of the secondary education qualification with other activities prior to eventually enrolling in higher education. The responses showed a clear dichotomy of countries:

- The majority of respondents from Austria, Finland, Germany, the Netherlands and Norway had spent some period outside the regular track prior to enrolment, while

- The majority of British, French, Italian and Spanish graduates had gone straight to higher education after the award of secondary education qualification.

The most frequent activities mentioned were

- employment,

- education or training not required for entry to higher education,

- military or similar services.

The data allowed to examine countries for whether there was a time gap between award of secondary qualification and entering higher education. Actually about half of the Western European graduates reported a time gap of more than 9 months.

The entry age to education, the years of schooling and the time gap between award of secondary education and entering higher education are the major factors in explaining the differences in the age at the time of enrolment in higher education.

Of all respondents,

- 49 percent enrolled in higher education when they were younger than 20 years,
- 42 percent at the age of 20-25, and
- 9 percent were older than 25 years.

The proportion of very young students entering higher education was 70 percent or more in Italy and Spain as well as in the Czech Republic and Japan. In contrast, it was a quarter or less in Finland, Germany, Sweden and Norway (see The study addressed students who graduated in 1994/95 from three-year to six-year programmes in higher education. It excluded two-year programmes at higher education institutions, tertiary education programmes not considered to be part of "higher education" in the respective countries as well as graduates from advanced programmes requiring more than 6 years for study (e.g. the Finnish Licentiate) and those awarded an Ph.D. However, the study might as well include persons who were awarded those advanced and doctoral degrees during the first four years after graduation which formed the basis for inclusion in the survey.

Table 3.1).

The study addressed students who graduated in 1994/95 from three-year to six-year programmes in higher education. It excluded two-year programmes at higher education institutions, tertiary education programmes not considered to be part of "higher education" in the respective countries as well as graduates from advanced programmes requiring more than 6 years for study (e.g. the Finnish Licentiate) and those awarded an Ph.D. However, the study might as well include persons who were awarded those advanced and doctoral degrees during the first four years after graduation which formed the basis for inclusion in the survey.

Table 3.1 Age on Entry to Higher Education, by Country and Gender (percent)

Country	Gender	Age group in years				Total	Count
		19 or under	20-25	26-30	31 or more		
IT	M	68	29	2	2	100	1404
	W	75	23	1	1	100	1561
	Total	71	26	2	1	100	2965
ES	M	73	23	3	2	100	1130
	W	76	21	2	2	100	1484
	Total	74	21	3	2	100	2614
FR	M	53	43	2	2	100	1447
	W	62	34	1	3	100	1503
	Total	58	39	2	2	100	2950
AT	M	52	42	3	2	100	1234
	W	64	29	3	4	100	1008
	Total	58	36	3	3	100	2242
DE	M	7	83	8	2	100	2041
	W	27	64	6	3	100	1434
	Total	15	75	7	2	100	3475
NL	M	45	48	3	4	100	1463
	W	55	37	3	5	100	1491
	Total	50	42	3	5	100	2954
UK	M	51	28	6	14	100	1347
	W	57	22	5	16	100	1886
	Total	54	25	6	15	100	3233
FI	M	25	65	4	6	100	1145
	W	25	60	5	11	100	1462
	Total	25	62	5	9	100	2607
SE	M	13	73	8	6	100	1087
	W	17	64	8	12	100	1472
	Total	15	68	8	9	100	2559
NO	M	24	61	10	6	100	1295
	W	16	58	8	16	100	1889
	Total	19	60	9	12	100	3184
CZ	M	77	19	1	4	100	1732
	W	80	16	2	2	100	1358
	Total	78	17	2	3	100	3090
Europe	M	44	47	5	4	100	15323
	W	49	39	4	7	100	16549
	Total	47	43	4	6	100	31872
Japan	M	64	35	0	0	100	2263
	W	83	16	0	0	100	1097
	Total	70	29	0	0	100	3360
Total	M	47	46	4	4	100	17587
	W	51	38	4	7	100	17648
	Total	49	42	4	5	100	35235

M= men W= women

Notes
The age at entry was calculated by subtracting the year of birth of the graduate from the entry year to higher education. Percentages may not add up to 100 exactly because of rounding.

The type of degree awarded, thus, was largely an outcome of the sampling strategy which aimed to represent the characteristics of the respective countries:

- Only university graduates of long (master-equivalent programmes) were addressed in Austria, Finland (the AMKs had not yet any graduates of the new system in 1994/95) and Italy.

- Only university graduates were addressed in Sweden, where study in some fields is short (bachelor-equivalent) and in most fields long (master-equivalent),

- Only university graduates of mostly four-year programmes were addressed in Japan, whereby the degree is considered equivalent to a Bachelor.

- More than 90 percent of the British graduates included were awarded a bachelor degree and only a small minority a master degree.

- In reverse, more than 90 per cent of Czech respondents graduated from long university programmes and only a minority from bachelor-equivalent programmes.

- Around sixty percent of the graduates included in the study were awarded a long university degree in France, Germany and Spain while graduates with a licence, a Fachhochschul-degree or a short degree comprised about 40 percent.

- Finally, the number of university graduates were the minority in the Netherlands and in Norway.

- Subjects studied varied substantially between the countries included in the survey. According to EUROSTAT data and national statistics,

- Humanities comprised the highest proportion in the Czech Republic and Norway.

- Social sciences were most frequently chosen in the Netherlands and Norway.

- Legal studies comprised a high proportion in Spain.

- Mathematics, natural sciences and computer science had the largest share in the United Kingdom.

- Medical studies were most extended in Finland.

- Engineering fields comprised the highest proportion in Finland, Germany and the Czech Republic (see Table 3.2)

Table 3.2 Numbers of People with Higher Education Qualifications, by Field of Study and Country (in Thousands) 1994/5 (Eurostat) and Percentages

	Field of study	Humanities, applied arts, theology	Social science	Law	Natural science	Mathematics, computer science	Medical science	Engineering, architecture	Other	Total
IT	N (1000)	16.7	27.7	16.0	7.4	4.0	26.8	14.9	69.5	183.0
	%	9	15	9	4	2	15	8	38	100
ES	N (1000)	17.5	42.9	25.7	8.2	7.5	20.1	22.6	33.2	177.7
	%	10	24	14	5	4	11	13	19	100
FR	N (1000)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	%	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
AT	N (1000)	2.5	4.0	1.6	1.0	0.8	2.1	2.5	4.2	18.8
	%	13	21	9	5	4	11	13	22	100
DE	N (1000)	28.1	71.3	11.7	19.8	12.3	57.4	79.1	58.6	338.3
	%	8	21	3	6	4	17	23	17	100
NL	N (1000)	6.5	30.0	3.7	2.1	2.0	10.0	9.9	16.5	80.7
	%	8	37	5	3	2	12	12	20	100
UK	N (1000)	76.1	126.2	18.7	32.6	24.8	72.3	60.9	58.6	470.0
	%	16	27	4	7	5	15	13	12	100
FI	N (1000)	1.7	2.6	0.5	0.7	1.6	8.4	6.4	6.1	28.0
	%	6	9	2	3	6	30	23	22	100
SE	N (1000)	2.0	7.3	1.0	1.2	1.6	6.3	6.3	9.2	34.8
	%	6	21	3	3	5	18	18	26	100
NO	N (1000)	11.1	17.5	1.8	1.2	0.6	4.5	4.6	9.9	51.2
	%	22	34	4	2	1	9	9	19	100
CZ	N (1000)	5.5	4.1	0.9	0.6	0.3	2.0	4.4	1.6	19.5
	%	28	21	5	3	2	10	23	8	100
Europe	N (1000)	158.7	344.8	82.4	78.5	57.8	212.6	218.8	274.1	1427.8
	%	11	24	6	6	4	15	15	19	100

Source: Eurostat, UOE, Key Data 1997, p.174; National Statistics.

The study duration required in the programmes the respondents graduated from on average was less than four years in the United Kingdom and France, but four years or more in all other countries.

The actual period of study on average was longer than the period required:

- Prolongation of two years on average could be observed in Austria and Spain,
- Some prolongation (between half a year and one and a half year) on average in Finland, France, Germany, the Netherlands and Spain as well as the Czech Republic,
- Hardly any prolongation in Norway and the United Kingdom as well as Japan (see Table 3.3).

Table 3.3 Required and Actual Period of Reference Study, by Country (means)

	Country													Total
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	EU	JP	
Study duration (years)														
Arithm. mean	7.2	5.0	5.0	7.0	5.2	4.6	3.4	5.1	4.7	4.2	5.5	5.1	4.1	5.0
Median	6.7	5.0	5.0	6.5	5.0	4.3	3.0	5.0	4.4	3.0	5.0	5.0	4.0	5.0
Count	(3092)	(2998)	(3036)	(2299)	(3499)	(3056)	(3426)	(2659)	(2491)	(3301)	(3092)	(32950)	(3401)	(36351)
Normal/minimal study duration (years)														
Arithm. mean	4.4	4.2	3.8	4.6	4.2	4.0	3.5	4.5	-	4.0	-	4.1	4.0	4.1
Median	4.0	5.0	4.0	4.5	4.0	4.0	3.0	4.0	-	3.0	-	4.0	4.0	4.0
Count	(2965)	(3022)	(3051)	(2026)	(3143)	(3017)	(3060)	(2379)	(0)	(3176)	(0)	(25837)	(3421)	(29258)

Question B5: How long did you study in higher education for earning the degree you were awarded in 1994 or 1995 and what period is normally/by law required (including eventually required lower level diplomas and degrees in higher education and including mandatory periods of work placements/internships; excluding other studies, periods of other activities, etc.? [VAR=STUDUR + NORDURD5]

At the time of graduation, the average age of the graduates surveyed was about 26 years (see Chart 3.9). The age at the time of graduation shows a very large range: on average the Finnish graduates were 29 years old which is almost six years more than the other extreme which are Japanese graduates with an average of 23.4 years. Similar to Japan in respect to the age are the graduates from France (23.9 years), the Czech republic (24.4 years) and Spain (24.5 years).

Chart 3.9 Age at Time of Graduation 1994/1995 by Country (arithmetic means)

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It should be noted that graduates from institutions of higher education in the countries surveyed comprised quite different proportions of the respective age groups in the countries surveyed. Available data from OECD and national statistics suggests that higher education graduates with at least a higher education degree equivalent to a bachelor comprised

- about one quarter of the respective age group in Norway, Spain, the United Kingdom as well as Japan,
- from about 15 to more than 20 percent in Finland, France, Germany, the Netherlands and Sweden,
- less than 15 percent in Austria, Italy and the Czech Republic.

Thus, the graduates surveyed form quite different potential shares of the overall labour market.

3.9.3 Socio-Biographic Background

35 percent of the graduates surveyed reported that at least one of their parents graduated from higher education. This was true for almost one third of the fathers and about one fifth of the mothers. This share was about twice as high as the proportion of higher

education trained persons in the typical age group of their parents (see Table 3.4). The data confirms the conventional wisdom that – in spite of all efforts undertaken to increase equality of opportunity – children of higher education trained parents continued to be more likely to be enrolled and to graduate than children of other parents.

Table 3.4 Percentage Completed Tertiary Education, by Country

	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	Europe
a) Population aged 45-54 completing tertiary education (OECD)	8	11	17	7	24	21	21	20	29	27	11	18
b) Parents in our survey completing higher education	30	23	38	26	36	42	40	28	m	51	40	35

Sources: a) OECD Database, OECD 1997, p. 40 and b) CHEERS survey data. For the data from our survey, this table takes the highest educational level, whether that of mother or father, for each graduate. For the data from our survey, parents with "compulsory level education" and "upper secondary schooling" have been combined together to make one category of "pre-higher education" as definitions of compulsory level and upper secondary education vary considerably across countries.

Half of the graduates surveyed were women. As one might expect, they were more strongly represented in humanities, social sciences and health fields and underrepresented in engineering and natural sciences (Table 3.5). The patterns vary, however, according to country. Also, we note variations in proportion of men choosing the university or the longer degree programme.

Table 3.5 Field of Study, by Gender (count and percent)

	Men		Women		Total
Field of study	Count	Percent	Count	Percent	Percent
Arts and humanities	2087	12	5410	30	21
Engineering	4842	27	1294	7	17
Business	2851	16	2293	13	14
Natural sciences	2187	12	1402	8	10
Health	2952	17	4215	23	20
Social sciences	1650	9	2147	12	11
Law	1366	8	1297	7	7
Total	17930	50	18058	50	100

Women were more frequently than men on the academic track in secondary education and started studying more frequently without any major activity outside the regular education track. At the time of graduation, however, the average age of men and women were about the same.

About two percent of the graduates in the countries surveyed were foreigners. Further two per cent had a different nationality at the date of birth; most of the latter moved to the country where they graduated at an early stage of life and acquired secondary education qualifications in the country where they were citizens at the time of graduation.

3.9.4 Conditions, Provisions and Experiences in the Course of Study

Graduates differ, as far as employment opportunities are concerned, not only with respect to their socio-biographic background and the formal elements of their course of study, i.e. field of study, duration, type of degree etc., but also according to the conditions and provisions of study as well as with respect to their own ways of making use of the study period. The questionnaire, therefore, put a strong emphasis on the conditions and provisions of study as well as on the options chosen by students as regards life and study while enrolled in higher education.

For example, the prevailing modes of teaching and learning, as perceived by the graduates, differed substantially by country (see Table 3.6):

- Italian institutions of higher education put, in the view of their former students, a relatively strong emphasis on independent learning. Little is done for problem-based learning and direct acquisition of work experience.

- Spanish institutions of higher education conceive the teacher as the main source of information and put emphasis on theory. Like Italian institutions, problem-based learning and practical experience does not play a dominant role.

- French graduates note an above-average emphasis on out-of-class communication between teachers and students and little regard for regular class attendance.

- Austrian and German institutions of higher education are similar in the view of their graduates in underscoring factual knowledge and showing little regard for attitudes and socio-communicative skills.

- Dutch graduates point out that their institutions of higher education are interested in fostering attitudes and socio-communicative skills and in the direct acquisition of work experience.

- British institutions of higher education are viewed by their graduates as fostering socio-communicative skills, providing opportunities for out-of-class communication with staff and emphasising regular class attendance.

- Finish institutions of higher education seem to put strong emphasis on theory along with low regard of out-of-class communication between teachers and students.

- Swedish institutions seem to be among those highly regarding the value of facts and instrumental knowledge.

- Norwegian graduates underscore their higher education institutions‘ emphasis on theory as well as on socio-communicative skills and problem-based learning and practical experience. They observe few opportunities for choice of courses.

- Czech graduates believe that their institutions of higher education underscored theory, but are not concerned very much with problem-based learning or practical work experience.

- Japanese graduates often believe that their institutions of higher education put a strong emphasis on regular class attendance, but do not encourage independent learning.

