

Benchmarking Education and Training Systems in Europe An International Comparative Study.

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Benchmarking Education and Training Systems in Europe

an international comparative study

Richard Desjardins
Christelle Garrouste-Norelius
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Institute of International Education
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1 Introduction

1.1 Background

In March 2000 the Lisbon European Council confirmed Europe's commitment to a new economic and social agenda, and a strategic goal for the next decade: to become the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with quality jobs and greater social cohesion (EU Commission, 2002 a). To help meet this objective, the Education Council was asked to reflect how well European education and training systems could respond to the challenges of the knowledge society, globalisation and enlargement of the EU and what could be done to improve these systems in light of these challenges.

Ministers of Education were invited to agree on concrete objectives for European education and training systems. To support this, in March 2001 the Education Council adopted three broad strategic objectives for European education and training systems:

- ❏ Increasing the quality and effectiveness of education and training systems in the EU;
- ❏ Facilitating the access of all to education and training systems; and
- ❏ Opening education and training systems to the wider world.

The Education Council elaborated on the three overarching strategic objectives in February 2002 when it adopted the *Detailed Work Programme on the Follow-up of the Objectives of European Education and Training Systems*. In this programme, 13 specific objectives relating to European education and training systems are outlined. They constitute are a list of goals and targets for the EU to achieve by 2010 (see Annex 1).

As part of an effort to monitor and guide the process of attaining these goals, the programme introduces the open method of co-ordination. The method is described as a "means of spreading best practice and achieving greater convergence towards the main EU goals" (EU European Commission, 2002ba:6). It involves three main methodologies for comparing countries and policies, namely the exchange of good practice, peer review and indicators and benchmarks. The latter is to compliment the exchange of experience occurring through professional contacts and conferences. The goal is to use benchmarks to facilitate progressive policy development while, at the same time, respecting national autonomy.

To implement the open method of co-ordination, the Commission contracted

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assistance to identify, develop and analyse indicators, which can serve to benchmark European education and training systems on a worldwide level.

1.2 Benchmarking European education and training systems

The main purpose of this report is to compare the education and training systems of EU-countries, candidate countries and countries from outside Europe in all major regions of the world. Comparisons, however, are restricted to a presentation of comparable indicators that draw on existing data sources that are accessible.

Benchmarking is useful for many reasons, not merely to establish better or worse performance, but also to identify differences, similarities or uniqueness among various education and training systems. For example, supplementing benchmarking with further analyses can permit the relative merit of policies and practices to be assessed. But for this to be possible it is envisaged that further analyses of a more descriptive and developmental nature is needed to provide satisfactory explanations. When supplemented with further analyses, the exercise can contribute to a better awareness of different systems and an appreciation of alternate approaches to achieving similar outcomes.

Despite the limitations of a study focusing only on the comparisons drawn from a selected set of indicators, this report analyses the findings in terms of what is deemed to be better or worse performance on a particular indicator. Better or worse performance is judged on the basis of the 13 objectives outlined in the *Detailed Work Programme on the Follow-up of the Objectives of European Education and Training Systems*. From this, an attempt is made to analyse the relative strengths and weaknesses of European education and training systems in a worldwide context.

Finally, the report identifies areas of interest that are not covered because of poor data availability. The indicators presented were identified and selected on the basis of data availability from existing secondary sources as well as a framework– introduced in the next section that provides a reasonably comprehensive overview of education and training systems. Areas where data are lacking are identified and discussed in relation to the potential value of establishing the collection of such data.

1.3 Conceptual framework

In order to develop an indicator framework for this report, it is useful to first consider a conceptual framework that depicts the relationships and processes associated with education and training systems, which are implied in the objectives adopted by the Education Council.

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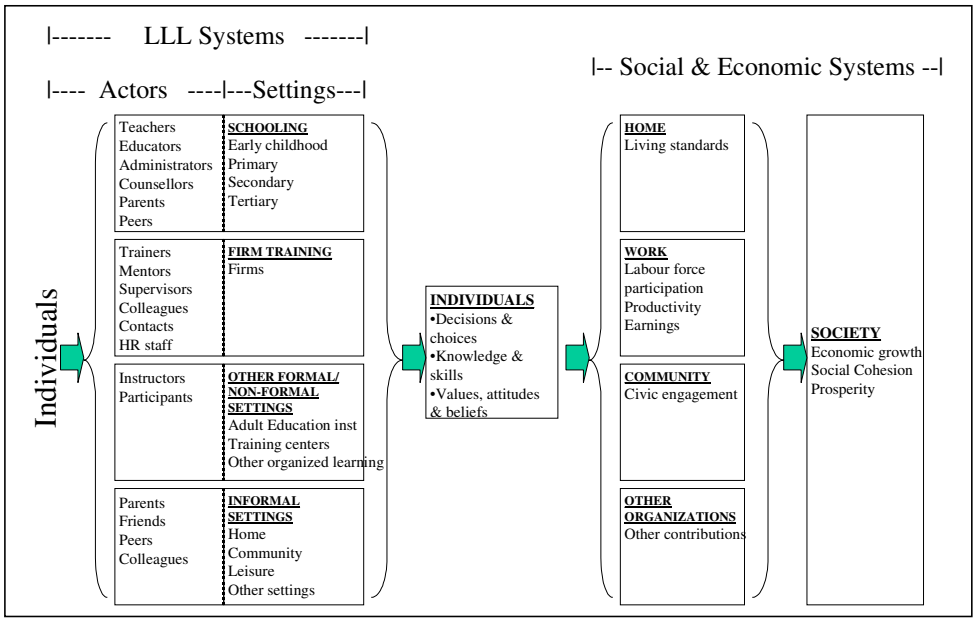
1.3.1 Lifelong learning approach

Figure 1.1 introduces lifelong learning (LLL) systems in relation to individual learners, social systems and society at large. The model is centred on the individual learner who interacts with multiple settings, potentially leading to learning across the lifespan. This is presented in a holistic manner where all possible settings associated with learning are collectively referred to as Lifelong Learning Systems. Education and training systems are a subset of LLL systems.

There is an important assumption in the model, namely that an individual's knowledge, skills, attitudes, values, beliefs, choices and decisions are fundamentally affected by learning processes. As such, the former are referred to as learning outcomes. In turn, the interaction of individuals with a variety of social systems provides an opportunity for learning outcomes to have impact on household, workplace, community, other social settings and ultimately the society in which one belongs.

The conceptual framework portrayed in Figure 1.1 is especially relevant to the first overarching strategic objective set out by the Education Council – to increase the quality and effectiveness of education and training systems in the EU. But in order to assess the effectiveness or relevance of education and training systems, it is necessary to know the desired learning outcomes. Moreover, it is useful to have measures of such outcomes. There are few available measures of learning outcomes,

Figure 1.1 **Lifelong learning systems in relation to individuals, social systems and society**



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however, partly because the feasibility of measuring (let alone identifying) them is an ambitious if not an impossible task. Consequently, it is common practice to use proxies when assessing the effectiveness of education and training systems. Proxies usually reflect desirable social and economic outcomes, which are assumed to arise through the impact of education and training systems on individual learning outcomes, and in turn on social systems and society at large.

The second overarching strategic objective of the Education Council also follows from the conceptual framework depicted in Figure 1.1. Wider and facilitated access to education and training systems by individuals is desirable because there is an implicit assumption that lifelong learning for all will help the EU become "the most competitive and dynamic knowledge-based economy in the world, capable of sustainable growth with more and better jobs and greater social cohesion."

1.3.2 Openness, cooperativeness and compatibility of education and training

While the first and second broad strategic objectives (i.e. increasing quality and effectiveness, and facilitating access) follow from the conceptual framework depicted in Figure 1.1, the third objective needs further elaboration.