Table 3.6 Emphasis on Modes of Teaching and Learning in Reference Study, by Country (percent "high"; responses 1 and 2)

	Country													Total
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	EU	JP	
a. Facts and instrumental knowledge	20	18	46	79	72	55	68	45	74	60	19	50	50	50
b. Theories, concepts or paradigms	71	85	67	75	67	64	72	88	76	84	89	76	71	76
c. Attitudes and socio-communicative skills	21	14	25	15	15	49	40	24	29	45	22	28	23	27
d. Independent learning	66	29	55	58	60	67	68	67	63	68	49	59	33	57
e. Regular class attendance	52	52	28	32	41	48	63	30	36	40	35	42	61	44
f. Teacher as the main source of information and understanding	38	49	30	35	29	35	32	39	27	35	34	35	22	34
g. Freedom to choose courses and areas of specialisation	42	35	42	45	40	37	53	53	30	28	35	40	58	41
h. Project and problem-based learning	15	20	31	19	21	27	53	25	33	45	6	27	36	28
i. Direct acquisition of work experience	9	9	15	8	14	38	23	18	25	34	8	19	8	18
j. Out-of-class communication between students and staff	12	16	30	8	13	16	27	8	15	16	10	16	17	16
k. Writing a thesis	100	15	59	44	52	72	76	64	56	46	39	57	66	58
l. Detailed regular assessment of academic progress	10	14	19	7	25	21	49	14	80	17	25	26	33	26
Count (n)	(3102)	(3009)	(3017)	(2291)	(3497)	(3047)	(3418)	(2657)	(2621)	(3311)	(3090)	(33059)	(3407)	(36466)

Question B8: If you look back to your course of study that you graduated from in 1994 or 1995: to what extent were the following modes of teaching and learning emphasised by your institution of higher education and its teachers? Scale of answers from 1 = 'To a very high extent' to 5 = 'Not at all'.

A factor analysis suggests that the graduates notice four major areas of modes or teaching and learning:

- Practical learning,
- Free choice,
- Teacher and teaching orientation,
- Theory orientation.

In assessing the study conditions and study provisions, graduates point out six areas:

- Content,
- Quality of teaching,
- Equipment,
- Research,
- Practical experience,

- Communication.

Employing these categories to an analysis of the differences between the 12 countries included in the study reveals that major differences exist in their relative emphasis on practical teaching and learning. The Northwestern countries of Europe (the Nordic countries, the Netherlands and the United Kingdom) appear to stress particular practical items such as practical learning, practical experience, communication and equipment. Italy and to a lesser extent the Czech Republic appear to have an opposite mode of functioning. Notably, less emphasis is placed on practical experience, communication and equipment.

A somewhat different role is plays by student autonomy in organising his or her study. This aspect, addressed in the above named themes of “free choice“ and “content“, seems to be most strongly emphasised by Italian and British institutions of higher education (see Table 3.7).

Table 3.7 Rating of Provisions and Conditions in Reference Study, by Country (percent "good"; responses 1 and 2)

	Country													Total
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	EU	JP	
a. Academic advice offered in general	10	14	25	20	25	14	50	36	16	30	55	27	46	29
b. Assistance/advice for your final examination	39	10	18	23	36	38	51	45	44	47	62	38	60	40
c. Course content of major	38	35	58	48	40	60	71	58	62	45	51	51	60	52
d. Variety of courses offered	42	39	57	55	46	67	59	47	24	40	34	46	43	46
e. Design of degree program	22	18	47	31	37	31	53	43	39	35	34	36	35	36
f. Testing/grading system	19	20	33	37	30	37	51	20	47	49	48	36	26	35
g. Opportunity to choose courses and areas of specialisation	38	22	40	47	42	45	53	41	26	29	37	38	49	39
h. Practical emphasis of teaching and learning	8	15	22	15	20	41	46	25	29	36	20	26	26	26
i. Teaching quality	38	25	40	44	40	42	60	39	38	31	48	40	15	38
j. Chances to participate in research projects	9	6	24	17	16	30	23	22	14	12	9	16	13	16
k. Research emphasis of teaching and learning	11	6	30	21	18	27	30	37	23	21	7	21	23	21
l. Provision of work placements and other work experience	4	8	19	18	26	52	25	26	35	28	12	23	23	23
m. Opportunity of out-of-class contacts with teaching staff	14	25	41	12	17	29	29	26	28	25	13	24	26	24
n. Contacts with fellow students	62	71	62	73	75	71	71	74	79	85	72	72	48	70
o. Chance for students to have an impact on university policies	8	14	10	12	11	32	17	22	25	15	14	16	12	16
p. Equipment and stocking of libraries	32	45	45	56	46	59	57	68	60	69	33	51	65	53
q. Supply of teaching material	23	38	27	34	34	48	41	56	54	58	29	40	39	40
r. Quality of technical equipment (e.g. PC, measuring instruments, etc.)	15	20	32	28	31	44	40	49	35	39	28	33	40	33
Count (n)	(3071)	(2997)	(3026)	(2291)	(3491)	(3049)	(3429)	(2661)	(2624)	(3307)	(3079)	(33025)	(3408)	(36434)

Question B9: How do you rate the study provision and study conditions you experienced in the course of study that you graduated from in 1994 or 1995? Scale of answers from 1 = 'Very good' to 5 = 'Very bad'.

The graduates also vary substantially by country according to the time they devoted to attending courses and self-study during the lecture periods. According to their estimates the average weekly study time was

- slightly more than 40 hours in Italy, Spain and Sweden,
- around 35 hours in France, Germany and Norway,
- around 30 hours in Austria, Finland, the Netherlands and the United Kingdom, and
- only 27 hours in Japan.

One has to bear in mind that the graduates spent about five hours per week on average during the lecture period on earning money and practical activities (16 hours outside the lecture period) as well as about four hours on extra-curricular activities which are in part related to the study activities (see Table 3.8).

Table 3.8 Activities During Lecture Period in Reference Study (arithmetic mean; including "0")

	Country													Total
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	EU	JP	
Major subjects: attending lectures	17.7	23.5	21.6	11.6	21.7	15.7	15.7	11.5	19.8	18.2	.0	16.3	21.4	16.7
Major subjects: other study activities (inc. self-studies. etc.)	23.2	16.4	11.9	17.2	12.3	13.1	14.6	12.5	18.6	15.9	.0	14.0	5.2	13.2
Other subjects	.0	2.4	.8	1.7	1.1	3.5	1.5	5.4	3.7	.2	.0	1.7	-	1.7
Extra-curricular activities (e.g. societies. drama. sport. student union)	6.6	4.2	4.2	5.8	5.4	4.9	5.2	2.4	1.1	4.1	.0	4.0	6.9	4.3
Employment/work (excluding work placements/internships)	4.8	4.5	4.4	7.5	5.6	7.0	5.8	5.7	2.0	4.8	.0	4.7	12.1	5.4
Other	.6	.9	1.2	1.6	.7	.7	1.2	.9	-	.9	-	1.0	-	1.0
Sum of activities	54.4	52.3	45.1	46.7	47.4	46.2	45.2	41.8	46.0	45.4	-	47.2	46.2	47.1
Count	(3022)	(2999)	(2981)	(2245)	(3469)	(3001)	(3372)	(2461)	(2584)	(3225)	(0)	(29359)	(3372)	(32731)

Question B6: How many hours per week during your study (that you graduated from in 1994 or 1995) did you spend on average on each of the following activities? Please estimate.

Obviously, students do not understand their study period as just a period which provides them with learning opportunities through attending classes at their home institution and through self-study related to classes and exams. Rather, most consider the study period as a phase in life which provides wider opportunities for activities and learning.

For example, more than three quarters of the former students stated that, during the course of study, they spent extended periods on organised activities outside higher education. These comprise on average about 1 ½ years per student, among them notably

- employment not related to study (almost 7 months on average of all respondents),
- employment and work related to study (more than 5 months),
- work placement and internships (more than 2 months),
- child rearing and family care (more than 1 month), and
- other activities (about two months).

The activities vary substantially by country, as Table 3.9 shows.

Table 3.9 Duration of Activities (Months) During Period of Reference Study (arithmetic mean; including "0")

	Country													Total
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	EU	JP	
Employment/work not related to study or possible future work	8.9	6.3	6.8	9.5	6.0	8.6	8.8	8.5	6.0	7.9	7.2	7.6	.1	6.9
Employment/work related to study or possible future work	5.3	4.5	2.6	9.5	6.1	5.4	3.3	14.1	4.0	6.5	7.0	6.0	.0	5.5
Work placement. internship (as part of your degree course)	.7	2.1	2.4	1.7	4.0	6.0	2.4	1.7	1.7	3.1	.0	2.4	.0	2.2
Child rearing. family care	2.4	1.2	.6	1.8	.8	1.0	1.6	1.5	1.4	3.0	1.2	1.5	.0	1.3
Military or civilian service	1.7	.6	.7	.7	.3	.4	.0	1.0	.5	.7	.0	.6	.0	.5
Not employed. seeking employment	.6	1.5	.7	3.0	.4	.3	1.3	.3	.4	.3	.0	.8	.0	.7
Other	2.2	1.7	.7	1.7	.7	1.3	.6	.6	.8	1.1	.0	1.0	.1	.9
Sum of activities														
Arithm. mean	21.8	17.9	14.5	27.9	18.5	23.1	18.0	27.7	14.8	22.6	15.5	20.0	.3	18.1
Median	10.0	9.0	7.0	16.0	12.0	13.0	10.0	18.0	10.0	12.0	8.0	12.0	.0	10.0
Count	(3102)	(3024)	(3051)	(2312)	(3506)	(3087)	(3460)	(2675)	(2634)	(3329)	(3092)	(33273)	(3421)	(36694)

Question B4: How many months between first enrolment in higher education and graduation 1994 or 1995 did you spend predominantly on:

Altogether, 35 percent of the graduates believe that the work experience they acquired during the course of study tied up to a high extent with the content of their studies. 30 percent participated in internships, and 33 percent reported that they took over jobs during the course of study which actually were related to their future employment.

Also, the study period provided the opportunity to acquire supplementary skills which are not necessarily cared for by the course programmes. Foreign language proficiency and computer knowledge are often mentioned as important areas of knowledge of that kind.

Asked about foreign language proficiency,

- almost 60 percent of the non-native speakers considered themselves capable at the end of the study period to read professionally relevant texts in the English language,

- the respective figures were 16 percent for French, and about 10 percent for German.

Almost half of the graduates remembered that they had good expertise as regarding utilisation of word processors at the time of graduation. Twenty percent felt well qualified in the use of spread sheet, and about 10 percent each regarding programming languages, data base and subject-related software.

For both, foreign language proficiency and computer knowledge, the questionnaire did not address the timing and location of learning, but merely the degree of proficiency upon graduation. It might well be that students acquired this knowledge in the framework of the course programme, on their own initiative outside the programme or prior to enrolling in higher education.

22 percent of the respondents reported that they spent a study period abroad. The proportion ranged from 30 percent of those finally graduating in the Netherlands and Sweden to 14 percent in Spain and 11 percent in Japan, as Table 3.10 showed.

Table 3.10 Time Spent Abroad During Study Period, by Country (percent)

	Country													Total
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	EU	JP	
Yes	21	14	18	28	19	30	25	28	30	17	27	23	11	22
No	79	86	82	72	81	70	75	72	70	83	73	77	89	78
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Count (n)	(2901)	(3013)	(2952)	(2240)	(3477)	(3058)	(3345)	(2619)	(2610)	(3289)	(3092)	(32596)	(3401)	(35997)

Question B2: Did you spend any time abroad during the period of your study (in order to work or to study)?

Of those spending a study-related period abroad almost two-thirds studied, more than 40 percent worked (internship etc.), and less than one fifth undertook other activities (preparation for examination, language courses, etc.) abroad.

All available information suggests that the graduates considered their experiences during their study period abroad richer and more diversified than that provided by their institution of higher education. In many countries, targeted teaching and learning with lectures in the centre, additional communication and extra-curricular activities linked to higher education, internship, gainful employment and other off-campus experiences jointly contribute in one way or other to the employment and work-relevant competencies eventually acquired at the time of graduation, There are, however, striking differences by country as regards the extent to which the institutions of higher education actively contributed to learning and socialisation outside the classroom, and there are differences as regards the extent to which the students made use of those learning opportunities as well the extent to which employers seemed to appreciate these kinds of learning and competencies.

The extent to which such an extended concept of socialisation and learning during the study period took root in various European countries becomes evident in comparison to Japan. Japanese students are among those who undertook “efficient“ study in terms of low drop-out rates and low proportion of prolongation. But, as will be pointed out below, they consider their competencies upon graduation considerably more limited than European graduates. Even the substantial time spent on working for income by Japanese is merely viewed by them as occasional activities with hardly any relevance for their job competencies.

3.9.5 Job Search and Transition to Employment

Traditionally, analyses of the relationship between higher education and the world of work did not put much emphasis on the period and the processes of transition from study to employment. It was taken for granted that the labour market works more or less rational in allocating the labour force as closely as possible according to the job requirements. In recent years, however, more attention is paid to the transition processes

and mechanisms, which might operate smoothly or less smoothly. The transition period is now often viewed as a stage with dynamics of its own which, for example, provide the smart managers of this process, who had not been very successful students, with another chance and possibly may cause problems for the highly talented students who were not well prepared or not well supported for handling the transition process.

One should bear in mind that not all graduates seek for a job. Among the quarter of graduates not seeking employment,

- many (11%) obtained a job without seeking (for example getting an offer from the company where they worked occasionally or undertook an internship during the course of study, taking over a family business, etc.),
- were employed during the course of study and continued this activity (7%), or
- continued studies (9%).

Some started their own business (2%) and a few (3%) mentioned other reasons for not seeking employment (family care, illness, etc.) (see Table 3.11).

Table 3.11 Job Search Since Graduation 1994/1995, by Country (percent; multiple responses)

	Country													Total
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	EU	JP	
Yes, I sought a job since graduation	73	72	78	68	70	73	88	69	85	80	54	74	80	74
No, I set up my own business/self-employment	4	3	1	2	2	2	1	2	1	1	3	2	0	2
No, I continued the job I have had before graduation	9	7	7	10	4	5	6	17	3	4	14	8	1	7
No, I continued to study	11	12	20	12	9	6	5	2	5	5	4	8	12	9
No, I obtained work without actually searching	8	7	5	18	18	13	4	12	12	7	22	11	4	11
Other	5	1	2	7	5	2	2	1	1	3	3	3	2	3
Total	110	102	112	117	108	100	107	103	107	100	100	106	100	105
Count (n)	(3048)	(2978)	(3027)	(2278)	(3334)	(3064)	(3433)	(2656)	(2630)	(3303)	(3092)	(32844)	(3403)	(36247)

Question C1: Did you ever seek a job since graduation 1994 or 1995? Exclude applications for casual and vacation jobs.

In discussions concerning the transition from school to work, a central role is understandably assigned to the length of time it takes and the moment of time one obtains the first regular employment in an acceptable job (e.g. excluding occasional employment or even regular employment in a job considered by the graduates themselves just as an opportunity to earn money for funding the period of search). One may consider it a smooth process of transition if the period of search starts early, does not take a long period and does not demand strenuous efforts.

The timing of the job search differs according to country. Almost all Japanese respondents started the job search earlier than half a year before graduation; as a rule they had their places in the employment a couple of months before graduation. Among European countries, more than one third of British students started their job search more than three months prior to graduation. At the other extreme, more than half of the

French graduates and almost half of the Italian and Spanish graduates waited until time after graduation before they started the job search (see Table 3.12)

Table 3.12 Time of Start Job Search, by Country (percent)

	Country													Total
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	EU	JP	
Prior to graduation	16	24	18	31	48	42	48	44	54	63	48	41	97	47
Around the time of graduation	42	34	18	38	33	37	23	40	33	23	26	31	2	29
After graduation	42	43	64	31	19	21	29	16	14	14	26	27	1	24
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Count (n)	(2158)	(2105)	(1060)	(1434)	(2265)	(2233)	(2886)	(1737)	(2167)	(2592)	(1676)	(22313)	(2475)	(24788)

Question C2: When did you start looking for a job? Exclude search for casual and vacation jobs.

The start of job search varies between of fields of study, but there are rarely more or less consistent patterns across countries. By and large, health and engineering graduates often start the search early. Law graduates, in contrast, often start late, notably in Austria and Germany. In France, graduates from business studies show a much stronger propensity to start search prior to graduation than graduates from other fields. In Italy, Spain and Austria as well as in Japan, the differences between fields of study are quite small with respect to the start of the job search.

The duration of the job search for the first employment not considered to be casual varies substantially by country. It is about 6 months of average with Czech and Norwegian graduates only seeking about three months on average as compared to Spanish graduates seeking almost a year on average (see Table 3.13).

Table 3.13 Duration of Job Search for First Job After Graduation in 1994/1995, by Country (percent and means)

	Country													Total
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	EU	JP	
0 months	21	19	24	37	31	31	33	42	47	38	39	33	8	31
1-3 months	27	22	31	30	33	41	40	35	33	43	45	35	29	35
4-6 months	18	16	19	16	21	16	15	11	11	12	11	15	37	17
7-12 months	17	20	15	11	11	8	9	6	6	5	4	10	21	11
13-24 months	13	14	9	5	4	4	3	3	2	1	1	5	4	5
25+ months	4	9	2	1	1	1	0	2	1	0	0	2	1	2
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Count (n)	(2069)	(2042)	(1176)	(1682)	(2754)	(2571)	(2830)	(2043)	(2239)	(2792)	(2287)	(24484)	(2694)	(27178)
Arithm. mean	8,9	11,6	7,1	6,0	5,5	4,7	4,4	5,1	4,9	3,3	2,9	5,8	6,0	5,9
Median	6,0	8,0	5,0	4,0	4,0	3,0	3,0	3,0	3,0	2,0	2,0	3,0	5,0	3,0

Question C7: How many months have you sought all-together (before or after graduation) for your first job after graduation in 1994 or 1995, which you consider not to be a casual job?

Actually,

- 43 percent of the graduates in Spain and

- 34 percent of the graduates in Italy

sought for more than half a year as compared 9 percent of the graduates in Sweden, 6 percent in Norway and 5 percent in the Czech Republic.

Despite the large differences between countries, there are some fairly systematic differences between fields of study which apply across most of the countries. Relatively many graduates in the fields of humanities and social sciences appear to take a long period of search to obtain their first job. A long search duration, in contrast, is relatively rare for graduates in the fields of engineering, health, natural sciences and business studies, although there are some exceptions to this rule. In particular, graduates from health fields seek for a long period in Spain. The search period for law graduates varies most substantially between countries.

In combining the information on the start of the job search and the period it lasts, we note that

- in one extreme, Japanese graduates terminated the job search on average five month before graduation, and

- Norwegian and Czech graduates shortly after graduation, whereas

- Italian and Spanish graduates knew on average almost only one year after graduation where they will be employed.

The respondents seeking for employment contacted on average about 25 employers before they decided upon the first regular employment. French and Spanish graduates contacted on average even more than 50 employers.

In some countries, those seeking for a longer period are likely to contact substantially more employers. This holds true most clearly for French and Norwegian graduates. French graduates with a job search period of more than 6 months contact on average even more than 100 employers. In contrast, Japanese graduates do not contact more employers if they seek a for a long period: obviously some students just stretch the period of contacting employers more than others.

Most graduates embarked on a range of various methods in seeking for their first regular employment:

- Almost three quarters of those seeking employment applied for advertised vacancies,

- About half contacted employers themselves on their own initiative without knowing about a vacancy,

- More than one third contacted the public employment agency, and

- Almost one third used private contacts in the job search.

Other modes of search were named less frequently. The modes varied substantially by country:

- Italian graduates relatively often relied on private contacts.
- The same holds true for Spanish graduates who also relatively often were helped by the career office of their university and the public employment agency and who relatively seldom contacted employers on their own initiative.
- French graduates by far most frequently make use of public employment agencies.
- Finnish and German graduates relatively often established contacts with employers during the course of study.
- This also holds true for Dutch graduates who, in addition, much more frequently enlist the help of commercial employment agencies.
- British graduates relatively often rely on the help from the career office of their institution of higher education. Relatively few contact employers on their own initiative or make use of the public employment agencies.
- Japanese graduates clearly differ from European graduates in more often relying on the placement office of their university and the help of professors and in seldom contacting employers on their own initiative without knowing about a vacancy.

The patterns change, if one takes into account the methods which turned out to be most important in actually finding the first regular employment. Application for an advertised vacancy and self-search are on average the most successful methods (leading to success by almost one third and almost one-fifth of the graduates respectively), and private contacts play a decisive role in one-seventh of the cases. In contrast, search with the help of a public employment agency, though employed by 36 percent of the job-seeking graduates, turned out to be decisive only for about one-tenth of them (for about 4 percent of the job-seeking graduates) (see Table 3.14).

Table 3.14 Most Important Method for Getting First Job After Graduation, by Country (percent)

	Country													Total
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	EU	JP	
I applied for an advertised vacancy	11	20	17	25	33	24	40	31	40	55	18	31	31	31
I contacted employers without knowing about a vacancy	20	14	29	33	25	15	12	25	24	13	31	20	3	19
I used other personal connections/contacts (e.g. parents, relatives)	31	28	19	16	11	8	12	7	7	6	20	14	13	14
I established contacts while working during the course of study	4	4	7	10	10	11	7	11	5	10	7	8	1	7
I was approached by an employer	8	3	3	2	4	7	3	8	12	7	6	6	6	6
I contacted a commercial employment agency	1	4	1	1	0	21	11	1	0	1	2	5	5	5
I enlisted the help of the careers/placement office of my university	2	4	3	2	1	1	6	2	0	1	5	2	21	5
I contacted a public employment agency	0	5	11	2	3	4	2	6	5	2	4	4	2	4
I enlisted the help of teaching staff of the institution of higher education	3	1	1	2	3	3	1	4	1	2	2	2	9	3
I started my own business/self-employment	4	2	1	1	2	1	1	1	0	1	1	1	0	1
I launched advertisements by myself	1	2	1	1	1	0	0	1	0	0	1	1	0	1
Other	14	13	8	4	8	4	4	3	6	2	2	6	8	6
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Count (n)	(1841)	(1837)	(1023)	(1275)	(2164)	(2180)	(2718)	(1715)	(1941)	(2552)	(1620)	(20865)	(2546)	(23411)

Question C5: Which method was the most important one for getting your first job after graduation in 1994 or 1995? Please fill in the item number from question C4.

Actually, applying for an advertised vacancy turned out to be the most frequent method of job search in the more northern countries of Europe (the Nordic countries, Germany, the Netherlands and the United Kingdom) as well as in Japan. Search on own initiative was the single most successful job search method in Austria, the Czech Republic and France, while private contacts played the biggest role in Italy and Spain.

39 percent of the graduates eventually employed started their first employment already prior or immediately after (at most one month after) employment. A further 25 percent got employed between the second and the sixth month after graduation. A further 10 percent needed up to one year, and a quarter of the graduates got regularly employment more than one year after graduation.

In considering the period up to three months after graduation as rapid transition to employment we note that rapid transition was the case for

- about three quarters of Japanese, Norwegian and Finnish graduates,
- almost two-thirds of the Dutch and Czech graduates,
- about half or somewhat more German, British and Swedish graduates,
- for one third or more of Spanish, Italian and Austrian (43%) graduates, and
- only for one fifth of the French graduates (see Table 3.15).

Table 3.15 Time From Graduation to 1st Employment, by Country (percent)

	Country													Total
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	EU	JP	
Time from graduation to First Employment														
Before end of study	13	7	7	13	6	13	9	21	9	13	14	11	2	10
-1, 0, +1 month	13	17	7	16	29	29	22	35	27	41	18	24	76	29
2-3 months	12	10	5	14	16	18	25	17	19	24	31	18	2	16
4-6 months	12	10	4	15	14	13	11	9	10	6	10	10	2	9
7-9 months	8	9	4	7	7	7	6	5	8	4	3	6	1	6
10-12 months	6	8	5	7	4	5	4	4	5	3	2	4	1	4
13 - 24 months	21	21	28	18	9	10	15	6	10	6	13	14	4	13
25 and more months	15	18	40	10	14	6	8	3	13	4	9	12	12	12
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Count (n)	(2537)	(1957)	(2231)	(2128)	(3230)	(2836)	(2999)	(2395)	(2222)	(3109)	(2921)	(28566)	(3252)	(31817)

Question C11: If your major activity has changed since graduation 1994 or 1995 (e.g. from 'unemployed' to 'employed') or you experienced a substantial change in your job (e.g. new employer, new position, new work tasks), please provide further information in the following table

Altogether, the findings suggest that the degree of smoothness of the transition process cannot be merely explained by demand-supply interaction on the labour market for recent graduates. Rather, different social norms about the transition process play a role: for example, whether long search and alternative activities for some period after graduation are viewed as acceptable. Both, the culture of transition period and the labour market configuration have to be taken into consideration in explaining the differences in timing, duration, efforts and modes of recruitment and search.

3.9.6 Early Career

The survey was undertaken about three to four years after graduation on the one hand in order to include the transition to employment even of those who had to pass through special training periods prior to regular employment, in order to observe the transition of those facing substantial problems as well as in order to observe first career steps of those rapidly transferring to employment. On the other hand, the time span between graduation and the administering of the survey should not last too long in order to provide feedback to higher education which is not completely out of data. Therefore, persons were addressed in the surveys who had graduated three to somewhat more than four years after graduation.

The analysis of the early career on a month-by-month basis was undertaken for the first 3 ½ years. This cut-off point was chosen because from that moment on the number of respondents for which information is available drops substantially.

As Chart 3.10 shows for all respondents, about 20 percent were already employed in the first month after graduation. This proportion raises to more than 50 percent six months after graduation. Thereafter, the increase levels off. The employment quota of all respondents was below 60 percent one year after graduation, slightly less than 70 percent two years after graduation and eventually about 80 percent 3 ½ years after graduation. Those not in the labour force comprise about 15 percent about half a year after graduation and gradually level off to about 10 percent. Finally, the quota of those

reporting that they are unemployed remains more or less constant at about two percent over the period under observation.

Chart 3.10 Labour Force Status in the First 42 Months After Graduation (percent)

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One should bear in mind, though, that a substantial proportion of graduates do not provide information on there whereabouts. This is true for the majority of respondents immediately after graduation, for about one quarter half a year after graduation and for finally about 10 percent 3 ½ years after graduation; there are some who do not provide any information to this question at all. Some of those temporarily not providing information were not employed and sought a job. Others opted for full-time educational activities. Others just happen not to provide any detailed information. Therefore, these data have to be viewed with some caution.

The proportions of male and female graduates being employed develop similarly during the first two years. After 3 ½ years, however, the proportion of women employed was 74 percent as compared to 83 percent of men, i.e. nine percent lower (see Chart 3.11 and Chart 3.12). Obviously, an increasing number of women opt already a few years after graduation for discontinuing employment in order to care for children and family. Altogether, the difference can be viewed as surprisingly low, even though there is an indication of a "divided track" for some of them.

Chart 3.11 Labour Force Status in the First 42 Months After Graduation of Female Graduates (percent)

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Chart 3.12 Labour Force Status in the First 42 Months After Graduation of Male Graduates (percent)

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Chart 3.13 shows the employment quotas according to fields of study. The curve is relatively low for graduates from natural sciences, where many opt for advanced education, and for graduates from humanities who relatively often face employment problems and comprise a large proportion of women, some opting out of the labour in order to give birth and rear for children. Altogether, the curves differ to a lesser extent by field of study than one could have expected on the basis of public debates about the varying demands for graduates from different fields.

Chart 3.13 Employment in the First 42 Months After Graduation by Field of Study (percent)

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The differences by country can be demonstrated by the cases of Italy on the one hand (Chart 3.14) and of Finland on the other (Chart 3.15). In Italy, less than 40 percent

stated that they were employed six months after graduation. The proportion increased to 47 percent one year after graduation, 63 percent two years after graduation and 75 percent 3 ½ years after graduation. Transition to employment starts off in Italy on a low level and thereafter increases regularly over various years.

Chart 3.14 Labour Force Status in the First 42 Months After Graduation - Italy (percent)

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In contrast, the employment quota in Finland reached already 70 percent six month after graduation. Thereafter, the growth was less than a third of that observed in Italy, but the graduate employment quota in Finland remained with 83 percent 3 ½ years after graduation altogether higher than in Italy.

Chart 3.15 Labour Force Status in the First 42 Months After Graduation - Finland (percent)

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Altogether, the available data suggest, though not in every respect, that those who were unemployed or in precarious employment about one year after graduation are more likely to face labour market problems also 3 ½ years after graduation than those who had a smooth career start. This confirmed that the majority of those with a shaky career start do not just take this time as an intermission without consequences or as taking time for more thorough search for a good job. Rather, late transition to regular employment is in the majority of cases already a predictor for a less impressive career.

Graduates were asked to report their predominant activity during the period from graduation until the time the survey was conducted, i.e. on average about four years after graduation. Altogether, almost one quarter of the graduates stated more than a single activity as characteristic for the early years after graduation. Among them,

- 69 percent mentioned regular employment,
- 21 percent further education and training,
- 11 percent temporary jobs,
- 5 percent more than one single job,
- 4 percent unemployment,
- 3 percent child rearing and family care, and
- 8 percent other activities.

As Table 3.16 shows, unemployment was predominant only for one or two percent of the graduates in the majority of countries. In Spain, however, the respective quota was

18 percent, in Italy 9 percent and in France as well as in Austria 7 percent. Differences according to field of study were substantially smaller than according to country.

Table 3.16 Predominant Activities Since Graduation in 1994/1995, by Country (percent; multiple responses)

	Country													Total
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	EU	JP	
I have spent most of the time on a regular job	47	44	45	73	70	66	75	81	85	83	87	69	78	69
I embarked on further study/professional training	41	46	60	17	12	9	12	9	5	7	17	22	14	21
I had various temporary jobs	20	23	17	18	11	15	8	9	4	2	7	12	3	11
I had more than one job at the same time	13	8	4	7	4	5	2	6	0	3	14	6	1	5
I was most of the time unemployed	9	18	7	7	2	2	2	2	1	1	3	5	1	4
I was predominantly engaged in child rearing or family care	6	3	2	4	2	2	2	5	2	1	11	4	1	3
Other	13	20	13	8	11	8	5	1	3	3	8	9	2	8
Total	150	161	149	134	111	107	106	113	100	100	148	125	100	123
Count (n)	(3056)	(2992)	(3033)	(2274)	(3451)	(3054)	(3386)	(2606)	(2576)	(3291)	(3082)	(32799)	(3313)	(36113)

Question C9: How would you characterise and summarise your predominant activities since your graduation in 1994 or 1995?

It should be noted that professional mobility is relatively high during the first years after graduation. Some graduates get only short-term contracts and have to seek for new contracts soon. Others take an early employment just in order to have some income and to seek with that support. Others are not satisfied with their first employment and seek for better solutions. Obviously, mobility is more strived for and implies less risk during these early years after graduation than at later stages of career. Of all the graduates who at least were employed for some time during the first four years after graduation

- 42 percent did not change the employer during the first few years after graduation,
- 29 percent changed the employer (including self-employment) once,
- 22 percent were mobile twice, and
- 6 percent changed three times or even more frequently.

As Table 3.17 indicates, job mobility during the first four years after graduation was most frequent among graduates from British, Dutch and Italian institutions of higher education. Altogether, the differences among Western European countries were relatively small. Mobility, however, was exceptional among Japanese graduates and also relatively seldom among Czech graduates. Differences by field of study were relatively small in this respect, too. Graduates from humanities and medical fields were somewhat more mobile than graduates from other fields of study.