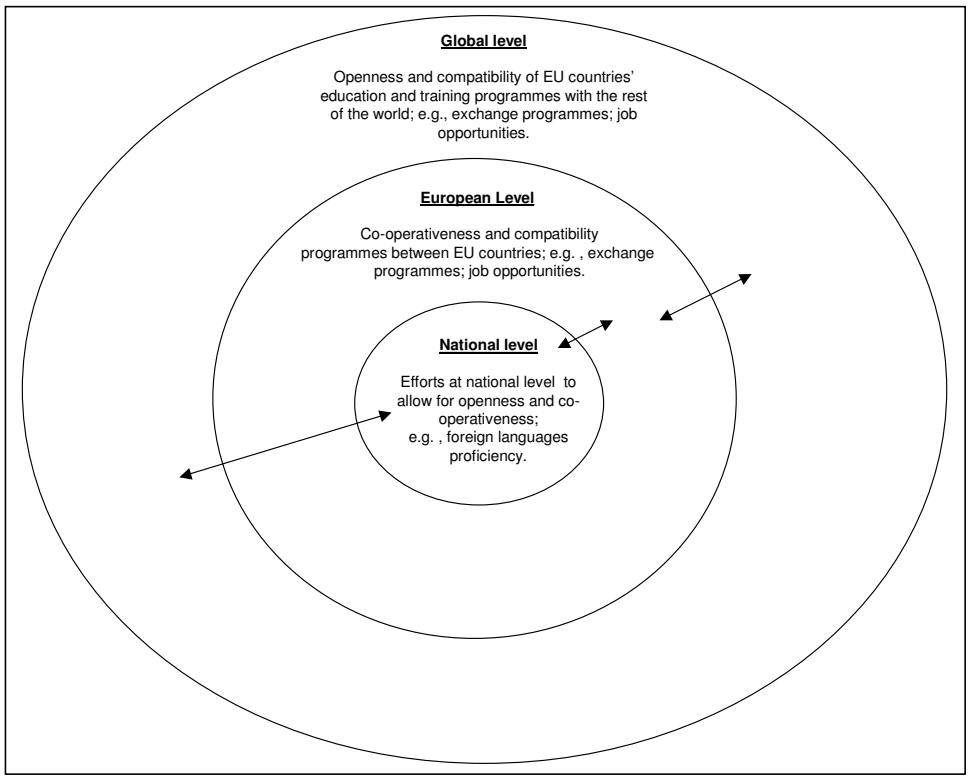
The openness, cooperativeness and compatibility of the national European higher education systems have been clearly targeted in the Bologna process and at the Prague Conference on Higher Education in 2001. Subsequently, some efforts have been made by all the EU member countries to recognise credentials from within Europe, through the adoption of the European Credit Transfer System (ECTS). For the purpose of this international benchmarking, openness, cooperativeness and compatibility will be assessed at three levels:

- National: measures taken by each country to allow for openness and cooperativeness (e.g. foreign language proficiency);
- European: efficiency of the cooperativeness and compatibility programmes between EU countries (e.g. students and teachers mobility (Erasmus); job opportunities); and
- Global: degree of openness and compatibility of the EU countries' education and training programmes towards the rest of the world (e.g. inward mobility of foreign students).

Figure 1.2 presents the interactions and inter-relations between these three levels of analysis. Four indicators, one at the national level, two at the European level, and one at the global level, exploring these issues are included in the final framework and presented in Chapters 2 and 3.

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Figure 1.2 **Openness, compatibility and cooperativeness of education and & training systems**



1.4 Indicator framework

Deriving from the conceptual framework in Section 1.3, Table 1.1 outlines the indicator framework adopted for this report. The framework is useful for classifying a variety of indicators, which provide a reasonable overview of the various issues and factors relating to education and training systems. It is based on the European Commission's guidelines released in March/October 2002 for the use of indicators. The guidelines suggest the following classification: input ⇨ output ⇨ outcome ⇨ impact.

The category *input* is reserved for financial and other resources devoted to the provision and maintenance of learning opportunities. An additional category called *process* is added to the framework, in order to highlight the 'Systems' approach to viewing education and training systems. The category is intended to represent the education and training systems, or more broadly, lifelong learning systems. It corresponds to the actors and setting of the learning environment. As such the proposed indicator framework deviates from the European Commission's guidelines

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and the modified classification is as follows: *input ⇨ process ⇨ output ⇨ outcome ⇨ impact*.

This latter classification relates better with the conceptual framework described in the previous section. In terms of lifelong learning, it reflects the different processes occurring at different levels, such as formal schooling, firm training and informal learning. Moreover, the issues of compatibility of provision, mobility and openness and cooperativeness of systems fit well in the category *process*. Compatibility of recognition, however, is classified as an *output*. In practice, the latter category makes a distinction between the 'output of educational institutions' in terms of graduation rates or attainment levels, and 'access, participation, progression and mobility'. The category *outcome* is viewed strictly as comprising of learning outcomes arising in an individual such as knowledge, skills, attitudes, values and beliefs. For the purposes of the analysis undertaken in this report, only the direct measures of knowledge and skills are considered. The category *impact* takes into account the assumed effect of learning on the home, community, work and society in general.

Table 1.1 **Indicator framework**

Input ⇨	Process ⇨	Output ⇨	Outcome ⇨	Impact
CONCEPTS				
Financial resources Human resources	Instrumental settings Learning environments	Credentials Accreditation Opportunity Access	Effectiveness Relevance Efficiency Quality Equity	Economy Society
INDICATORS				
	Teacher qualifications Teacher salaries Class size Instruction time Use of ICT Compability of provision Openness and cooperation of system	Enrolement Participation rates Progression Transition rates Years of schooling Attainment Graduation rates Compability of recognition	Knowledge and skills Performance Achievement Competence Readiness yo learn Flexibility Adaptability	Economic performance Competitiveness Labour force participation Quality of life Trust Civic engagement

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1.5 Data sources

The indicators presented in this report are selected on the basis of the indicator framework described above as well as the availability of data from existing primary and secondary sources.

The primary data sources used in this report are:

- ❑ Programme for International Student Assessment (PISA)[1]
- ❑ International Adult Literacy Survey (IALS)[2]

The main secondary data sources are:

- ❑ Education at a Glance (EAG) indicators, maintained by the OECD;
- ❑ World Education Indicators (WEI), jointly maintained by the OECD and UNESCO Institute for Statistics (UIS);
- ❑ EURYDICE;
- ❑ Eurostat Education database;
- ❑ Continuing Vocational Training Survey 2 (CVTS-2);
- ❑ OECD Employment Outlook; and
- ❑ Education for All (EFA) core indicators, maintained by UNESCO Institute for Statistics (UIS).

Data from these sources are comparable within a well-defined conceptual framework. As such, international comparisons drawn from these data are based on a

1. PISA focuses on student literacy of 15-year-olds. This measure is a good indicator of the quality and effectiveness of formal schooling systems. Separate measures of literacy are available for reading, science and mathematics literacy. Similar to the IALS Five proficiency levels are derived from scores ranging from 0 to 800 points as follows (OECD 2001b: 18-25 and 44-48):
Below Level 1 (score range less than 335);
– Level 1 (score range 335 to 407);
– Level 2 (score range 408 to 480);
– Level 3 (score range 481 to 552);
– Level 4 (score range 553 to 625);
– Level 5 (score range above 625).

2. IALS has measures of literacy proficiency for populations aged 16 to 65, where the levels of proficiency denote how well adults use information to function in society. Five proficiency levels are derived from scores ranging from 0 to 500 points as follows (OECD 2000a: 95-102):
– Level 1 (score range: 0 to 225): indicates persons with very poor skills, where the individual may, for example, be unable to determine the correct amount of medicine to give a child from information printed on a package;
– Level 2 (score range: 226 to 275): respondents can deal only with material that is simple, clearly laid out, and in which the tasks involved are not too complex. It denotes a weak level of skill;
– Level 3 (score range: 276 to 325): Level 3 or above is deemed to be the minimum level of proficiency to cope with demands of modern knowledge societies;
– Level 4/5 (score range: 326 to 500);

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common framework of standards, agreed to prior to the data collection, and against which the adequacy of the collection procedures and the accuracy of the results can be validated. Further, data from these sources respect the general principles of the agreement reached by the European Union donors working group in June 2002. These guidelines were drawn up in response to a growing demand for valid, reliable and comparative information at the international level that can offer insights into the development, functioning and performance of education systems, and that can assist in the planning and management of educational services.

Most of the EAG and WEI indicators are also comparable with each other since they are derived from harmonised data collection procedures with consistent questionnaires and definitions (UOE, 2002). The latter is a joint initiative by the UIS, OECD and Eurostat, which is referred to as the UOE Data Collection on Education Systems. While this may be the case within years, the OECD warns that time series before 2000 may not be comparable, because data collection procedures have changed several times. Since 2000, however, the data collection procedures are deemed to be relatively stable and hence the EAG and WEI data from 2000, 2001 and 2002 are comparable. But this short timeframe is not conducive to meaningful trend analysis over time.

Several other secondary data sources were used for the purposes of constructing indicators. These include:

- ❏ European Union Labour Force Surveys;
- ❏ Human Development Report;
- ❏ Global Competitiveness Report;
- ❏ World Values Survey; and
- ❏ UN Population Division database.

1.6 Organisation of the study

Whereas Chapter 2 compares the education and training systems of the EU member countries with the candidate countries, Chapter 3 opens the comparison to competitive non-European countries from all major regions of the world.

In Chapter 2, all indicators are illustrated by country and ranked according to some specified criteria in order to conveniently depict and extract comparisons. While EU member and candidate countries are grouped separately, a series of unweighted averages are also presented. For each indicator, averages are calculated using the data values of all EU member countries (EU average), candidate countries (CC average) and EU member and candidate countries combined (EU + CC average) for which data are available. The average of the three EU countries (EU3

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average) ranking the highest according to some specified criteria for each indicator are also calculated.

An unweighted average refers to an average of data values at the level of the national systems and can be used to answer the question of how an indicator value for a given country compares with the value for a typical or average country. It does not take into account the absolute size of the education system in each country. Throughout Chapter 2 an emphasis is placed on comparing the typical or average performance of a candidate country with the typical or average performance of an EU country. On the other hand, Chapter 3 focuses on a worldwide comparison of the typical or average performance of EU member and candidate countries with non-EU countries.