Table 3.17 Number of Employers Worked For After Graduation in 1994/1995 (means and percent)

	Country													Total
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	EU	JP	
Number of employers														
1 employer	37	39	48	37	43	31	33	39	31	37	53	39	73	42
2 employers	26	29	28	31	32	32	29	32	35	34	29	31	18	29
3-4 employers	26	24	18	26	21	27	27	23	27	25	16	24	8	22
5+ employers	1 0	8	6	6	4	10	11	6	7	4	2	7	1	6
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Count (n)	(2428)	(2519)	(2160)	(2164)	(3301)	(2991)	(3251)	(2559)	(2562)	(3211)	(2948)	(30094)	(3228)	(33321)
Number of employers worked for after graduation														
Arithm. mean	2,5	2,3	2,1	2,3	2,1	2,5	2,6	2,3	2,3	2,2	1,7	2,3	1,4	2,2
Median	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,0	1,0	2,0	1,0	2,0

Question D3: How many employers (including self-employment) have you worked for in the period after graduation in 1994 or 1995 (including your present employer)?

3.9.7 Employment and Work a Few Years After Graduation

About four years after graduation, when the survey on higher education and graduate employment was conducted,

- 84 percent of the respondents were professionally active (employed or self-employed),
- 4 percent were unemployed,
- 7 percent continued to learn (professional training or advanced academic study), and
- 5 percent undertook other activities (among them child rearing and family care).

The highest proportions of unemployment were reported four years after graduation in Spain (10%) and France (7%). In calculating an unemployment rate based on the labour force (i.e. excluding those in education and undertaking other activities), we note rates of 13 percent in Spain, 10 percent in France and 6 percent in Italy.

Educational activities also varied substantially by country: They were most frequent among French (20%) and Italian graduates (14%), as Table 3.18 shows.

Table 3.18 Kind of Current Major Activity by Country, by Country (percent)

	Country													Total
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	EU	JP	
Employed	60	65	67	79	79	88	83	89	80	85	76	77	87	78
Self-employed	18	9	2	8	8	5	4	3	3	2	9	6	2	6
Not employed, seeking employment	5	10	7	4	2	2	3	1	1	1	2	3	4	3
Professional training	6	2	6	1	1	0	2	0	2	0	0	2	1	2
Advanced academic study	8	3	14	2	4	1	5	2	6	5	3	5	4	5
Child rearing, family care	2	0	1	4	3	2	2	3	6	2	9	3	2	3
Other	1	10	3	1	2	3	1	1	1	5	1	3	1	3
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Count (n)	(3012)	(2875)	(3032)	(2297)	(3458)	(3063)	(3382)	(2640)	(2571)	(3318)	(3092)	(32740)	(3411)	(36151)

Question C10: Please inform us on your current major activity.

Educational activities varied substantially as well as according to field of study:

- 18 percent of the graduates from natural sciences (mostly in doctoral studies),
- 10 percent from humanities,
- 9 percent each from law (mostly professional training) and medicine, as compared to
- 3-6 percent of the graduates from other fields (see Table 3.19).

Table 3.19 Kind of Current Major Activity by Field of Study (percent)

	Field of study								Total
	Educ.	Hum.	Soc.Sc	Law	Nat.Sc	Math.	Engin.	Med.Sc	
Employed	81	69	82	68	67	85	84	76	78
Self-employed	3	9	5	13	4	4	6	6	6
Not employed, seeking employment	3	5	4	4	6	2	2	2	3
Professional training	1	3	1	6	2	1	0	2	2
Advanced academic study	2	7	3	3	16	5	4	7	5
Child rearing, family care	7	4	3	2	2	1	2	4	3
Other	3	3	2	4	3	2	1	4	3
Total	100	100	100	100	100	100	100	100	100
Count (n)	(3553)	(4598)	(10488)	(2743)	(2312)	(1404)	(7048)	(3383)	(35529)

Question C10: Please inform us on your current major activity.

Of those employed, 11 percent worked part-time. Part-time employment of graduates can be found above average in Italy, Spain, the Netherlands, Germany, Norway and Austria. Obviously, this must be explained at most in part with respect to employment problems.

Four years after graduation, 22 percent of the employed graduates have a temporary contract. This was most common in Spain (50%) and Finland (35%). It was least frequent in Sweden (13%) and Japan (9%).

The major economic sectors of graduates were

- education (18%),
- mining and manufacturing (14%),
- health (10%) and
- public administration (9%).

About half of the graduates are active four year after graduation in these four economic sectors. Other sectors absorbing about five percent of graduates each were trade, financial intermediation, computer and related activities, other business activities and other service activities.

The highest concentration of graduates in the education sector can be found in Finland (35%) and Sweden (22%) and in mining and manufacturing in Japan (20%). Similarly, the highest proportion of those employed in the health sector could be observed in Norway (26%) and in public administration in Germany (13%) (see Table 3.20).

Table 3.20 Economic Sector of Current Work, by Country (percent)

	Country													Total
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	EU	JP	
Economic sector - 17 categories														
Agriculture, hunting, forestry, fishing (A+B)	0	0	1	0	1	0	1	0	0	0	3	1	1	1
Mining & manufacturing (C+D)	18	13	17	13	17	11	12	17	14	11	16	14	20	15
Electricity, gas and water supply (E)	0	1	1	1	1	0	1	1	1	1	2	1	2	1
Construction (F)	1	4	1	2	2	2	3	1	1	2	7	2	5	3
Trade (G,H)	7	7	9	5	3	6	8	3	5	2	7	6	11	6
Transport, storage and communication (I)	4	4	6	2	3	4	5	6	3	2	4	4	4	4
Financial intermediation (J)	5	9	6	7	5	7	5	3	3	1	7	5	8	5
Computer and related activities	3	4	10	4	6	8	5	2	5	3	5	5	3	5
Research&Development	3	2	1	2	3	2	1	4	4	2	2	2	5	3
Legal activities	9	0	3	3	3	1	3	1	1	1	5	3	2	3
Arch.& eng. consultants	7	0	1	3	4	5	1	1	3	5	1	3	1	3
Other business activities (K)	11	13	6	8	7	12	7	5	7	2	2	7	1	7
Public administration (L)	8	5	8	6	13	7	8	6	9	10	7	8	12	9
Education (M)	11	18	20	19	18	14	18	35	23	14	18	19	10	18
Health	8	14	2	13	8	9	10	8	10	26	7	11	5	10
Social work	2	0	2	3	3	5	1	2	3	15	1	4	1	3
Other service activities (O,P,Q)	4	5	5	7	4	4	7	6	6	2	8	5	8	6
Other	0	0	0	0	0	0	1	0	0	0	0	0	1	0
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Count (n)	(2498)	(2025)	(1918)	(2018)	(2833)	(2877)	(3100)	(2396)	(2434)	(3028)	(2575)	(27703)	(2846)	(30549)

Question D5: In which economic sector are you currently working? (NACE classification)

The graduates from education have the highest proportion of work in the education sector (68%). In the case of the graduates from humanities the weight of the education sector is also very important (33%) together with other service activities. Among the graduates from social sciences there is more variation with respect to the economic sector. There are five sectors that concentrate more than 10 percent of the social sciences graduates: mining and manufacturing, financial intermediation, other business activities, trade and public administration. Graduates from natural sciences tend to work in the education sector (26%), mining and manufacturing (20%) and the research and development sector (13%). Among the law graduates the largest proportions concentrate around legal activities (27%) and public administration (28%). Math graduates have as their main activity to work in the computer and related activities sector (35%) and, less important, the education sector. Engineers end up working mostly in the mining and manufacturing sector (34%), architecture and engineering consultants (10%) and construction (9%). Obviously the graduates from medical sciences work mostly in the health sector (79%).

Table 3.21 Economic Sector of Current Work, by Country (percent)

	Field of study								Total
	Educ.	Hum.	Soc.Sc	Law	Nat.Sc	Math.	Engin.	Med.Sc	
Economic sector - 17 categories									
Agriculture, hunting, forestry, fishing (A+B)	0	0	0	0	1	0	2	0	1
Mining & manufacturing (C+D)	2	10	14	5	20	11	34	2	15
Electricity, gas and water supply (E)	0	0	1	1	2	0	3	0	1
Construction (F)	0	1	2	1	1	0	9	0	3
Trade (G,H)	2	8	10	4	4	4	4	4	6
Transport, storage and communication (I)	1	4	5	3	3	7	6	0	4
Financial intermediation (J)	1	2	12	10	1	9	1	0	6
Computer and related activities	1	2	4	1	7	35	7	0	5
Research&Development	0	1	1	1	12	3	5	1	3
Legal activities	0	1	1	27	1	0	0	0	3
Arch.& eng. consultants	0	1	1	0	3	1	10	0	3
Other business activities (K)	1	7	13	9	4	5	4	0	7
Public administration (L)	3	7	12	28	5	5	5	2	9
Education (M)	69	33	9	5	26	17	6	5	18
Health	2	3	4	2	5	1	2	79	10
Social work	12	1	5	1	1	0	0	4	3
Other service activities (O,P,Q)	4	18	6	4	4	1	2	1	6
Other	0	1	0	0	0	0	0	0	0
Total	100	100	100	100	100	100	100	100	100
Count (n)	(3027)	(3544)	(9039)	(2235)	(1723)	(1249)	(6205)	(2957)	(29979)

Question D5: In which economic sector are you currently working? (NACE classification)

37 percent of the graduates were employed by public employers and 6 percent by non-profit-organisations. Altogether, more than half of the graduates in Nordic countries are employed in these sectors as compared to only about a quarter in Italy and Japan (see Table 3.22).

Table 3.22 Kind of Current Employer/Institution, by Country (percent)

	Country													Total
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	EU	JP	
Public employer	23	30	34	33	37	27	36	55	50	61	30	38	22	37
Non-profit organisation	3	4	6	11	5	20	6	6	2	3	6	7	4	6
Private employer	53	57	55	45	45	42	52	36	44	32	47	46	68	48
Self employed	16	9	2	9	10	5	4	3	3	3	8	7	3	6
Other	4	1	3	3	3	6	2	0	1	1	9	3	3	3
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Count (n)	(2516)	(2175)	(2073)	(2043)	(3193)	(2837)	(3001)	(2463)	(2367)	(2923)	(2643)	(28235)	(2972)	(31207)

Question D4: Please state the kind of your current employer/institution (if several, please refer to main employer)? Please mark one single item only.

The type of employer varies more strongly according to field of study, as Table 3.23 shows. Most graduates from education and medicine were employed in the public sector.

Table 3.23 Kind of Current Employer/Institution, by Field of Study (percent)

	Field of study								Total
	Educ.	Hum.	Soc.Sc	Law	Nat.Sc	Math.	Engin.	Med.Sc	
Public employer	69	42	29	33	40	26	18	66	36
Non-profit organisation	11	8	8	4	5	3	3	7	6
Private employer	14	38	56	43	48	67	70	17	48
Self-employed	3	8	5	15	4	3	6	7	6
Other	4	3	3	4	4	1	3	3	3
Total	100	100	100	100	100	100	100	100	100
Count (n)	(2990)	(3684)	(9283)	(2277)	(1788)	(1262)	(6460)	(2918)	(30661)

Question D4: Please state the kind of your current employer/institution (if several, please refer to main employer)? Please mark one single item only.

The proportion of those self-employed four years after graduation (altogether 6%) varied substantially by country: It was highest in Italy (16%), followed by Germany, Austria, Spain and the Czech Republic (8-10%). Notably, graduates from law are often self-employed.

89 percent of the employed graduates were active four years after graduation in those three occupational areas which tend to be viewed as typical for graduates from institutions of higher education:

- professionals (60%),
- legislators, senior officers and managers (10%), and
- technicians and associate professionals (18%).

The proportions of those in other occupations was above average only in Spain (23%), where many graduates face employment problems, and in Japan (50%), where many graduates are promoted to typical graduate positions only at later career stages (see Table 7).

Table 3.24 Current Job Title, by Country (percent)

	Country													Total
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	EU	JP	
1 Legislators, senior officials and managers	4	10	16	2	5	25	22	7	0	5	8	10	5	10
2 Professionals	57	63	50	93	78	44	52	86	0	41	74	63	40	60
3 Technicians and associate professionals	30	4	24	3	12	25	15	5	0	53	16	20	4	18
4 Clerks	7	17	5	2	4	4	7	1	0	0	1	4	28	7
5 Service workers and shop and market sales workers	2	5	3	0	1	1	3	0	0	0	1	1	18	3
6 Skilled agricultural and fishery workers	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7 Craft and related trades workers	0	0	1	0	0	1	1	0	0	0	0	0	1	0
8 Plant and machine operators and assemblers	0	1	1	0	0	0	0	0	0	0	0	0	1	0
9 Elementary occupations	0	1	1	0	0	0	1	0	0	0	0	0	1	0
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Count (n)	(2356)	(1533)	(2070)	(2019)	(2747)	(2578)	(2990)	(2439)	(2634)	(3080)	(2616)	(24428)	(2797)	(27226)

Question C10: Please inform us on your current major activity.

The proportion of those employed in other occupations was higher among graduates from humanities, social sciences and law than that from the various areas of natural sciences. One should bear in mind, though, that many sales and service occupations taken over by the former graduates from humanities and social sciences are similar in status and salary as technicians' occupations often taken over by the latter. Therefore, these statistics cannot be interpreted as indication that the former face more frequent inappropriate employment than the latter.

Graduates reported that they worked 44 hours per week on average (including paid or unpaid overtime and additional jobs). The working hours differed more strongly by country than by field of study. Japanese (49 hours) and Austrian graduates (47 hours) reported the highest number of hours and French graduates the lowest (40 hours).

In 1999, full-time working graduates in Western Europe had four years after graduation an annual gross income of about 30,000 EURO on average. The same holds true for Japanese graduates, while Czech graduates earn substantially less. Among most Western European countries, the average income ranged from about 38,000 EURO in Germany to 25,000 EURO in France with Italian (20,000 EURO) and Spanish graduates (16,000 EURO) having substantially lower incomes (see Table 3.25). These data do not take into consideration taxes, social security costs and purchasing power.

Table 3.25 Annual Gross Income (Thousand EURO; means and percent; fulltime Employed)

	Country													Total
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	EU	JP	
Income (thousand Euro) - full-time employed														
1 thru 5	6	5	4	1	1	1	2	0	5	0	60	7	2	6
6 thru 10	14	20	3	1	1	2	2	1	1	0	30	6	1	5
11 thru 15	27	31	17	4	3	5	7	2	2	0	6	8	3	8
16 thru 20	16	21	21	8	4	16	11	14	8	1	1	10	9	10
21 thru 25	18	13	16	16	7	34	18	24	26	8	0	16	18	17
26 thru 30	8	5	21	19	13	21	25	22	17	31	1	18	19	18
31 thru 35	4	1	8	16	17	10	11	15	18	20	0	12	26	13
36 thru 40	2	2	5	13	16	4	8	8	9	17	0	8	10	8
41 thru 45	1	1	2	9	13	2	8	5	5	9	0	6	8	6
46 thru 50	1	0	1	4	9	1	3	3	4	6	0	3	2	3
51 thru 60	1	0	1	6	10	2	3	2	2	4	0	3	1	3
61 thru hi	2	0	1	3	6	2	4	2	2	3	1	3	1	2
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Count (n)	(1692)	(1448)	(1916)	(1669)	(2616)	(2359)	(2757)	(2279)	(2146)	(2618)	(1986)	(23486)	(2810)	(26296)
Arithm. mean														
Total	20,5	16,3	24,7	33,3	38,3	28,4	30,6	30,7	29,9	35,4	6,0	28,0	30,2	28,2
Male	21,8	18,4	26,9	35,5	40,9	30,8	34,2	34,4	35,1	40,1	6,8	30,7	31,8	30,8
Female	18,7	13,7	22,0	29,6	33,1	25,0	27,7	27,3	25,0	31,2	4,8	24,8	26,1	24,9

Question D11: What is your approximate annual gross income? (Thousand EURO).

Women are more often not active in the labour force than men, face a higher level of unemployment, have more temporary contracts, more part-time jobs and earn less than men. The average annual gross income of full-time working women is on average of the 12 countries 81 percent that of men (see Chart 3.16).

Chart 3.16 Income of Female Graduates as Percent of Male Income

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3.9.8 Competencies and Work Assignments

Graduates were confronted with their prospective future assignments already indirectly in the process of job search. Therefore, they were asked to report the aspects their employers, according to the perception of the graduates, took strongly in consideration in recruiting them (for their initial employment). One has to bear in mind, though, that recruitment criteria are by no means a perfect mirror of expected competencies, because they might reflect, for example, scarcity or abundance of competencies on the labour market, decisions to screen on a few criteria while taking others for granted, views about the opportunities and difficulties in identifying competencies in the recruitment processes, and finally views about the continuity of these competencies or about the opportunities to acquire them on the job.

Altogether, we note that

- field of study (and possible in addition areas of specialisation within that field) and
- personality

were mentioned most frequently by the graduates as aspects which were decisive for their employers to recruit them. In addition,

- practical experience during the course of study (in addition not infrequently practical experiences prior to study),
- computer skills and
- recommendations from third persons

were mentioned as important aspects by about one third of the graduates or even more. A lesser role on average played the following aspects:

- examinations results and grades,
- the reputation of the higher education institution,
- foreign language proficiency and
- experience abroad.

It is obvious that most employers seem to put emphasis on the area of expertise in the field of study, on the level or quality of this expertise, on the personality of the graduates as well as possibly on some supplementary areas of knowledge and competencies which are not necessarily fostered in the course of study.

Among European countries, the United Kingdom is known for a strong emphasis on breadth of knowledge and a lesser emphasis on specialisation which leads to a lesser clear articulation – or higher flexibility – as far as the link between field of study and occupational area is concerned. In fact, British graduates believe that their employers less often take the field of study into consideration than graduates from other European countries respectively do. Table 3.26 as well shows that Japanese employers are even less concerned with the field of study and the area of specialisation.

Table 3.26 Importance of Recruitment Criteria, by Country (percent "important"; responses 1 and 2)

	Country													Total
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	EU	JP	
a. Field of study	70	68	69	77	77	68	54	85	78	0	78	72	37	68
b. Main subject/specialisation	38	62	66	46	51	36	45	73	57	0	28	49	32	47
c. Exam results	37	25	8	17	42	11	39	34	24	0	25	28	28	28
d. Practical/work experience acquired during course of study	21	20	52	49	55	50	41	54	29	0	31	40	16	38
e. Practical/work experience acquired prior to course of study	10	29	18	16	29	17	30	22	23	0	15	22	5	20
f. Reputation of the institution of higher education	19	16	19	17	16	15	23	24	23	0	26	20	41	22
g. Experience abroad	11	11	21	16	13	13	10	17	17	0	15	14	8	13
h. Foreign language proficiency	25	26	27	31	24	20	9	40	23	0	42	26	13	24
i. Computer skills	35	42	40	47	44	36	40	37	19	0	57	40	17	37
j. Recommendations/references from third persons	21	29	26	29	27	28	45	32	49	0	29	32	27	32
k. Personality	58	61	74	80	78	84	81	75	81	0	57	73	80	74
Count (n)	(1991)	(2036)	(1195)	(1724)	(2718)	(2569)	(2938)	(2059)	(2146)	(0)	(2307)	(21683)	(2503)	(24186)

Question C8: How important, according to your perception, were the following aspects for your employer in recruiting you for your initial employment after graduation, if applicable? Scale of answers from 1 = 'Very important' to 5 = 'Not at all important'.

One could have expected that exam results and grades play a major role in countries where the institutions of higher education are viewed as similar in quality, whereas the reputation of the higher education institution could be expected being frequently more important in countries where a steep reputational hierarchy exists among the higher education institutions. These assumptions are most clearly confirmed by the high role attributed to the reputation of the higher education institutions in Japan and by the strong emphasis on exam results and grades on the part of German employers. Altogether, however, the findings match these assumptions only to a limited extent.

Supplementary skills and experiences seem to be more strongly emphasized by Northern European than by Southern European employers, but the most striking finding is again that Japanese employers seem to harbour low expectations in those respects. Obviously, they trust the subsequent learning and socialisation processes in the course of the career.

Aspects taken into consideration by employers in recruitment decision is one of the few areas addressed in this questionnaire where differences according to field of study outweigh those according to country (see Table 3.14):

- The field of study tends to play a stronger role in field leading to certain professions than in more open fields and a stronger role in natural science fields than in humanities and social sciences.

- In reverse, experience abroad is a more frequent criterion for graduates from the humanities and social sciences.

- Foreign languages play a lesser role for positions of graduates in education, law and medicine – i.e. fields leading to nationally oriented professions - than in other fields.

- Computer skill requirements dominate in the case of graduates from mathematics and engineering.

In contrast, aspects such as exam results, reputation of the higher education institution and practical experiences before or during the course of study are more strongly determined by national cultures than by professional or disciplinar cultures.

Table 3.27 Importance of Recruitment Criteria, by Country (percent "important"; responses 1 and 2)

	Field of study								Total
	Educ.	Hum.	Soc.Sc	Law	Nat.Sc	Math.	Engin.	Med.Sc	
a. Field of study	80	52	61	68	66	78	76	86	68
b. Main subject/specialisation	53	40	43	35	50	62	52	51	47
c. Exam results	25	32	25	31	32	32	29	23	28
d. Practical/work experience acquired during course of study	37	34	40	27	39	39	38	43	38
e. Practical/work experience acquired prior to course of study	24	20	22	13	14	15	19	18	20
f. Reputation of the institution of higher education	17	19	21	23	21	19	29	22	22
g. Experience abroad	9	18	16	11	11	8	13	8	13
h. Foreign language proficiency	17	33	28	18	22	21	27	12	25
i. Computer skills	19	30	41	24	38	79	51	11	37
j. Recommendations/references from third persons	33	35	31	28	33	28	31	35	32
k. Personality	71	75	80	72	67	73	71	66	74
Count (n)	(2416)	(2982)	(7537)	(1622)	(1254)	(995)	(4844)	(2036)	(23687)

Question C8: How important, according to your perception, were the following aspects for your employer in recruiting you for your initial employment after graduation, if applicable? Scale of answers from 1 = 'Very important' to 5 = 'Not at all important'.

Graduates were also asked to state in respect to a list of 36 competencies the extent to which these were required in their current work as well as the extent to which they had acquired these competencies at the time of graduation.

Altogether, the responses to this question show that graduates observe high job requirements in a broad range of areas. On average, they claim that 25 of the 32 areas of competencies addressed are required to a high extent (see Table 3.29). Graduates also consider themselves qualified in several areas: on average, they attributed themselves high competencies in 18 of those areas (see Table 3.28). Even if the ratings of the job requirements and the acquired competencies might not be on the same level, most graduates consider themselves versatile in a broad range of areas.

Table 3.28 Competencies At Time of Graduation in 1994/1995, by Country (percent "high"; responses 1 and 2)

	Country													Total
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	EU	JP	
Broad general knowledge	63	59	47	66	54	62	63	60	72	66	54	60	44	59
Cross-disciplinary thinking/knowledge	44	45	40	60	54	29	56	47	53	52	33	46	31	45
Field-specific theoretical knowledge	60	59	60	78	73	69	63	68	78	76	60	67	53	66
Field-specific knowledge of methods	37	39	41	56	53	57	49	51	62	60	27	48	38	47
Foreign language proficiency	28	22	29	42	29	39	14	54	50	28	28	32	22	31
Computer skills	20	21	24	36	32	39	41	37	29	33	30	31	29	31
Understanding complex social, organisational and technical systems	12	16	15	33	32	25	28	17	32	24	35	24	18	24
Planning, co-ordinating and organising	31	33	35	41	39	37	51	38	54	46	18	39	18	37
Applying rules and regulations	24	30	40	42	36	32	37	35	37	37	15	33	29	33
Economic reasoning	23	32	25	35	28	29	25	28	41	24	23	28	20	27
Documenting ideas and information	39	46	61	42	39	38	61	41	59	47	22	45	33	44
Problem-solving ability	47	51	52	58	59	64	65	59	75	64	41	58	39	56
Analytical competencies	58	56	52	67	62	57	63	65	74	57	41	59	43	57
Learning abilities	82	79	70	88	82	81	83	86	90	87	81	83	55	80
Reflective thinking, assessing one's own work	57	57	57	55	48	47	63	48	56	66	42	54	31	52
Creativity	50	48	34	42	42	54	54	49	62	45	43	47	29	46
Working under pressure	51	37	48	59	56	56	67	54	68	62	46	55	36	53
Accuracy, attention to detail	57	53	58	64	59	64	67	59	73	69	48	61	34	58
Time management	50	54	45	44	38	49	55	43	32	44	36	45	33	44
Negotiating	26	22	19	16	11	24	26	31	19	19	23	21	18	21
Fitness for work	50	48	66	59	53	51	49	68	75	58	70	58	51	57
Manual skill	32	35	28	29	32	35	27	39	58	47	41	36	37	36
Working independently	57	50	74	77	76	77	77	83	83	78	61	72	31	68
Working in a team	53	57	54	50	50	69	68	60	86	73	53	61	46	60
Initiative	49	48	46	48	44	57	64	56	69	57	43	53	49	53
Adaptability	56	68	66	57	50	70	64	67	81	67	57	64	59	63
Assertiveness, decisiveness, persistence	66	61	37	56	48	59	44	58	51	47	42	51	45	51
Power of concentration	73	69	71	80	75	70	67	74	79	68	67	72	62	71
Getting personally involve	71	71	62	69	61	69	52	68	73	63	59	65	59	64
Loyalty, integrity	89	85	81	62	54	72	60	45	65	61	69	68	70	68
Critical thinking	71	65	61	70	62	66	62	64	74	61	51	64	43	62
Oral communication skill	63	52	41	66	56	54	67	57	66	62	48	57	43	56
Written communication skill	60	65	59	72	69	65	75	71	76	72	0	68	35	65
Tolerance, appreciating of different points of view	60	69	60	61	57	64	64	62	72	64	59	63	48	61
Leadership	35	31	21	21	15	29	38	23	42	30	26	28	28	28
Taking responsibilities, decision	51	53	38	46	39	61	49	47	62	51	39	48	29	47
Count (n)	(3059)	(2995)	(3036)	(2293)	(3470)	(3028)	(3412)	(2637)	(2624)	(3176)	(3022)	(32752)	(3398)	(36150)

Question E1: Please, state the extent to which you had the following competencies at the time of graduation in 1994 or 1995 and to what extent they are required in your current work. If you are not employed please answer only (A). Scale of answers from 1 = 'To a very high extent' to 5 = 'Not at all ".

Table 3.29 Work Requirements, by Country (percent "high"; responses 1 and 2)

	Country													Total
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	EU	JP	
Broad general knowledge	54	43	42	51	48	63	61	69	67	78	50	58	77	60
Cross-disciplinary thinking/knowledge	59	55	53	70	70	44	66	60	58	75	41	60	43	58
Field-specific theoretical knowledge	60	66	60	57	59	63	62	57	63	71	56	61	60	61
Field-specific knowledge of methods	62	65	61	54	62	62	58	70	62	65	49	61	52	60
Foreign language proficiency	38	28	27	39	33	35	10	54	47	27	43	34	32	34
Computer skills	55	55	60	68	66	64	72	71	73	60	71	65	77	66
Understanding complex social, organisational and technical systems	33	32	36	58	58	44	44	52	57	42	62	48	53	48
Planning, co-ordinating and organising	72	68	77	79	83	79	85	82	88	84	58	78	67	77
Applying rules and regulations	58	56	58	58	61	50	70	57	49	66	45	58	71	59
Economic reasoning	60	55	51	65	64	49	44	66	55	40	56	55	72	56
Documenting ideas and information	72	61	73	68	66	64	76	70	80	69	40	67	77	68
Problem-solving ability	82	80	80	88	88	89	80	90	89	90	85	86	87	86
Analytical competencies	73	71	64	74	69	72	67	77	82	64	66	71	77	71
Learning abilities	75	73	67	75	71	66	75	84	84	85	61	74	76	74
Reflective thinking, assessing one's own work	77	70	78	67	67	67	75	77	63	86	66	72	65	72
Creativity	55	49	45	57	59	72	57	71	80	72	65	62	60	62
Working under pressure	81	69	73	84	84	86	91	90	92	88	72	83	81	83
Accuracy, attention to detail	76	69	67	81	81	86	89	78	85	82	70	79	83	79
Time management	79	74	80	80	81	85	89	86	61	83	71	79	80	79
Negotiating	62	53	55	58	56	63	64	77	58	52	69	61	69	62
Fitness for work	55	60	71	88	87	33	70	63	90	83	67	70	86	71
Manual skill	30	26	18	24	31	26	32	31	54	67	42	35	47	36
Working independently	75	45	83	92	94	92	86	92	93	91	91	86	67	84
Working in a team	74	74	78	74	73	86	89	82	93	92	76	81	81	81
Initiative	72	69	79	75	74	87	87	83	89	81	73	79	80	79
Adaptability	76	79	88	69	65	83	87	83	85	81	76	79	83	80
Assertiveness, decisiveness, persistence	80	72	74	83	82	87	83	75	77	83	75	80	71	79
Power of concentration	74	62	70	80	80	74	78	85	82	76	74	76	80	77
Getting personally involve	75	76	75	84	81	80	68	81	67	77	73	76	66	75
Loyalty, integrity	77	78	76	78	75	80	74	68	63	78	80	75	75	75
Critical thinking	72	59	62	63	64	81	68	74	82	76	62	70	60	69
Oral communication skill	81	77	81	84	84	78	91	89	91	91	81	84	83	84
Written communication skill	66	63	68	76	76	74	81	80	86	83	0	76	68	75
Tolerance, appreciating of different points of view	75	72	72	65	64	73	78	77	75	79	73	73	75	73
Leadership	57	44	44	55	56	54	67	53	69	61	61	57	56	57
Taking responsibilities, decision	80	79	75	82	83	85	85	83	89	85	78	82	66	81
Count (n)	(2596)	(2146)	(2201)	(2246)	(3216)	(2919)	(3139)	(2549)	(2507)	(3073)	(2882)	(29475)	(2937)	(32412)

Question E1: Please, state the extent to which you had the following competencies at the time of graduation in 1994 or 1995 and to what extent they are required in your current work. If you are not employed please answer only (A). Scale of answers from 1 = 'To a very high extent' to 5 = 'Not at all'.

A comparison of the perceived required and acquired competencies suggests that graduates consider themselves fully qualified or even overqualified on average as far as

- field-specific theoretical knowledge,
- broad general knowledge,

- foreign language proficiency,
- learning abilities and
- manual skills

are concerned. On the other hand, they seem to feel deficiencies in the majority of areas. The strongest ones stated were

- negotiating,
- planning, co-ordinating and organising,
- computer-skills,
- time management,
- taking over responsibility, decision-making
- working under pressure,
- leadership and
- applying rules and application.