In Chapter 3, the EU member country total (EU total), candidate country total (CC total), and EU member and candidate country combined total (EU+CC total) are calculated as weighted averages of the data values of all countries belonging to each group for which data are available. These weighted averages reflect the values of an indicator for when the EU member country area, candidate country area, or combined EU member and candidate country area are considered as a single entity. This approach is taken for the purpose of comparing, for example, skill profiles of non-EU countries with those of the entire EU area for which data are available. Non-EU countries are selected on the basis of data availability, worldwide geographical distribution as well as being of strategic interest to the EU. The list of countries is presented in Table 1.2.

Finally, Chapter 4 summarises and interprets the findings from the previous two chapters and attempts to identify the relative strengths and weaknesses of European education and training systems. This chapter also reports on data gaps within the framework set out in Chapter 1.

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Table 1.21 List of countries compared and ISO 3 country codes

EU member countries	**EU**		
Austria	AT	Italy	IT
Belgium	BE	Luxembourg	LU
Denmark	DK	Netherlands	NL
Finland	FI	Portugal	PT
France	FR	Spain	ES
Germany	DE	Sweden	SE
Greece	GR	United Kingdom	GB
Ireland	IE		
EU candidate countries	**CC**		
Bulgaria	BG	Lithuania	LT
Cyprus	CY	Malta	MT
Czech Republic	CZ	Poland	PL
Estonia	EE	Romania	RO
Hungary	HU	Slovak Republic	SK
Latvia	LV	Slovenia	SI
Non-EU countries			
Argentina	AR	Malaysia	MY
Australia	AU	Mexico	MX
Brazil	BR	New Zealand	NZ
Canada	CA	Norway	NO
Chile	CL	Peru	PE
China	CN	Philippines	PH
Egypt	EG	Russian Federation	RU
Iceland	IS	Switzerland	CH
India	IN	Thailand	TH
Indonesia	ID	Tunisia	TN
Japan	JP	Turkey	TR
Jordan	JO	United States	US
Korea, Republic of South	KR	Zimbabwe	ZW

3. ISO: International Organization for Standardization (ISO 3166 Code lists).

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2 Comparative analysis I: Benchmarking EU member and candidate countries

This chapter presents education and training indicators for EU member and candidate countries. The purpose is to display select aggregated averages in relation to the individual country data used to compute the averages. For each indicator, averages are computed for EU member countries, candidate countries, EU member and candidate countries combined and three EU countries ranking the highest on certain criteria. The analysis uses a comparative perspective and hence offers a powerful display of observed differences and similarities within the expanded EU region. Furthermore, it portrays the impact of the expansion on select education and training indicators.

Aggregated averages derived from individual EU member and candidate countries are used in Chapter 3 to benchmark EU education and training systems with comparable data for select non-EU countries, which have a worldwide geographical distribution. Accordingly, it is important first to observe the distributions of the data underlying the aggregated averages, i.e. the country data.

Indicators are grouped and presented under the following sub-headings, which correspond to the indicator framework outlined in Chapter 1: 2.1 Inputs (Resources invested in education)_➪ 2.2 Processes (Quality of the learning environment) ➪ 2.3 Outputs (Output of educational institutions & Individual access, participation, progression and mobility) ➪ 2.4 Outcomes (Learning outcomes) ➪_2.5 Impacts (Impact of learning).

2.1 Resources invested in education

The first section provides an overview of the resources invested in EU education and training systems, including candidate countries when data are available. Three indicators are chosen to highlight the extent of investment in tertiary education and continuing vocational training (CVT). First, an indicator compares tertiary expenditures in relation to GDP, source of financing and other educational spending. In the subsequent indicator, similar data are adjusted for the relative sizes of the total and student populations of each country. Finally, enterprise expenditures on CVT are considered.

The EU adopted an objective calling for countries to make the best use of resources when investing in education and training. Figure 2.1.1 does not inform on whether countries are making the best use of the resources invested in education but it portrays the proportion of all financial resources dedicated to education and

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hence the development of human resources. Therefore, it informs on the extent of investment in human resource development.

Within the EU, four countries (Austria, Denmark, France, Sweden) spend over 6 per cent of their gross domestic product (GDP) on all levels of education, while four (Greece, Ireland, Italy, the Netherlands) spend less than five, including one (Greece) spending less than four per cent. In terms of expenditures on all levels of education, the four candidate countries considered compare with the four EU countries spending the least, which on average amounts to approximately five per cent of GDP. In general, the majority of expenditures are state financed. Private expenditures approach one per cent of GDP in only one country. Expenditures on tertiary institutions typically range from one to 1.5 per cent of GDP. Only one EU country (Italy) spends less than one per cent of GDP on tertiary education, while two of the four candidate countries show similar results. Three EU countries (Denmark, Finland, Sweden) spend over 1.6 per cent of GDP on tertiary education.

In Figure 2.1.2, expenditures are adjusted by the population size as well as the relative sizes of student populations at each level of education. In all countries per capita spending on education increases as learners move from primary to secondary to tertiary levels. EU average spending per student increases from approximately 19 per cent of GDP per capita at primary levels to 26 and 38 per cent at secondary and tertiary levels, respectively. This means that on average EU countries spend twice as much per student in tertiary than in primary education. The same trend is observed for the candidate countries considered, except that spending per student in tertiary is higher than in EU countries and lower in primary and secondary.

Investment in human resource development extends beyond expenditures on formal educational institutions. Enterprises also invest resources to train their employees. Figure 2.1.3 depicts the extent of investment by enterprises as a percentage of total labour costs. The indicator shows that investment in CVT varies significantly among EU member countries from less than one per cent of total labour costs in one country (Greece) to over 3.5 per cent in the country investing the most (the United Kingdom). Spending on CVT also varies widely among the candidate countries considered, from 0.5 per cent to 1.9 per cent of total labour costs. On average, spending on CVT in the EU is nearly double the investment of the candidate countries considered.

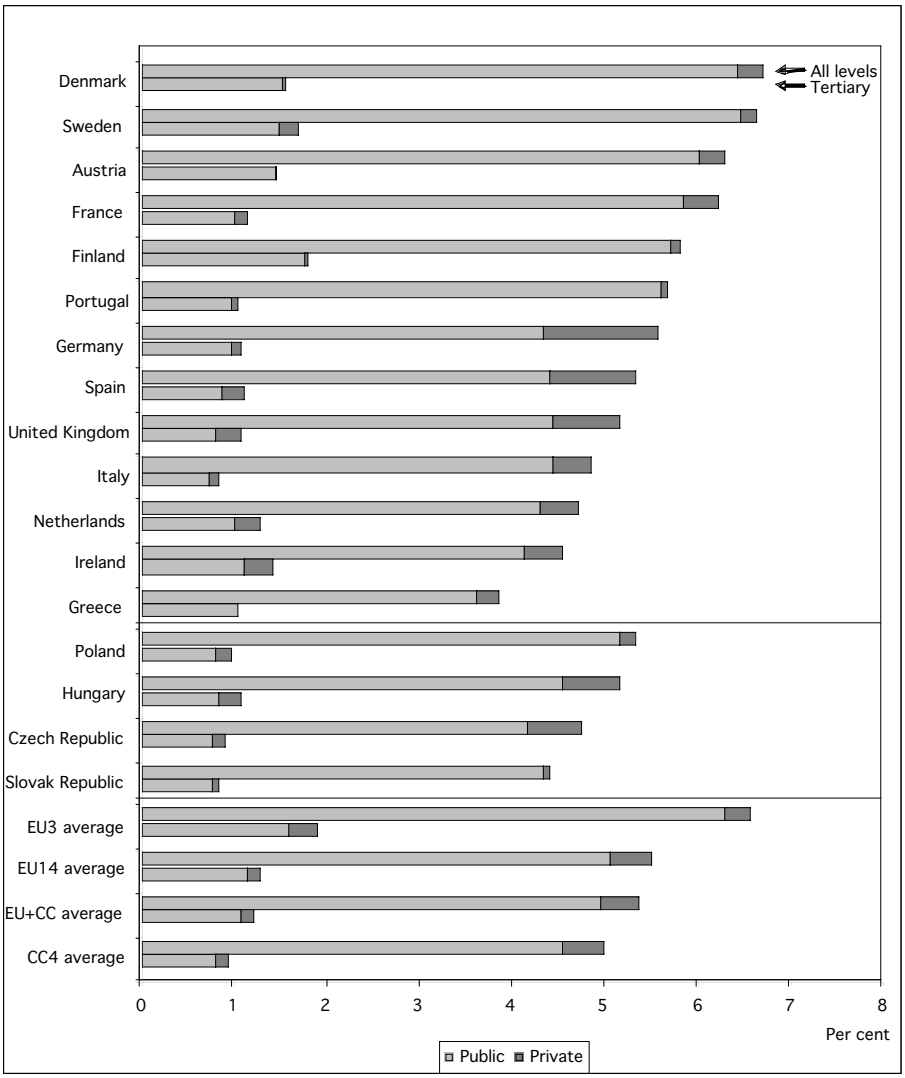
2.2 The learning environment

This section considers select indicators that inform on the quality of the learning

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Figure 2.1.1 **Investment in tertiary education**

Public and private expenditures on tertiary and all levels of education as a percentage of GDP (PPP in USD), EU member and candidate countries, 1999.



EU member and candidate countries are grouped separately and then ranked in descending order by the total expenditure on all levels of education as a per cent of GDP.

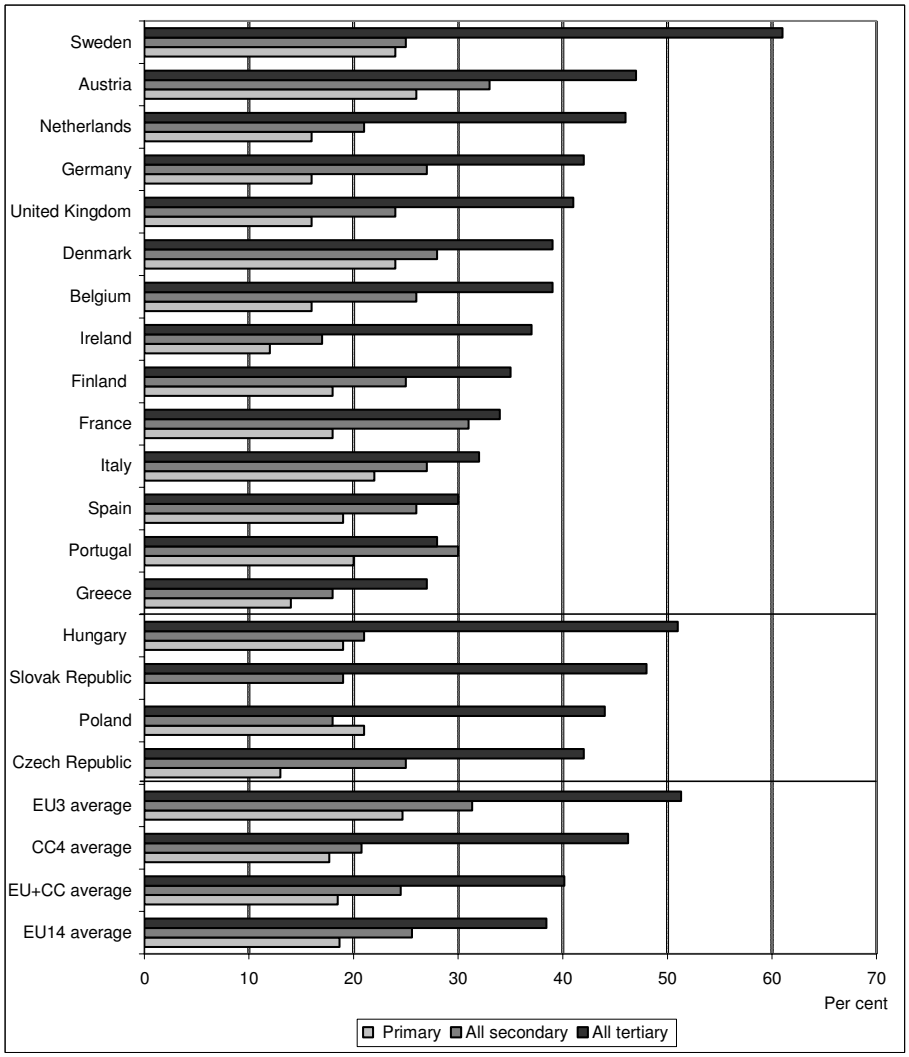
Source: OECD/UNESCO, 2002: 183.

OBJECTIVE 1.5: Making the best use of resources

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Figure 2.1.2 **Total expenditure per student**

Total expenditures on primary, secondary and tertiary institutions per student relative to GDP per capita (PPP in USD), EU member and candidate countries, 1999.



EU member and candidate countries are grouped separately and then ranked in descending order by expenditures in all tertiary institutions per student relative to GDP per capita.

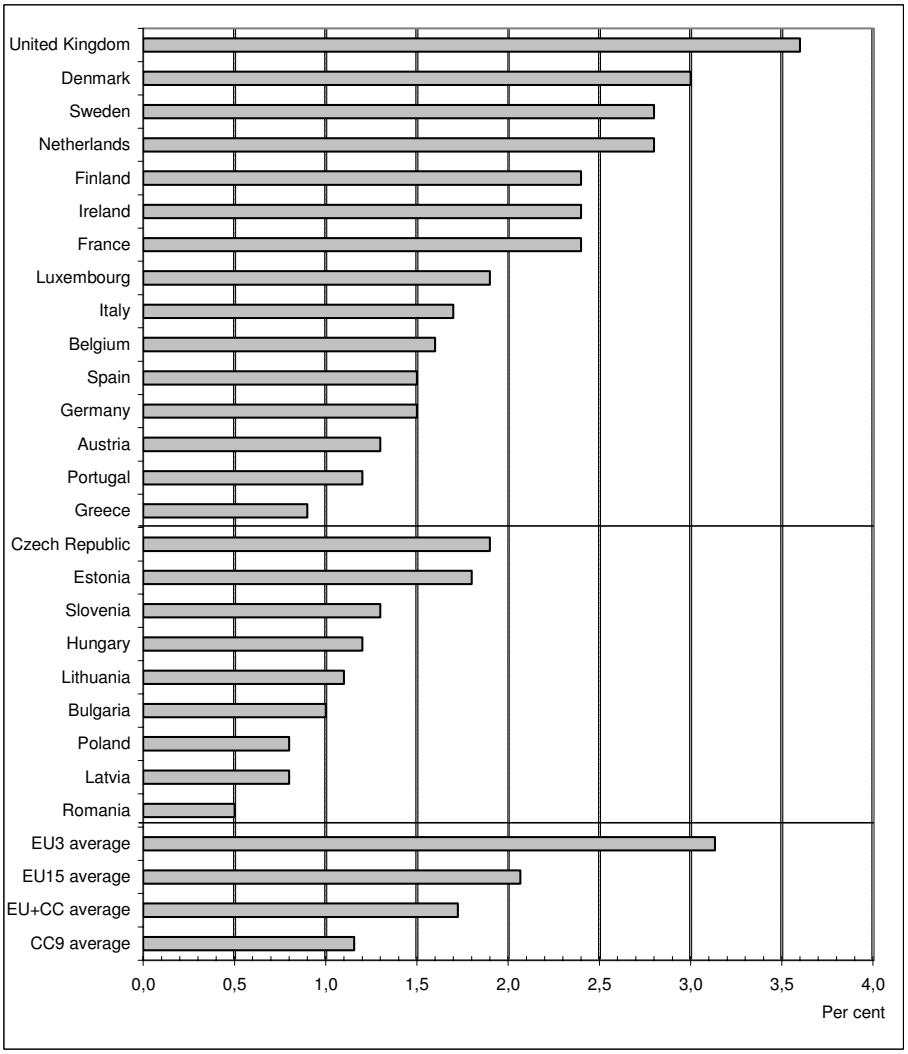
Source: OECD/UNESCO, 2002: 182.

OBJECTIVE 1.5: Making the best use of resources

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Figure 2.1.3 **Enterprise expenditure on CVT**

Total costs of continuing and vocational training courses for all enterprises as a percentage of total labour costs, EU member and candidate countries, 1999.



EU member and candidate countries are grouped separately and then ranked en descending order by the total cost of continuing and vocational training courses for all enterprises as a percentage of total labour costs.

Source: Eurostat, 2002: 90.

OBJECTIVE 1.5: Making the best use of resources

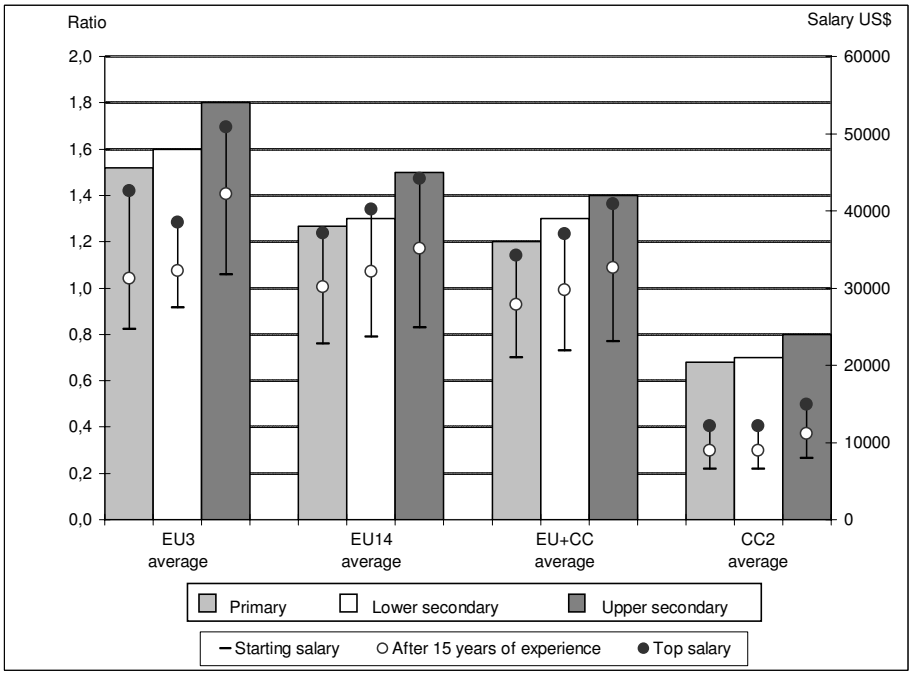
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environment, which is created by the resources invested in education and training. In particular, a relatively large share of educational expenditures goes to paying for teachers. Moreover, teachers are instrumental to facilitating learning outcomes. Consequently, a series of indicators that inform on the motivation and availability of teachers as well as the quality of their training are presented. Further, information communication technologies (ICT) also play an important role in the learning process. As such, an indicator about computer access is considered.