It is obvious that many graduates do not feel well prepared to transfer their cognitive and affective competencies into the practical arena of application. Hoping that the institutions of higher education are not by definition confined to laying only the foundations for these tasks many graduates suggest, as the responses to other questions show, that higher education should become more practice-oriented.

Graduates additionally were asked to assess the extent their study was useful in preparing them for their current work tasks. In response to this summative question, 61 percent of the European graduates (the Japanese graduates were not asked this question) stated that study prepared them to high extent (1 or 2 on a scale from 1 = “to a very high extent“ to 5 = “not as all“). This was stated in the most pronounced way by graduates from institutions of higher education in the Nordic countries and in the Czech Republic (three quarters or more). In contrast, slightly less than half of the French, German, Italian and British graduates considered themselves well prepared through study for their present work tasks (Table 3.30).

Table 3.30 Utility of Study, by Country (percent "high"; responses 1 and 2)

	Country													Total
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	EU	JP	
a. preparing for your present work tasks	46	55	41	54	43	68	49	75	76	79	82	61	0	61
b. preparing for tasks in other spheres of life	35	48	32	32	23	61	42	55	56	53	50	44	0	44
Count (n)	(2722)	(2229)	(2468)	(2246)	(3329)	(2957)	(3254)	(2601)	(2573)	(3176)	(2909)	(30463)	(0)	(30463)

Question E2: To what extent has your study (you graduated from 1994 or 1995) been useful for ...? Scale of answers from 1 = 'To a very high extent' to 5 = 'Not at all'.

In respect to other spheres of life, 44 percent of the graduates considered their study useful. This was most often stated by Dutch graduates (61%) and least often by German graduates (23%).

As regards fields of study, we note that those fields are considered to be somewhat more useful which prepare to specific professions than those who are more open for different occupational areas. On the other hand, mathematics and natural sciences are viewed as less useful by their graduates than by graduates from other disciplines in preparing for tasks in other spheres of life. However, these differences are substantially smaller than those by country.

Finally, graduates were asked to assess the importance of those competencies for their current work which may have a growing influence on the processes of internationalisation and globalisation.

- almost half of the graduates believe that their work requires the ability of working with people from different cultural backgrounds)
- almost as many consider communicating in a foreign language as essential for their work,
- more than one third states as well that knowledge and understanding of different cultures, societies, live styles etc. is important, and
- one quarter of the graduates believes that professional knowledge of other countries (e.g. the economic, legal, social system) is important for doing their current work.

It is surprising to note how much the views differ by country. Finnish graduates see high requirements in those respects almost twice as many as German and British graduates.

3.9.9 Appropriateness of Education

In various respects, the survey on higher education and graduate employment addressed the question to what extent the graduates consider their education as matching their employment and work. Some questions addressed primarily the link between educational attainment and occupational status, others the relationship between

knowledge and utilisation, and others the extent to which employment and work meet the expectations and is viewed as satisfying.

First, only a minority of graduates believe that their field of study is the only one or by far the best for their area of work, Actually 38 percent stated this – exact as many those believing that some other fields of study could prepare for the occupational area equally well. Only 8 percent stated that higher education studies are not related to their occupational area at all. The views differ substantially according to country, as Table 3.31 shows. Notably, some French, Japanese, Czech and Dutch graduates consider their field as the only one or by far the best.

Table 3.31 Relationship Between Field of Study and Area of Work, by Country (percent; multiple responses)

	Country													Total
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	EU	JP	
My field of study is the only possible/by far the best field	51	39	20	47	40	28	37	54	46	51	27	39	23	38
Some other fields could prepare for the area of work as well	31	40	48	26	39	52	35	31	33	43	50	40	25	38
Another field would have been more useful	7	10	12	6	8	9	12	7	7	3	13	9	10	9
The field of study does not matter very much	6	6	11	10	10	10	22	5	3	3	6	9	28	11
Higher education studies are not at all related to my area of work	8	5	15	11	8	3	18	2	0	0	4	7	14	8
Others	1	0	1	1	3	0	3	1	3	1	1	1	0	1
Total	105	100	107	100	108	102	126	100	192	100	100	105	100	105
Count (n)	(2534)	(2157)	(2192)	(2076)	(3210)	(2915)	(3076)	(2442)	(2634)	(3109)	(2628)	(26339)	(2984)	(29323)

Question F2: How would you characterise the relationship between your field of study and your area of work?

In this case, however, the differences are more substantial by field of study. Graduates from disciplines more closely linked to professions - medical fields (76%), law (56%) and education (54%) - far more frequently consider their field as the one and only one of the best than graduates from other disciplines (26-38%), as Table 3.32 shows.

Table 3.32 Relationship Between Field of Study and Area of Work (percent; multiple responses)

	Field of study								Total
	Educ.	Hum.	Soc.Sc	Law	Nat.Sc	Math.	Engin.	Med.Sc	
My field of study is the only possible/by far the best field	54	33	26	56	29	38	32	76	39
Some other fields could prepare for the area of work as well	29	30	46	27	40	48	46	20	38
Another field would have been more useful	6	11	9	6	14	7	10	2	8
The field of study does not matter very much	6	17	14	8	12	6	9	2	10
Higher education studies are not at all related to my area of work	4	15	8	6	11	5	4	1	7
Others	2	2	1	1	1	1	1	1	1
Total	102	109	104	104	107	105	103	101	104
Count (n)	(3039)	(3762)	(9364)	(2322)	(1827)	(1288)	(6552)	(3012)	(31165)

Question F2: How would you characterise the relationship between your field of study and your area of work?

Second, half of the graduates state that they can use the knowledge and skills acquired in the course of study on the job to a high extent. Only 21 percent notice little use. The differences according to country are more striking in this case than according to field of study.

- As regards country, 74 percent of Norwegian and 69 percent of Finnish graduates note a substantial professional use of their knowledge as compared to 28 percent of the French and even only 22 percent of the Japanese graduates (see Table 3.33).

- Again graduates of the fields leading to professions state a higher professional use (56%-79%) than graduates from other fields (42%-50%).

Table 3.33 Use of Knowledge and Skills Acquired in Reference Study, by Country (percent and arithmetic mean)

	Country													Total
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	EU	JP	
Use of knowledge and skills acquired in reference study														
1 To a very high extent	19	21	6	25	14	12	23	35	30	36	23	22	9	21
2	30	27	22	30	29	39	27	34	32	38	31	31	13	29
3	30	27	35	28	34	33	26	19	26	21	30	28	30	28
4	15	19	28	14	20	14	17	10	11	5	13	15	31	16
5 Not at all	6	6	8	3	3	2	8	1	1	0	2	4	16	5
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Count (n)	(2550)	(2166)	(2197)	(2081)	(3239)	(2914)	(3133)	(2455)	(2415)	(3116)	(2628)	(28893)	(2927)	(31821)
Arithmetic mean	2,6	2,6	3,1	2,4	2,7	2,5	2,6	2,1	2,2	1,9	2,4	2,5	3,3	2,5

Question F1: If you take into consideration your current work tasks altogether: To what extent do you use the knowledge and skills acquired in the course of study (you graduated from 1994 or 1995)? Scale of answers from 1 = 'To a very high extent' to 5 = 'Not at all'.

Third, more than two-thirds of the graduates consider their level of education appropriate for their employment and work as compared to 13 percent who perceive an inappropriate relationship between the level of higher education and occupational status. Twelve percent each believe that either a higher or a lower level of higher education

could be more appropriate. Only 8 percent consider higher education as superfluous for their level of employment and work.

Again, differences according to country are – this time slightly - more striking than according to field of study:

- 82 percent of Norwegian and 75 percent of the Dutch graduates consider the link between educational and occupational level as appropriate as compared to 48 percent of the Italian and even only 43 percent of the Japanese graduates (see Table 3.34).

- In contrast, the respective proportion ranges from 68 percent to 81 percent among the more professional fields and from 55 percent to 76 percent among the other fields.

Table 3.34 Appropriateness of Level of Education for Employment and Work, by Country (percent and arithmetic mean)

	Country													Total
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	EU	JP	
1 Completely appropriate	19	30	30	28	22	30	40	46	0	55	56	36	12	33
2	29	34	31	37	39	45	28	36	0	32	27	34	31	34
3	30	20	18	22	24	17	14	11	0	10	10	17	37	19
4	16	11	13	8	11	6	11	5	0	3	5	9	14	9
5 Not at all appropriate	6	5	8	4	4	2	7	2	0	1	1	4	6	4
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Count (n)	(2535)	(2161)	(2183)	(2080)	(3228)	(2914)	(3084)	(2448)	(2634)	(3115)	(2624)	(26372)	(2984)	(29355)
Arithmetic mean	2,6	2,3	2,4	2,2	2,4	2,0	2,2	1,8	-	1,6	1,7	2,1	2,7	2,2

Question F3a: If you consider all dimensions of your employment and work (status, position, income, work tasks, etc.: To what extent is your employment and work appropriate to your level of education? Scale of answers from 1 = 'Completely appropriate' to 5 = 'Not at all appropriate'.

Those who consider themselves in an inappropriate position, often voluntarily opted for it and were not compelled to do so by labour market conditions. Five reasons were more or less equally often stated:

- My current job is more interesting,

- I have not been able to find a more appropriate job,

- In doing this job I have better career prospects,

- My current job allows me to work at a place which I prefer,

- My current job offers me more security.

Fourth, graduates were asked to state the extent to which their current work situation meets the expectations they had when they began to study. More than 40 percent rated their current work situation as better than expected, and almost as many saw the situation matching the initial expectations. Only a few more than 20 percent considered

the current work situation as worse than expected. These ratings hardly differ at all by field of study, but considerably by country: again Norwegian graduates (69%) and Finnish graduates (49%) stated the most positive views, while Spanish and Japanese graduates more often consider the current work situation as worse (see Table 3.35).

Table 3.35 Current Work Situation Meeting Expectations at Time of Enrolment, by Country (percent and arithmetic mean)

	Country													Total
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	EU	JP	
1 Much better than expected	6	10	8	12	8	7	8	18	7	25	13	11	8	11
2	26	15	31	33	33	35	29	31	33	44	28	31	15	30
3	38	38	37	41	42	48	39	36	37	24	44	39	26	37
4	15	29	12	9	12	8	17	10	16	5	13	13	33	15
5 Much worse than expected	15	8	11	4	5	2	8	5	6	2	2	6	18	7
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Count (n)	(2327)	(2065)	(1882)	(2059)	(2941)	(2575)	(2739)	(2439)	(2134)	(2923)	(2466)	(26549)	(2394)	(28943)
Arithmetic mean	3,1	3,1	2,9	2,6	2,7	2,6	2,9	2,5	2,8	2,2	2,6	2,7	3,4	2,8

Question F5: Taking all aspects into account, to what extent does your current work situation meet the expectations you had when you started your study? Scale of answers from 1 = 'Much better than expected' to 5 = 'Much worse than expected'.

Almost two-thirds of the graduates state that they are satisfied with their current work. This ranged from 78 percent among Norwegian graduates and 74 percent among to Finnish graduates to 48 percent each of the Italian and Japanese graduates (see Table 3.36). There are hardly any differences in satisfaction average according to field of study.

Table 3.36 General Satisfaction With Current Work, by Country (percent and arithmetic mean)

	Country													Total
	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	EU	JP	
1 Very satisfied	11	20	25	26	16	21	19	25	25	33	23	22	10	21
2	37	40	40	42	46	51	38	49	44	45	51	44	38	43
3	34	27	22	21	26	22	25	18	20	18	20	23	24	23
4	14	10	9	7	9	6	13	7	8	3	5	8	22	10
5 Very dissatisfied	4	3	4	3	3	1	6	1	2	1	1	3	6	3
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Count (n)	(2538)	(2221)	(2401)	(2104)	(3254)	(2908)	(3157)	(2438)	(2404)	(3109)	(2630)	(29165)	(3023)	(32187)
Arithmetic mean	2,6	2,4	2,3	2,2	2,4	2,2	2,5	2,1	2,2	1,9	2,1	2,3	2,8	2,3

Question G1: Altogether, to what extent are you satisfied with your current work? Scale of answers from 1 = 'Very satisfied' to 5 = 'Very dissatisfied'.

Actually, the graduates themselves believe that the first years in professional life are a time span during which they change their life goals considerably. On average, they became more family-oriented, but also money-oriented and put more emphasis on work and personal development. In contrast, their goals do not change on average with respect to social prestige, varied social life and academic inquiry.

As expectable, the characteristics of the work situation do not fully match the motives of the graduates. The actual characteristics of the work situation were rated on average 0.4 points lower on a five-point scale than the importance addressed to them by the graduates (see Table 3.37). Graduates are most strongly disappointed about the income and the lack of leisure time. On the other hand, their motives are fully met on average, as far as social status and recognition as well as the opportunity of working in a team are concerned. The expectations did not vary substantially according to country and did not change differently by country. Only Italian graduates perceived the biggest differences between their expectations and the actual situation. The differences were even smaller by field of study.

Table 3.37 Motivation To Work and Related Characteristics of The Professional Situation (percent "important" and "high"; responses 1 and 2)

	Motivation	Situation
Good social climate	91	70
Possibilities of using acquired knowledge and skills	84	66
Opportunity of pursuing own ideas	81	57
Opportunity of pursuing continuous learning	81	58
Variety	81	62
Challenging tasks	77	64
Largely independent disposition of work	75	64
Job security	75	62
Enough time for leisure activities	74	45
Good career prospects	67	41
Good chances of combining employment with family tasks	66	43
High income	61	34
Possibility of working in a team	61	61
Chance of doing something useful for society	59	46
Clear and well-ordered tasks	56	42
Co-ordinating and management tasks	48	39
Social recognition and status	47	43
Opportunity of undertaking scientific/scholarly work	37	23
Chances of (political) influence	30	22

Question G3: How important are the following characteristics of an occupation for you personally? Scale of answers from 1 = 'Very important' to 5 = 'Not at all important'. Question G3: To what extent do the following characteristics of an occupation apply to your current professional situation (B)? Scale of answers from 1 = 'To a very high extent' to 5 = 'Not at all'.

3.9.10 Additional Themes of the Study

In addition to examining the educational and career paths as well as the content of learning and job tasks, the questionnaire survey on higher education and graduate employment four years after graduation addressed four specific themes:

- the initial and continuing professional education of the graduates,
- the international mobility of the respondents,
- the family situation of the respondents, and

- the regional disparities of graduate employment.

A few highlights of the findings are reported in the subsequent sections.

3.9.11 Initial and Continuing Professional Education

In some occupations, varying according to country, graduates have to undergo an initial training period after graduation before embarking into regular employment. In other cases, they are regularly employed and have to undergo mandatory training periods for professional qualification. In other cases, employers organised training off and on-the-job for some of their graduates. It is not always possible to make a clear distinction between post-higher education initial professional training and continuing professional education. In our analysis, therefore, no respective distinction was made. Rather, all post-graduation education other than regular study is treated as "continuing education".

In all countries the *participation* in short courses is over fifty per cent and in longer training periods by thirty percent (see Table 3.38). More than fifty percent of the graduates from Italy, and about forty per cent of the Austrian and German graduates participated in longer professional training required to obtain a professional qualification, in Norway six percent only. Additional further education in short courses or seminars was undertaken most frequently by graduates in Spain and Sweden (more than 70%). France and Japan showed the lowest participation rate for courses of continuing education.