There is a vast research literature suggesting that teachers' salaries are related to their motivation to instruct and hence, they inform on the quality and effectiveness of the learning environment. Figure 2.2.1 illustrates significant differences in

FIGURE 2.2.1
TEACHER SALARIES

Average teacher salaries at starting, top of scale and after 15 years of experience and the ratio of salaries after 15 years of experience to GDP per capita (PPP in USD), by level of education in public institutions, averages of EU member and candidate countries, 2002.



EU member and candidate averages are ranked by the ratio of salaries after 15 years of experience to GDP per capita.

Source: OECD, 2002a: 339.

OBJECTIVE 1: Improving the quality and effektiveness of education and training systems

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average teacher salaries between EU and candidate countries. On average, teacher salaries are approximately 1.3 (primary and lower secondary) to 1.5 (upper secondary) times GDP per capita within the EU, while they are only 70 to 80 per cent of GDP in candidate countries. In an open labour market, lower salaries in candidate countries can make it difficult to attract teachers, especially in light of high retirement rates expected among teachers throughout Europe in the coming decade.

The EU has a specific objective to improve the education and training of teachers and trainers throughout Europe. Figure 2.2.2 portrays the current minimum levels and years of teacher training from a comparative perspective. Overall, training requirements vary more within EU countries than within the candidate countries considered. At the primary level, five EU countries (Austria, Belgium, Ireland, Luxembourg, Spain) only require three years of training but five countries require five or more years of training. Most candidate countries require four years. For upper secondary, four EU countries (Germany, Italy, Luxembourg, Scotland) require six or more years of training while three only require four years. Among candidate countries, half require five years and the other half four years of training to teach at the upper secondary level.

Average years of required training are approximately the same for EU and candidate countries at the primary level but differ by approximately one half year at the upper secondary level. Finally, the training level for upper secondary teachers is tertiary-type A throughout the EU region. For primary teachers the level of initial training is also tertiary-type A except in two EU countries (Belgium, Luxembourg) and four candidate countries (Estonia, Lithuania, Malta, Romania), where the minimum level is tertiary-type B.

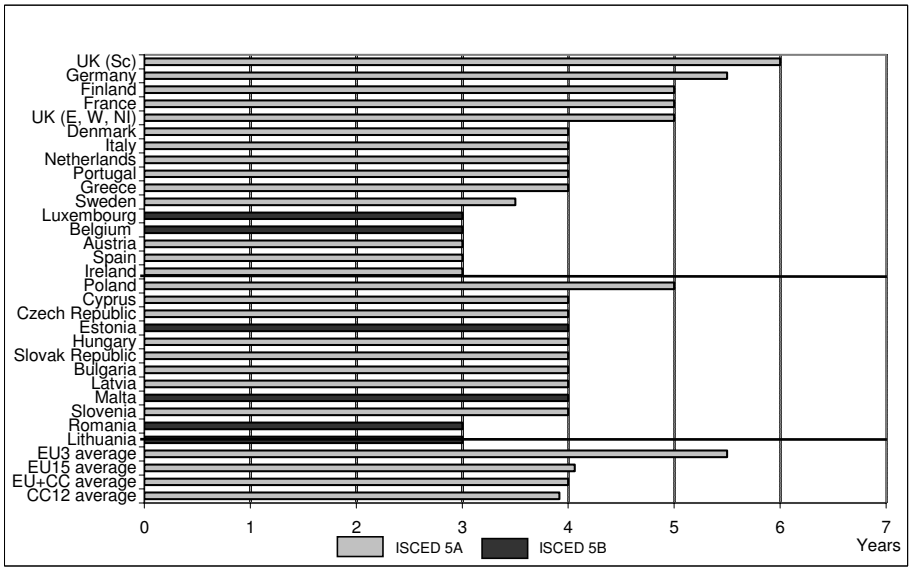
Teachers who are mobile and participate in exchanges benefit from teaching in varied contexts and hence have a better understanding for teaching EU values such as accepting diversity and promoting tolerance. An indicator of teacher mobility such as Figure 2.2.3 also portrays the extent of openness and cooperativeness of education systems. In particular the Figure 2.2.3 indicates teacher mobility, as measured by the number of teachers participating in the Erasmus teacher exchange program relative to the total population. Thus openness is adjusted by the relative size of countries.

There is a wide disparity of teacher mobility in both EU member and candidate countries. On average, teacher mobility is higher in candidate countries than in EU countries. Relatively small countries like Malta, Cyprus, Lithuania and Latvia drive the latter result. Some countries experience large imbalances between the inward and outward mobility of teachers. For example, Luxembourg only reports outgoing instructors. Among candidate countries, Cyprus and Latvia have a relati-

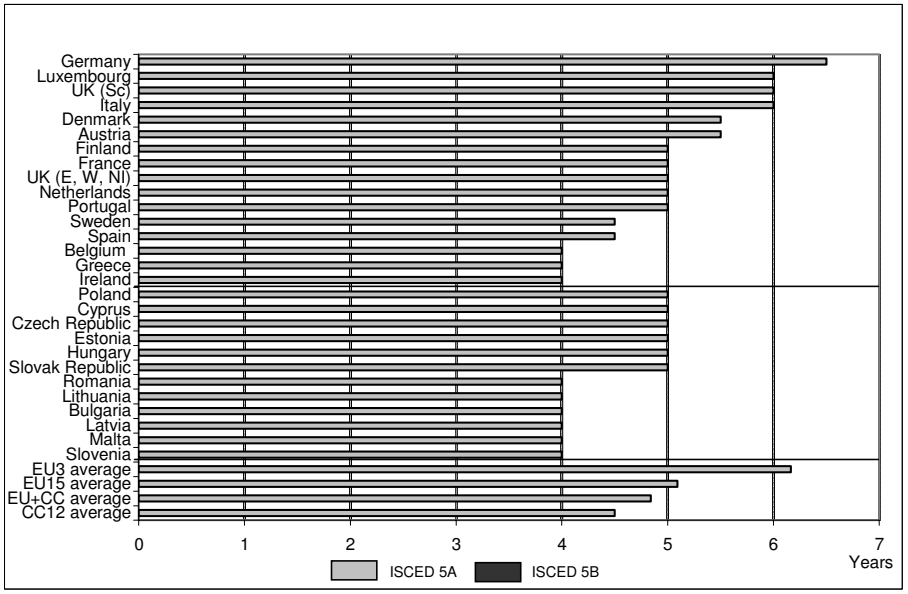
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Figure 2.2.2 **Teacher training**

A. Minimum number of years and level of initial training required for teachers in primary education, EU member and candidate countries, 2000/2001.



B. Minimum number of years and level of initial training required for teachers in upper secondary education, EU member and candidate countries, 2000/2001.



EU member and candidate countries are grouped separately and then ranked in descending order by the minimum number of years of initial training.

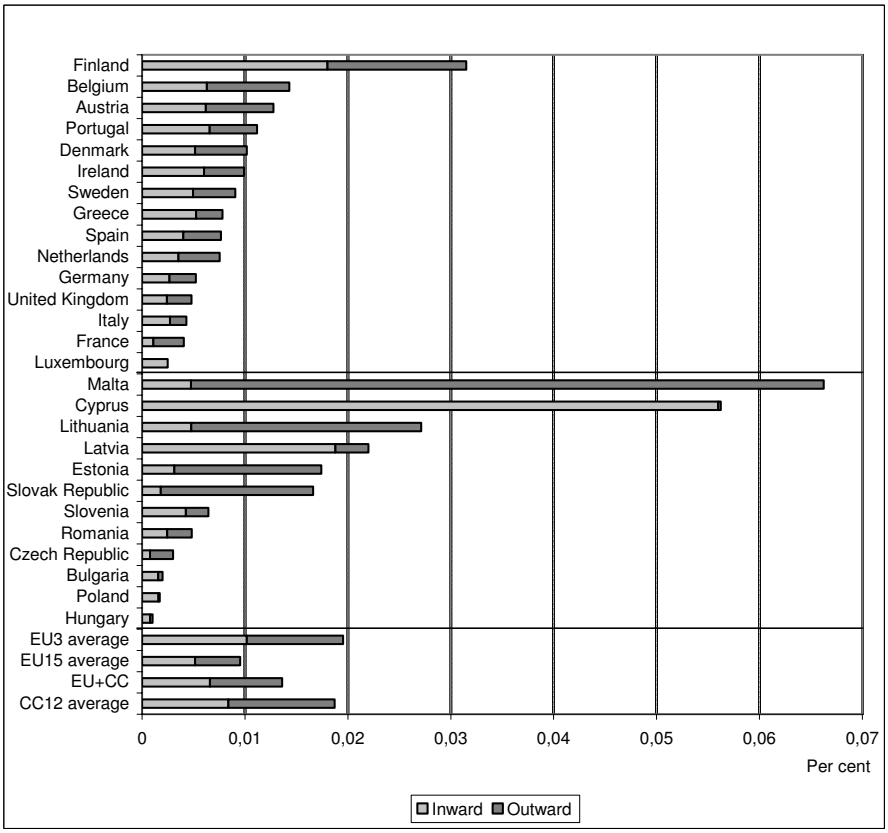
Source: European Commission/EURYDICE/Eurostat, 2002: 6-10.

OBJECTIVE 1.1: Improving education and training for teachers and trainers

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Figure 2.2.3 **Instructor mobility**

Inward and outward mobility of Erasmus teachers as a percentage of the total population in EU member states and candidate countries, 2001/2002.



EU member and candidate countries are grouped separately and then ranked in descending order by the total inward and outward mobility as a percentage of total population.

Source: European Commission, 2003.

OBJECTIVE 3.4: Increasing mobility and exchange

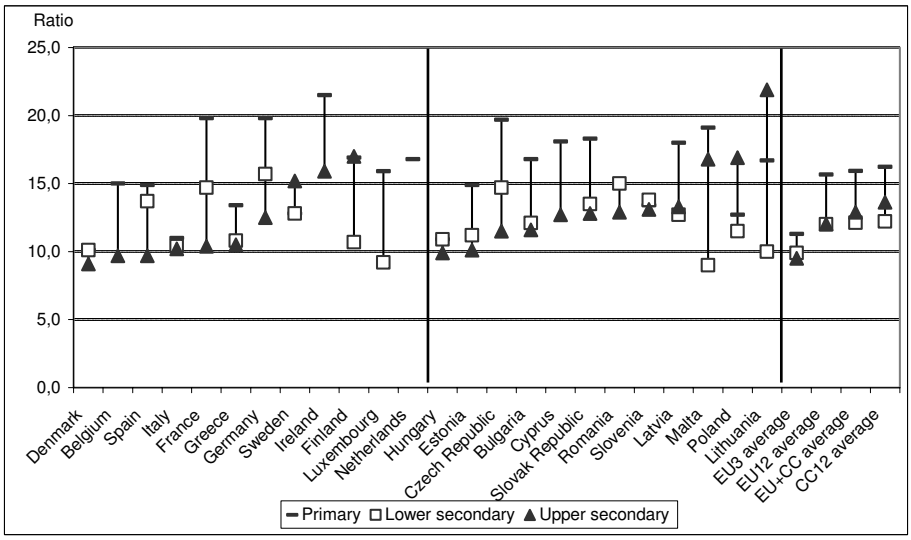
vely large proportion of inward mobility, whereas Malta, Lithuania and the Slovak Republic have a relatively large outward mobility.

Pupil-teacher ratios inform on the quality and effectiveness of instruction. Although not conclusive, research suggests that fewer students per teacher lead to higher student achievement. Figure 2.2.4, highlights a common pattern in both member and candidate countries, namely higher pupil-teacher ratios at primary level (except from Latvia, Poland and Lithuania). Moreover, on average, EU member and candidate countries present similar ratios at all levels of education, with

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Figure 2.2.4 **Pupil-teacher ratios**

Pupil-teacher ratios in primary, lower and upper secondary education, EU member and candidate countries, 1999/2000.



EU member and candidate countries are grouped separately and then ranked in ascending order by the pupil-teacher ratio in upper secondary education.

Source: European Commission/EURYDICE/Eurostat, 2002: 14.

OBJECTIVE 1: Improving the quality and effektiveness of education and training systems

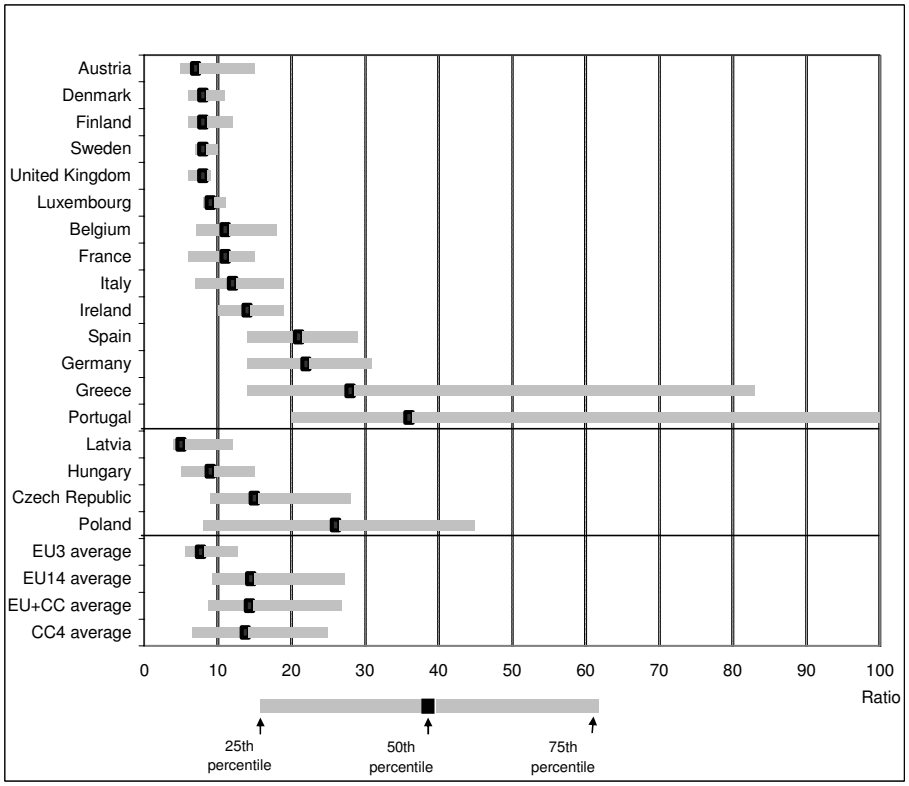
around 16 students per teacher in primary, 12 in lower secondary and between 12 and 13 in upper secondary.

Ensuring access to ICT in schools is an important goal of the EU. Overall, ICT access in schools is a good proxy measure to gauge educational infrastructure, learning resources and computer literacy. Moreover, computers are thought to be important tools that help students learn. Figure 2.2.5 displays the ratio of 15-year-old students to computers in schools. On average, half of the schools within EU countries have 15 or fewer students for every computer. On the other hand, there are on average 25 per cent of schools among EU countries where there are more than 27 students per computer. Moreover, there is a wide disparity in Europe where 50 per cent of schools in six EU countries (Austria, Denmark, Finland, Luxembourg, Sweden, the United Kingdom) have less than 10 students per computer and four countries (Germany, Greece, Portugal, Spain) that have more than 20 students per computer in half of all schools. The disparities are also high among

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Figure 2.2.5 **ICT access in schools**

Ratio of 15-year-old students to computers in schools, by quartiles, EU member and candidate countries, 2000.



EU member and candidate countries are grouped separately and then ranked in ascending order by the median ratio of 15-year-old students to computers in all schools.

Source: OECD, 2002a: 302.

OBJECTIVE 1.3: Ensuring access to ICT for everone

the four candidate countries considered but on average, half of schools have less than 11 students per computer, which is better than in EU member countries.

2.3 A Output of educational institutions

This section presents a series of indicators that reflect the output of educational institutions. First, the current levels of education among adult populations are considered in an effort to get an indication of human resource potential. Subsequent to this, the current outputs of tertiary institutions are observed, in order to inform about gross additions to the stock of human resources among adult populations. In

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particular, one indicator draws attention to the percentage of human resource development dedicated to mathematics, science and technology, which are deemed as important areas of knowledge for the European Union to remain competitive. Finally, the average number of foreign languages learned per student at different levels of education informs on an educational output that is important to a number of EU goals, including the promotion of cohesion, diversity and mobility.

Figure 2.3.1 indicates the level of human resources in terms of formal educational qualifications that are currently observed among populations aged 25 to 64. In particular, it signals the extent of adult learning opportunities needed to develop skills for the knowledge society. Among the candidate countries considered, a higher average percentage of adults have completed at least upper secondary when compared to the typical EU countries. While an average of 62 per cent of males and 59 per cent of females in the EU completed upper secondary, an average of 74 and 70 per cent, respectively, completed upper secondary in the Czech Republic, Hungary, Poland and the Slovak Republic. Thus the latter candidate countries will increase the average percentage of those attaining at least upper secondary in the expanded EU region.

In contrast, Figure 2.3.1b shows that the average percentage of populations in the EU who have attained at least tertiary is higher than in the four candidate countries considered. An average of only 12 per cent of the population aged 25 to 64 have completed tertiary education in the Czech Republic, Hungary, Poland and the Slovak Republic. The average of the three EU countries with the highest percentage completing tertiary is nearly three times higher than the average of the four candidate countries. This highlights the disparities of educational attainment beyond secondary in the expanded EU region.