On the average of all countries private institutes were mentioned by half of all graduates (Austria and Czech Republic 60%, the Netherlands 57%, France only 36%) as *providing institutions*, followed by in-company training (United Kingdom 52%, Italy/Spain about 16%), higher education institutions were providers for 28% of attended courses. Only in Finland higher education institutions played the most important role as continuing education providers (49%), in Norway 40% participated in courses of higher education institutions, in Japan only five percent, but here one-fifth participated in distance education, which in Europe, apart from Spain with 13% participation, was almost of no importance.

The *costs of continuing education courses* were mainly paid by the employers. This was the case especially for the Netherlands (85%) Norway, Czech Republic and the United Kingdom, but not for Spain (only 20%). In Spain 61% and in Italy 87% of the graduates mainly paid themselves. In these two countries also public funds are used by more than a quarter of the graduates to finance their continuing education, which in France accounts for 17% of the graduates and in all other countries for ten percent or less.

Consequently, it is not very surprising that in Italy and Spain graduates most often *attended continuing education courses* either outside their paid working time or their leisure time, while in the other countries the courses take place either during the working time (Finland 60%, United Kingdom 59%, France 58%, Germany, The Netherlands, Norway, about 45%) or at least partly during paid working time (Austria, Czech Republic: 43%).

Table 3.38 Participation in Longer and Shorter Continuing Education Programs* by Field of Study (percent)

	Hum	Soc	Law	Nat	Math	Eng	Med	Educ etc.	*Total*
ITALY									
Long and short training	17	23	26	26	12	17	19	17	*21*
long training only	23	31	**57**	30	19	20	22	**36**	*30*
courses only	18	17	4	15	27	27	16	16	*17*
no continuing education	**41**	29	13	29	**42**	37	**44**	32	*32*
SPAIN									
Long and short training	**38**	24	**37**	33	19	24	30	29	*28*
long training only	11	10	14	15	13	12	7	6	*10*
courses only	36	**45**	33	36	40	39	**52**	**46**	*43*
no continuing education	15	22	16	16	28	24	10	18	*19*
FRANCE									
Long and short training	9	2	12	4	8	4	**29**	6	*6*
long training only	**41**	15	21	17	16	6	14	23	*21*
courses only	14	24	21	17	27	30	**43**	21	*22*
no continuing education	36	58	46	**62**	50	**60**	14	50	*52*
AUSTRIA									
Long and short training	22	27	**52**	13	9	10	**57**	41	*31*
long training only	6	8	25	10	5	3	10	14	*10*
courses only	37	**47**	11	42	**54**	**57**	21	29	***38***
no continuing education	36	19	11	**35**	32	30	11	16	*21*
GERMANY									
Long and short training	28	22	**35**	15	13	13	**69**	38	*26*
long training only	21	9	**34**	18	13	6	5	19	*13*
courses only	27	46	18	31	**52**	**51**	23	28	***38***
no continuing education	25	24	12	**36**	22	30	4	15	*23*
THE NETHERLANDS									
Long and short training	9	11	17	14	11	12	11	9	*11*
long training only	10	11	18	10	4	10	12	11	*11*
courses only	30	45	36	44	**60**	46	37	42	*42*
no continuing education	**52**	33	29	32	25	33	39	39	*36*
UNITED KINGDOM									
Long and short training	17	20	**48**	13	14	19	**36**	15	*20*
long training only	8	9	15	10	9	8	2	4	*8*
courses only	39	39	17	46	46	**50**	48	49	***44***
no continuing education	37	31	19	32	31	24	14	31	*30*
FINLAND									
Long and short training	12	12	16	19	8	7	**20**	16	*12*
long training only	14	8	14	9	7	6	**20**	8	*10*
courses only	36	43	35	39	**54**	**53**	34	47	***43***
no continuing education	38	37	35	**43**	32	34	26	30	*35*
SWEDEN									
Long and short training	21	18	9	34	19	18	**27**	10	*18*
long training only	24	8	5	16	4	6	7	4	*8*
courses only	37	**51**	**54**	**51**	**58**	**63**	49	**56**	***53***
no continuing education	18	23	**33**	9	19	13	16	30	*21*
NORWAY									
Long and short training	1	4	**25**	0	0	1	**12**	1	*5*
long training only	1	1	5	1	0	1	2	0	*1*
courses only	57	60	48	55	**68**	**63**	57	**65**	***60***
no continuing education	42	35	23	**44**	33	36	29	34	*34*
CZECH REPUBLIC									
Long and short training	7	14	20	11	0	11	**50**	16	*16*
long training only	11	4	2	7	0	5	5	5	*5*
courses only	30	**51**	**53**	38	0	45	31	42	***44***
no continuing education	**52**	31	25	43	0	39	14	36	*35*
JAPAN									
Long and short training	8	7	9	5	12	6	3	7	*7*
long training only	19	18	18	13	6	12	12	11	*16*
courses only	10	11	15	8	21	15	12	9	*12*
no continuing education	63	64	58	**74**	62	67	**72**	**72**	***66***

These few results already show different occupational situations in the countries and different policies in the funding on the one hand and on the other hand may give hints about the employers views, reserving paid working time for further education.

From a list of thirteen *topics* dealing with issues of continuing education courses attended, the most mentioned one was 'new scholarly knowledge of my discipline', followed by 'computer skills' and 'methodological competencies'. In France the most chosen topic was 'computer skills' together with 'methodological competencies' whereas 'oral or written communication/presentation skills' were mentioned more often than new knowledge. Also in the United Kingdom these communication and presentation skills were chosen very often, and, compared to the other countries, the relationship with customer and management competencies were mentioned by nearly 40%. In all other countries these areas only made up 20%. 'Cross-disciplinary scholarly knowledge' also was an important topic in Norway and in Austria, but not very important in Italy. Italian graduates most often mentioned 'foreign language proficiency', which was less important for those from the United Kingdom, followed by the Netherlands (see Table 3.39).

Table 3.39 Most Covered Topics of Education/Training Courses, by Country (percent)

	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ	JP	ALL
New Scholarly knowledge	41	63	34	66	**70**	**67**	49	42	**66**	**80**	**71**	45	**61**
Cross-disciplinary scholarly knowlege	13	28	30	**35**	32	33	26	20	16	**42**	27	21	28
Methodological Competencies	36	22	**45**	27	32	**61**	40	34	21	**46**	41	47	**36**
Foreign Language Proficiency	**48**	24	15	22	13	6	5	20	21	5	35	16	18
Computer Skills	19	50	**45**	34	39	32	44	42	**49**	33	35	29	**39**
Management/Leadership competencies	12	11	18	25	22	26	35	24	25	21	27	17	23
Oral or written Com. /presentation	17	12	38	28	26	29	41	34	29	26	35	26	28
Relationships with customers	13	7	16	24	24	27	37	19	12	10	27	17	20
N	1072	2074	786	1554	2173	1503	1836	1447	1824	2062	1843	691	18793

Question: Which of the following topics were covered in the course(s)? Multiple reply possible.

Consequently, the *purpose* of continuing education is predominantly seen in 'updating knowledge'. Only the British and Spanish graduates voted slightly more for 'enhancing career'. The training aspect played a greater role only for Spain and Italy - again a hint to the different occupational situation for graduates.

The most important *outcome* of continuing education according to graduates from all countries was, that it 'helped to get along with the work tasks' and 'to enrich the job'. In addition, Spanish graduates also said that they got employed after completing the training.

In regard to the *need of additional education* two replies were most frequent: participants answered that continuing education was necessary 'in order to cope with tasks which could not be envisaged at the time of initial education' (72% for 1+2), this

can especially be applied to the Czech Republic, Finland, Austria, Spain and Germany. Second, most additional education was seen as important 'in order to acquire knowledge which can be learned better on the job' (70% for 1+2) with high votes in the United Kingdom, France, Czech Republic, and Germany, and only 26% in Sweden). Norwegian graduates voted highest for the fifth item, saying 'initial first study constitutes a good basis for continuous updating of knowledge and skills'. Austrian and Finnish graduates stated this nearly to the same extent, whereas this was the case with only less than half of the Italian graduates. Shortcomings in initial first study were another reason for continuing educational needs, as stated by Italian, Austrian, Spanish and Czech graduates (more than half of them), with which only one third of the British and Dutch graduates agree. These statements are to be seen within the specific occupational context as well as in comparison to the study conditions and curricula. In Austria especially physicians agreed with this item and a greater amount of lawyers, for which on the one hand, the link between studies and profession is closer and therefore their expectations differ from other studies and, on the other hand, these studies have not the best conditions because of high numbers of students and perhaps problems to cope with these.

3.9.12 International Mobility

About two percent of the graduates responding were not citizens of the country where they graduated. As Table 3.40 shows, this proportion was highest in the United Kingdom. In contrast, less than half a percent of graduates from Japanese universities responding were foreigners. One should bear in mind, though, that this survey might underestimate both the proportion of foreign as well as the proportion of internationally mobile home country graduates because there are endemic difficulties of tracing the most mobile persons.

Table 3.40 Foreigners by Country of The Survey, by Country (percent)

	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	JP	EU	JP	Total
Yes	1	1	4	4	3	2	10	0	8	4	0	4	0	3
No	99	99	96	96	97	98	90	100	92	96	100	96	100	97
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Count (n)	(3102)	(2904)	(2954)	(2217)	(3440)	(3068)	(3340)	(2622)	(2572)	(3259)	(3377)	(29478)	(3377)	(32855)

Question I3: Please, provide some information about your citizenship and your country of schooling, study and work

The major analysis of mobility within this study focuses on the graduates who graduated in their home country. All subsequent information refers to this group.

Two percent of the European graduates who graduated in their home country had *different citizenship* of birth at the time they were born. This proportion was by far the highest among Swedish graduates (5.7%). Most of them acquired their secondary education qualification already in the country where they eventually graduated.

Five percent of those graduating in their home country had substantial educational, living or working experiences abroad prior to study. This was most pronounced for Swedish (22%) and Finnish (10%) graduates.

About one percent of the graduates who graduated in their home country acquired their secondary education qualification in a foreign country. This was true for more than two percent of the French, British and Swedish graduates.

17 percent of the graduates who graduated in their home country had international experiences during the course of study. 11 percent only studied abroad, 4 percent combined study and internship, and two percent were abroad for internship only. The proportion of mobile persons during the study period varied by country from 29 percent among Dutch respondents to 12 percent of Spanish and 10 percent of Japanese respondents. Differences were similarly pronounced by field of study: 31 percent of those enrolled in humanities spent a study period or study-related period abroad as compared to 10-18 percent in other fields.

Four years after graduation, three percent of those who had graduated in their home country worked abroad – most of them employed abroad and only few commissioned by their home company. During the four-year period after graduation, however, another 17 percent worked abroad, among them more than two-thirds commissioned by the home company for some period (see Table 3.41).

Table 3.41 Mobility After Graduation (Home Graduates only)

Country	Currently working abroad	Previously employed abroad	Previously comm. abroad	Non mobile	Total
IT	1.2	3.1	10.3	85.4	100.0
ES	1.1	2.3	8.0	88.6	100.0
FR	5.1	5.4	19.3	70.2	100.0
AT	5.8	4.1	8.8	81.3	100.0
DE	2.2	2.8	7.0	88.0	100.0
NL	2.8	15.2	36.6	45.4	100.0
UK	4.4	10.8	12.4	72.4	100.0
FI	6.6	4.9	17.5	71.0	100.0
SE	6.6	10.8	10.1	72.5	100.0
NO	0.4	2.3	9.2	88.1	100.0
JP	0.2	0.1	3.1	96.6	100.0
Total	3.0	5.1	11.8	80.1	100.0

Whereas international student mobility among the respondents was highest in the humanities, professional mobility was highest among graduates in natural sciences and engineering. Correspondingly, international student mobility was slightly higher among men than among women surveyed, but professional mobility slightly higher among men than among women surveyed.

Graduates who were internationally mobile after graduation obviously have more frequent assignments which require foreign language proficiency, international dimensions of their academic knowledge as well as understanding of diverse cultures. But they also seem to have more frequent rewarding and high-status assignments. Internationally mobile graduates consider their position above average as adequate and

see closer ties between study and work tasks. They are more satisfied with their job than non-mobile graduates.

3.9.13 The Family Situation

Four years after graduation, about half of the graduates live with a partner. The proportion is clearly below average in Spain, Italy and Japan.

30 percent have a child (or in some cases more than one) in the household. This is far more common in Nordic countries where social norms as well as welfare systems are more favourable to students with children and to young parents in general than in other countries. Actually, 35 percent of women as compared to 26 of men report that they have a child or children in the household (see Table 3.42).

Table 3.42 A Child or Children in The Household, by Country (percent)

	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ
Men	11	11	12	31	23	14	17	42	36	37	26
Women	16	10	14	27	21	14	16	46	44	56	35
Total	14	11	13	29	22	14	16	44	40	48	30

Whereas men seldom interrupted study or employment for child rearing and family care, women often reserved at least time spans of their life for those purposes. Table 3.43 does not allow a clear comparison between different stages, because information on study and early career refer to periods within a time-span within years, while information on the current situation refer to a specific moment. However, it indicates that giving birth is widely spread over different periods of study and career. At the time the survey was conducted, only 7 percent of the female respondents were not in the labour force for purposes of child rearing and family care as compared to 35 percent having a child in the household. The available information on the ratio of women not being in the labour force for purposes of child-rearing and family care shows that this ratio increased moderately each year after graduation, but the increase remained much smaller than one might have expected. The female graduates more frequently opted for part-time employment as a compromise between family and professional tasks: at the time the survey was conducted, 16 percent of employed women were part-timers employed four years after graduation as compared to 6 percent of men.

Table 3.43 Child Rearing and Family Care, by Gender and Country (percent)

	IT	ES	FR	AT	DE	NL	UK	FI	SE	NO	CZ:
Some time during period of study											
Men	5	3	1	4	2	1	1	4	5	4	2
Women	12	7	7	12	7	4	8	13	10	16	11
Predominant activity since graduation											

Men	2	2	<1	<1	0	<1	<1	<1	-	<1	5
Women	9	4	4	8	5	3	3	8	-	2	19
Currently											
Men	0	<1	0	<1	<1	<1	<1	<1	<1	<1	<1
Women	3	<1	2	9	8	3	3	5	10	4	22

3.9.14 Regional Disparities

Employment opportunities of graduates are influenced by the economic strength or the region they come from and where they graduate. For example, unemployment ratios are higher in most countries among respondents who graduated in economically weak regions (see Table 3.44). The difference is most striking in Italy where graduates from economically weak regions have an unemployment ratio five-time as high as those graduating in very strong regions.

Table 3.44 Percentage of Unemployed Graduates Seeking Employment by Region and by Country

	Regions			
	Very strong	Strong	Weak or Very Weak	National Average
Nordic				
NORWAY	0,6		1,1	0,9
FINLAND	1,1		1,6	1,4
SWEDEN	n.a		n.a	1,0
Continental centralized				
AUSTRIA	2,9	4,1	4,0	3,6
FRANCE	5,1	5,5	8,9	7,0
Balanced				
NETHERLANDS	n.a	n.a	n.a	1,6
UNITED KINGDOM	1,0	2,0	2,4	2,1
Strong regional differentiation				
ITALY	1,8	3,2	9,1	4,6
SPAIN	n.a	n.a.	n.a.	10,3
GERMANY	0,9	2,7	3,7	2,5
JAPAN	2,2	3,4	4,8	3,6

Altogether, the study shows that the transition process – notably the length of time necessary to find a job – is in most countries not linked to the economic wealth of the region of graduation. The regions matter, though, regarding various aspects employment a few years after graduation: full-time employment and employment based on permanent contracts are in most countries higher in economically strong regions than in weak regions. Only in Austria, the Netherlands and the Kingdom, the study did not reveal significant links between graduate employment and regional disparities.