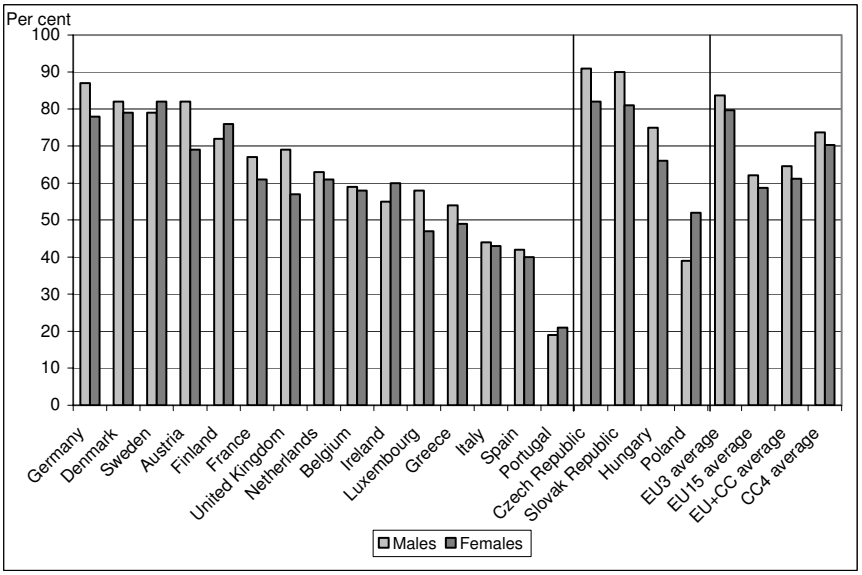
Figure 2.3.2 focuses on the tertiary attainment of labour force participants aged 25 to 64. In particular, the indicator depicts the percentage of those completing programmes with a type A versus a type B destination in the labour market. The interpretation of ISCED-97 outlined in OECD (1999) distinguishes between tertiary-type A and tertiary-type B destination programmes as follows. Tertiary-type A programmes are largely theoretically based and are intended to provide sufficient qualifications for gaining entry into advanced research programmes and professions with high skill requirements. Tertiary-type B programmes are generally more practical, technical and occupationally specific than type A programmes.

In general, the candidate countries considered have a smaller percentage of tertiary completers who have a type B destination. This partly explains the lower total percentage of tertiary completers among the candidate countries considered. Conversely, the high percentage of type B completers in countries like Ireland,

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Figure 2.3.1 **Educational attainment of the adult population**

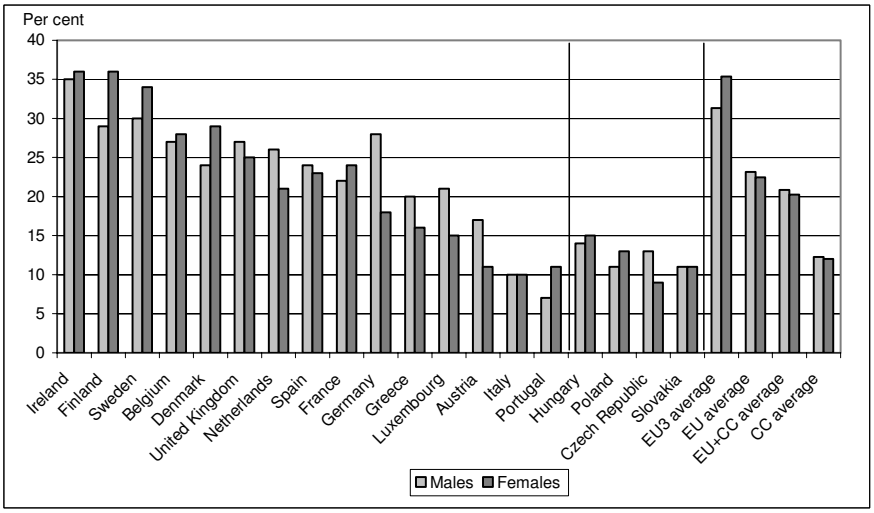
A. Percentage of populations aged 25 to 64 who have attained at least upper secondary, by gender, EU member and candidate countries, 2001.



EU member and candidate countries are grouped separately and then ranked in descending order by the percentage who have attained at least upper secondary education.

Source: OECD, 2002a: 55.

B. Percentage of populations aged 25 to 64 who have attained at least tertiary education, by gender, EU member and candidate countries, 2001.



EU member and candidate countries are grouped separately and then ranked in descending order by the percentage who have attained at least tertiary education.

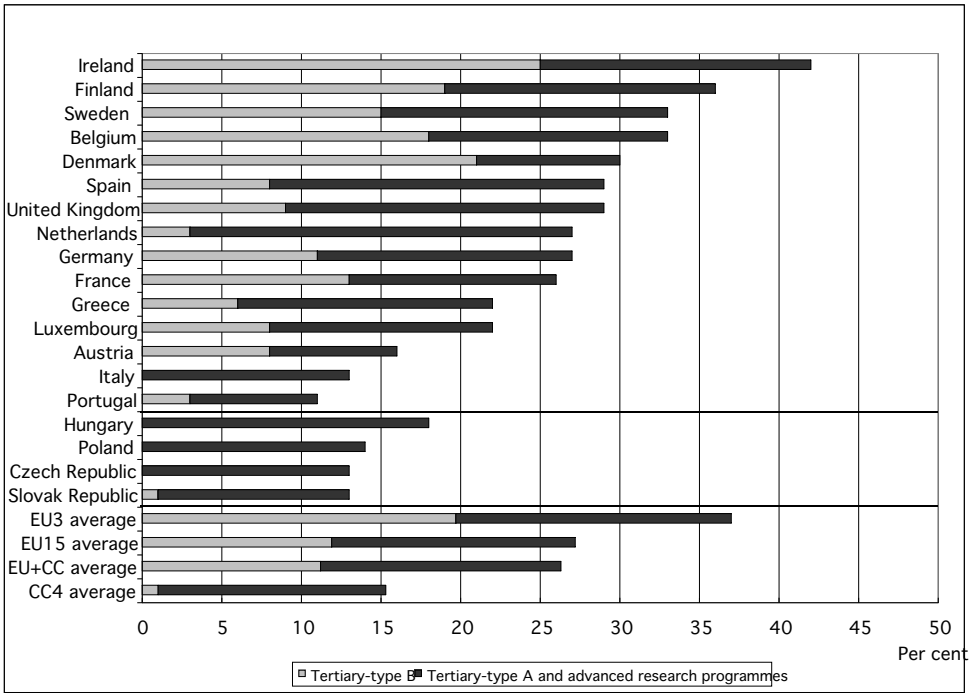
Source: OECD, 2002a: 55.

OBJECTIVE 1.2: Developing skills for the knowledge society

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Figure 2.3.2 **Tertiary completion among labour force participants**

Percentage of labour force populations aged 25 to 64 who have attained tertiary education, by type destination programme, EU member and candidate countries, 2001.



EU member and candidate countries are grouped separately and then ranked in descending order by the percentage who have attained tertiary education of any type.

Source: OECD, 2002a: 54.

OBJECTIVE 1.2: Developing skills for the knowledge society

Finland and Belgium, explain why these countries feature the highest percentages of labour force participants who have completed any type of tertiary education.

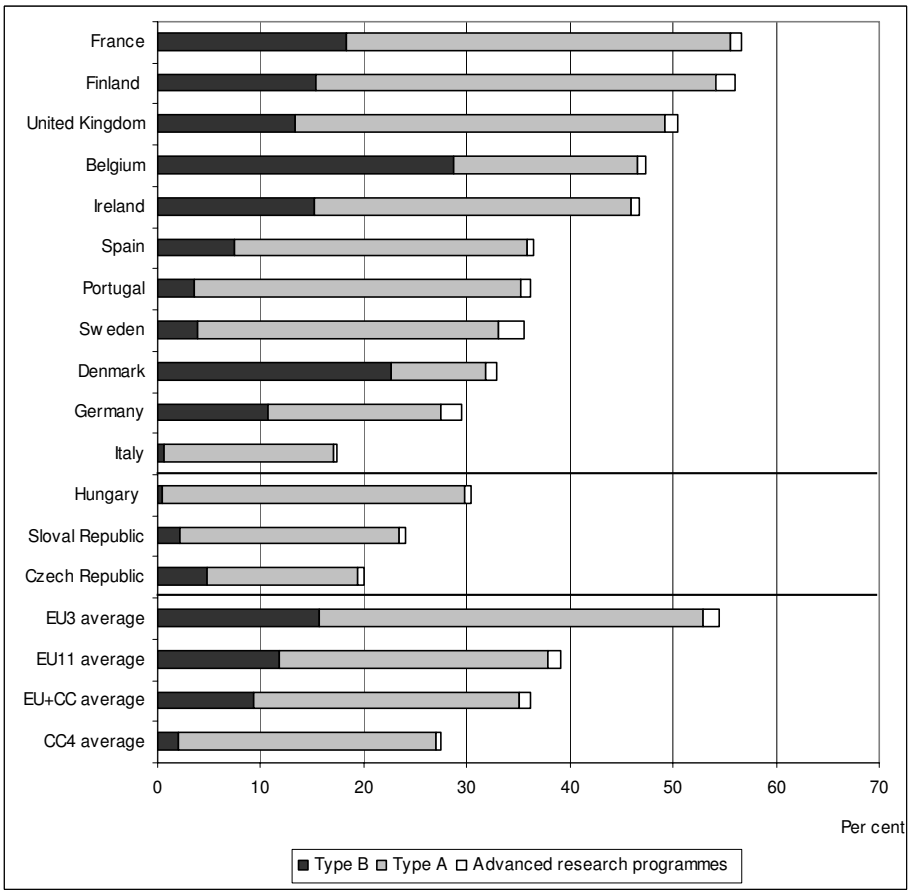
Only the stock of educational qualifications among adult populations has been considered so far. Figure 2.3.3 considers the recent percentage of tertiary graduates. It is a good indicator comparing the extent of human resources currently being produced by different education systems across the EU region.