Altogether, regional differences affect graduates careers more strongly in Italy than in the other countries included in the survey.

4 Conclusions and Policy Implications

4.1 Value of the Study in General

The study provides the most thorough comparative information on graduate employment and work and the links between higher education and graduate employment and work ever provided. To conduct and to bring to a successful end such a large and complex study in an area of high research and public interest is undoubtedly an achievement.

4.2 Thematic Areas of Major Findings

The study provides salient information on

- the changed graduate labour market in Western Europe in the 1990s,
- the specific conditions and dynamics of transition,
- the diversity of "success" criteria in graduate employment and work,
- the impact of socio-biographic profiles, study conditions and provisions, study behaviour and transition processes and the employment and work graduates,
- the European diversity and disparity in graduate employment and work,
- specific themes, e.g. employers' views, employment and work of women, regional disparities, international mobility in the course of study and after graduation, etc.

4.3 On the Move Towards a Knowledge Society

The study confirms that graduates from institutions of higher education in most Western European countries faced relatively positive employment and job prospects in the second half of the 1999. in this period in which both many employers and politicians were seriously concerned with a too vast expansion of higher education and about tendencies towards over-education, these concerns seemed to be not only unfounded but also pushed away by widespread expectations that qualification requirements rise on the way towards a knowledge society.

For example, we observed on the basis of the survey that the graduates' average *search period* for the first regular employment lasts only about 6 months. The average *unemployment* ratio is 4 percent four years after graduation, and even most graduates from fields notoriously for employment market problems find their way towards satisfactory employment and work a few years after graduation.

Only about one fifth each of the graduates employed about four years after graduation state they make little professional *use of the knowledge acquired in the course of study* and that their work and employment situation is worse than expected.

Only 12 percent each consider their *occupational situation inappropriate* with respect to the level of their educational attainment and are *dissatisfied* with their job. Only 7 percent believe that higher education is superfluous for their kind of work and employment situation. Only four percent would not study if they could choose again.

4.4 European Diversity – European Disparity

The study on higher education and graduate employment demonstrates a substantial variety between European countries as far as higher education and its relationship to the world of work is concerned. This variety is fascinating in many respects.

In some countries long programmes prevail, in others short ones. In some countries a strong professional emphasis of higher education is noteworthy, in others the range of goals is more diverse. In some countries, reputational hierarchies among institutions of higher education play a major role, in others they are marginal. Some higher education systems encourage independent learning, others a stronger reliance on and communication with the teachers.

The variety might be inspiring; for example, the success of the ERASMUS student mobility programme is linked to the fascination of experiences in the other countries which contrast the educational environment at home.

Similarly, views differ between countries about close links between field of study and occupational areas or more flexible relationships, about the characteristics of a good graduate job, about the extent to which the existing job tasks are accepted or graduates want to contribute to social and political changes.

But often, the negative value-loaden term “disparity“ seem to be more appropriate than the more neutral or even positively meant term “diversity“: Europe is also diversified according to criteria where common values about “good“ and “bad“ prevail. In some countries, graduates have to spend a period of job search three times as long as in other countries but still face worse employment situations on average than those from countries where a rapid transition to employment is widespread. In most countries, only 1 or 2 percent of the graduates were unemployed most of the time during the first years after graduation, whereas in three countries this figure was 7-9 percent and in one country even 18 percent. The average gross annual income of full-time employed graduates in one country is only slightly more than 40 percent of the average income of the country where graduates receive the highest remuneration.

Moreover, regional differences within countries come into play. It is worth noting in this respect that regional disparities are relatively higher in the poorer countries of Western Europe than in the richer ones, thus contributing to the overall disparities beyond disparities between countries.

Altogether, the study shows that higher education and the relationship between higher education and employment vary in most respects more substantially by country than by field of study. There are more frequent "national" cultures than "disciplinary" cultures in the relationships between higher education and the world of work; in addition, disparities between countries overshadow diversity according disciplines.

It should be added, though, that a more realistic view on the common elements and differences among Western European countries was provided by the inclusion of the Czech Republic and Japan into the project. This made aware that there are some elements in spite of the visible diversity. For example, the case of Japan shows that the smooth process of study and transition to employment might have its price in providing students with a lesser chance of acquiring broad experiences beyond the core domains of higher education thus being equipped with a smaller range of professionally relevant competencies upon graduation.

4.5 The Role of Higher Education in Preparing Students for the World of Work

There are perennial debates in higher education about the value of pursuit of knowledge for its own sake versus emphasis on utility for economy and society, about learning professional skills versus laying foundation for subsequent in-career learning processes, about the critical versus adaptive role of higher education, etc. Thereby, most experts agree that the adaptive and utilitarian pressures on higher education increased in recent decades as a consequence of massification of higher education, the move towards a knowledge society and a growing utilitarian social climate.

Most graduates appreciate their study and believe that learning in higher education was useful for coping with the job tasks they took over. Yet, there is widespread critique on many aspects of higher education – certainly to a varying degree across countries and fields. Obviously, many graduates wish that higher education should prepare students better to be in the position to transfer knowledge to the work environment and to the job tasks the graduates are confronted with.

In the majority of European countries, students spend a substantial part of their – often prolonged – study period in order to acquire experiences and competencies they are less likely to acquire in the classroom. Obviously, many students consider this more valuable than believing those who advocate "efficient" study in terms of a short and smooth "pass-through".

Values of students and graduates are so different and the experiences in the world of work are so numerous that any claim for a single dominant culture of higher education seems to be irrational wishful thinking. The perennial debates on the function of higher education against the world of work might have the beneficial function that the diversity of higher education is not surpressed by dominant modes of a so-called Zeitgeist.

4.6 Strength, Limits of the Study and Prospects

The project demonstrates the opportunity of research co-operation across national and disciplinary boundaries. A unique major international questionnaire survey on higher education and the world of work was undertaken. The project was very successful in

- identifying common interests in information on graduate employment and work and their linkages to higher education irrespective of national and paradigmatic diversity in this thematic area,

- exploring the organisational and methodological opportunities and pitfalls in undertaking graduate surveys in various European countries,

- helping to understand new trends in graduate employment and work and the European diversity and disparity as well as common elements in those respects.

- providing a basis of experience for the substance and processes of future regular surveys on graduate employment and work.

Three limitations became visible as well:

- A project of that complexity and ambition can hardly be efficiently administered with the strong degree of decentralisation envisaged in the TSER programme.

- Many salient issues cannot be sufficiently addressed without a trend analysis. Therefore, the value of such a study would substantially grow if the core themes were surveyed regularly.

- The project could not cope sufficiently with the relative broad list of specific topics it wanted to address (new technologies, conditions of women, precarious markets, regional diversity, internationalisation etc.), because room for each specific section remained small.

As a practical consequence, we recommend regular surveys of that kind with a somewhat more centralised organisational structure and with a mix of regular core themes and a few additional themes on a rotating basis.

The authors of the study deliberately stopped short of discussing at length the practical implications of the research results. They are aware that the practical implications might be differently assessed and that the actors in the field are both knowledgeable in interpreting these findings as well as inclined – as many highly educated and influential professionals - not to accept a too strong role of researchers on higher education and society in interpreting the practical implications of the research findings. But the authors are convinced that the project provides an extraordinarily valuable source of information for reflection on the future of the relationship between higher education and the world of work.

4.7 Policy Implications

First activities of dissemination prior to the completion of the study yielded four results as regards policy implications:

- Representatives of governments, the world of work, of higher education institutions as well as students, teachers and graduates themselves are highly interested in the results and consider them thoughtful for practical and policy implications.

- The rich material is notably suitable to trigger off the debate what we can learn from our European neighbours in shaping the conditions and the substance of higher education, the transition mechanisms as well as graduate employment and work.

- The policy implications are interpreted differently by the various actors. Their reflection processes are less likely to be stimulated in a creative way, if the researchers themselves discuss the policy implications at length. On the contrary, the researchers might undermine their reputation if they provide detailed reasoning on policy implications rather than presenting the material for a subsequent dialogue on policy implications.

- The policy value of such a study will grew substantially if such a study was not only conducted once, but triggered off in a time series of analysis of graduate employment and work.

Therefore, the policy implication can be described best after such a dialogue between the researchers and the practioners will have taken place on a broad scale (cf. the dissemination activities of the project).

4.8 European Research Co-operation

The co-operation of researchers from 12 countries was extraordinarily valuable for

- the identification of a common conceptional frame and common research instruments suitable to undertake a valid internationally comparative study,

- the adaptation of the country questionnaires to the specific conditions in each country,

- finding optimal ways of contacting graduates, co-operating with institutions of higher education and other agencies in processes of administering the study,

- the interpretation of the European diversity in the thematic areas of the project.

The co-operation in such a decentralized team with different institutional backing and different methodological expertise had its price as well. The process of conducting the study was often slowed down by the “slowest boat“.

The co-ordination work necessary for getting a joint data set and to undertake the analysis according to similar structures and conceptional frameworks required time, effort and energy far beyond expectation. The project would have collapsed, if not all partners had been willing to spend more time and funds on the project than planned in the application.

The project not succeed to yield as many high-quality studies on specific thematic areas (gender, region, precarious labour market, impact of new technologies, internationalisation, etc.) as expected. The number of themes was too large to allow for in-depth information gathering in a framework of a project which focuses on a questionnaire survey.

4.9 Future Research

The project underscored the widespread notion that a regular system of surveying graduate employment and work is timely. From the experience of the study, we would argue that

- the timing (4 years after graduation) and the size (about 3,000 graduates per country) were good options,
- such a study should be undertaken about every 3-5 years,
- it should have a core questionnaire supplemented by one or two rotating specific themes,
- A standard procedure for co-operation should be established with institutions of higher education in order to facilitate the tracing of addresses,
- The data processing and data analysis should be undertaken by a smaller European unit along with country consultants from all countries included in the study,
- Interview studies of select groups of questionnaire respondents as well as other group of actors (e.g. employers) are suitable to explain in-depth some key phenomena addressed in the questionnaire survey. They should be undertaken in addition to the questionnaire survey suggested in order to provide a broader framework for explanation of the findings.

5 Dissemination and Deliverables

(1) The concept and methodology of the project "Higher Education and Graduate Employment" was reported upon suggestion by the Austrian government at the Meeting of the Directors General of Higher Education (ministries of education of the European Union) and Heads of Rectors' Conference in Vienna on 28-29 October 1998. This meeting served to examine the potentials of statistics and surveys on graduate employment and work. The participants suggested to present the results of the project at a later stage to the Meeting.

(2) The questionnaire "Higher Education and Employment" was made known to many institutions of higher education. Some institutions in Germany and Spain accepted the invitation of conducting a survey of their "alumni" in association with the European study. The project eventually will revise the questionnaire in order to make it known as a model questionnaire for use by individual institutions.

The questionnaire also was employed in consulting researchers and agencies outside Europe interested in undertaking graduate surveys, e.g. the Chinese Ministry of Education in December 1999 (World Bank Project on Science and Engineering Teaching) and the Association of African Universities in September 2000 (training programme of higher education researchers in Africa).

(3) The analysis of educational and labour market statistics and higher education and graduate employment, which was undertaken in the project as a preparatory step for the survey, was published in a special issue of a wellknown journal. The journal comprises a comparative analysis as well as nine country reports. Jean-Jaques Paul, Ulrich Teichler and Rolf van der Velden (eds.). "Higher Education and Graduate Employment", European Journal of Education, Vol. 35, No. 2, June 2000 (special issue).

(4) The members of the project team are in process of preparing a comparative study, whereby the various themes were divided among sub-groups of authors. A book on the comparative study is envisaged for 2001. This book aims to address both experts and a broad audience.

(5) The co-ordinator of the project aims to publish a descriptive book on the major findings of the project (similar to the final TSER report). This monograph aims to address a broad audience of actors in the higher education and employment systems.

(6) All national teams are in the process of preparing their country reports in comparative perspective. Some country teams involved in this process some additional researchers (i.e. not participating in the international team).

- A seminar took place in Tokyo on 30 May, 2000 (CHEERS Euro-Japanese Workshop), where the authors of the Japanese country report discussed their draft with some team members from 4 countries participating in the project.

- We expect publications of national country reports in all participating countries in 2001.

- The German country report will be published as a book in January 2001 by a publisher specialized on large-scale distribution of paperbacks. Harald Schomburg, Ulrich Teichler, Martin Doerry and Joachim Mohr (eds.). Studieren lohnt sich: Die große Hochschulabsolventenstudie im SPIEGEL. Regensburg: Walhalla Verlag, 2001).

(7) Activities of targeted dissemination of the results of the project in the individual countries started beyond the major comparative report and the country reports:

- Conferences with invited representatives from government, the world of work, higher education institutions, as well as academic experts were held or are scheduled:

  (a) Japanese-European Comparison on Higher Education and Graduate Employment, 2 June 2000, Kyushu University, Fukuoka, Japan;

  (b) "La formación y el empleo de los universitarios en Espana y en Europa", 11-13 September 2000, Santander, Spain;

  (c) "Trends in Graduate Employment – how do British Graduates Compare?", 24 January 2001, Centre for Higher Education Research and Information, London, United Kingdom

  Further conferences will follow in various individual countries.

- Major findings of the German graduate survey, with some European comparisons, were published as a 27-pages cover story of the broadest circulated political weekly magazine (sale of about 1 million copies) in Germany. "Studieren zum Erfolg", in: DER SPIEGEL, 13 November 2000. An additional article was published in a supplementary magazine: "UNI-Spiegel".

- As a start of international presentations of the project, a special panel "Transition from Higher Education to Work" with 8 speakers of the project from 4 countries was reserved at the 12th World Congress of the International Industrial Relations Association (IIRA), 29 May-2 June 2000, Tokyo, Japan.

- Presentations of the results began at various national and international expert conferences on higher education, labour market, current societal changes, etc. Among others, the co-ordinator of the project presented the results at four international conferences in Germany, the United Kingdom and South Africa.

(8) The project also serves as a basis for information in the framework of teaching in the doctoral or advanced training programmes on higher education. For example,

it formed the basis of one-day or two-day training seminars held by the project co-ordinator in February 2000 in Budapest (jointly arranged by the University of Debrecem and the Hungarian Institute for Educational Research) and in February 2001 in Bern (jointly arranged by the universities of Bern and Lausanne).

Up to the present, interest on the results of the study was so high that there is obviously ample room for further dissemination. The magnitude of further activities depends on the financial ressources of the individual partner institutes, because the TSER budget was so tightly calculated that it does not leave funds for future activities.

We suggest that the European Commission should provide additional support for a European-wide conference on higher education and graduate employment in Europe to be held in autumn 2001. This would be an excellent opportunity for stimulating a Europe-wide dialogue on the results of a TSER project which obviously has enormous potentials for stimulating an interesting debate on policy implications for the policy-relevant research project.

6 Annexes

6.1 Title of the Project

CHEERS

Careers after Higher Education: a European Research Study
TSER Project "Higher Education and Graduate Employment in Europe"

6.2 Internet Presentation

The project is visible in the Internet: www.uni-kassel.de/wz1/tseregs.htm

6.3 Content

6.4 List of Tables

6.5 List of Charts

Appendices

Appendix 1	**Thematic Reports: Higher Education and Graduate Employment in Europe**
Appendix 2	**Preparatory Study: Higher Education and the Labour Market in Europe - Country Reports**
Appendix 3	**European Research Instrument: Master Questionnaire for Graduate Surveys**
Appendix 4	**Interview Guidelines (Graduates and Employers)**
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