While the average percentage of tertiary graduates for the eleven EU countries considered is almost 40 per cent, the figure displays a wide disparity among the member states. Available data for three candidate countries, namely Hungary, the Czech and Slovak Republic, aggravates the disparity. Comparing the average percentage of graduates from the latter two countries with the three EU countries (France, Finland, the United Kingdom) that realize the highest graduation rates reveals a difference of more than 2.5 times.

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Figure 2.3.3 Tertiary graduation rates

Sum of graduation rates by single year of age multiplied by 100 by type and length of programme, EU member and candidate countries, 2000.



EU member and candidate countries are grouped separately and then ranked in descending order by total graduation rates in all tertiary programmes.

Source: OECD/UNESCO, 2002: 201.

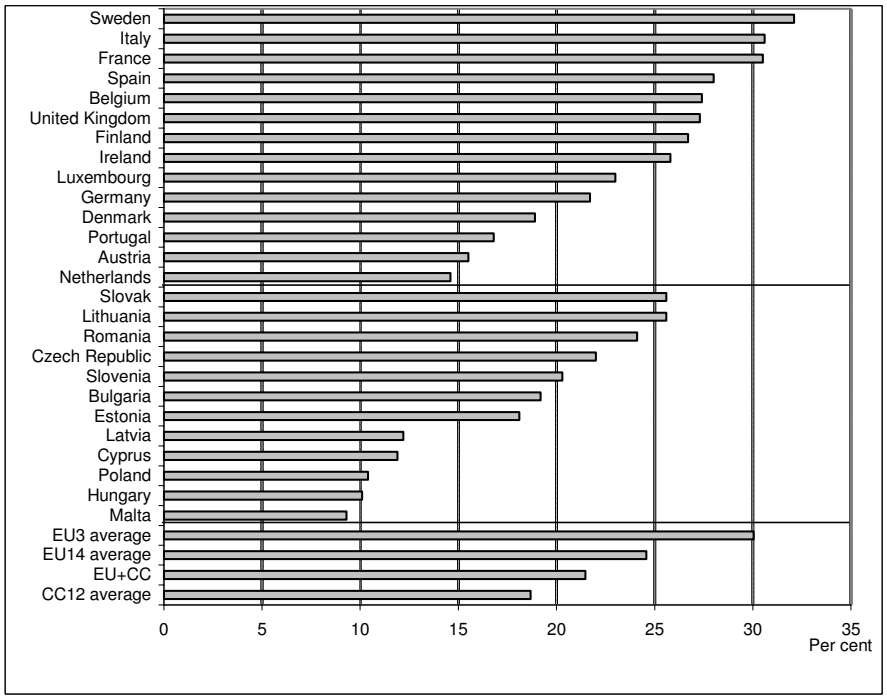
OBJECTIVE 1.2: Developing skills for the knowledge society

The European Union has a specific objective to develop technical and scientific skills for the knowledge society. To do this, educational systems must successfully recruit students to scientific and technical studies. Figure 2.3.4 indicates the percentage of all graduates in 2000 whose field of study was mathematics, science or technology. Within the EU, three countries (France, Italy, Sweden) succeed in having over 30 percent of all graduates in mathematics, science or technology studies, while one EU country (the Netherlands) reaches only 15 percent. Of the twel-

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Figure 2.3.4 **Graduates in mathematics, science and technology**

Tertiary graduates in mathematics, science and technology as percentage of all tertiary graduates, EU member and candidate countries, 2001 [1].



EU member and candidate countries are grouped separately and then ranked in descending order by the percentage of graduates in mathematics, science and technology as a percentage of all graduates.

Source: European Commission/EURYDICE/Eurostat, 2002.

Note 1: Reference year for France, Germany, Luxembourg, the Netherlands, Spain, Cyprus and Hungary is 2000.

OBJECTIVE 1.4: Increasing recruitment to scientific and technical studies

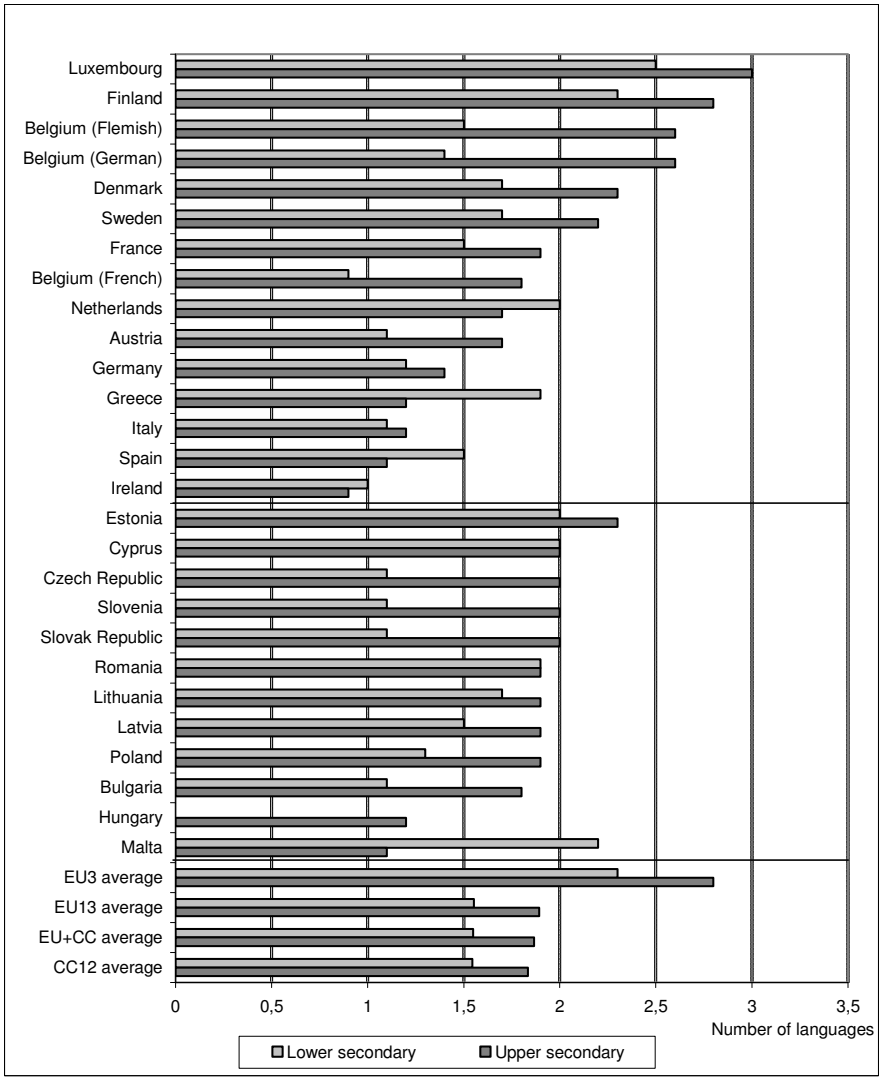
ve candidate countries, five have less than 15 percent of all graduates in these types of studies, but five have over 20 percent. Overall, the EU region including member and candidate countries has 21 percent of graduates in those fields.

An important objective of the EU is to improve foreign language learning. Figure 2.3.5 summarizes the average number of foreign languages learned per pupil in lower and upper secondary to provide a comparative perspective of the current situation. In short, EU member and candidate countries do not differ in the average number of languages learned per pupil per level of education. However, there is a wider disparity among EU member countries, where pupils in five countries learn on average at least two languages at the upper secondary level, and four countries learn less than 1.5. In contrast, only two of the twelve candidate countries learn less

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Figure 2.3.5 Number of foreign languages

Average number of foreign languages learned per pupil in lower and upper secondary school, EU member and candidate countries, 1999/2000.



EU member and candidate countries are grouped separately and then ranked in descending order by the average number of languages learned by pupils in upper secondary.

Source: European Commission/EURYDICE/Eurostat, 2002: 14.

OBJECTIVE 3.3: Improving foreign lagnuage learning

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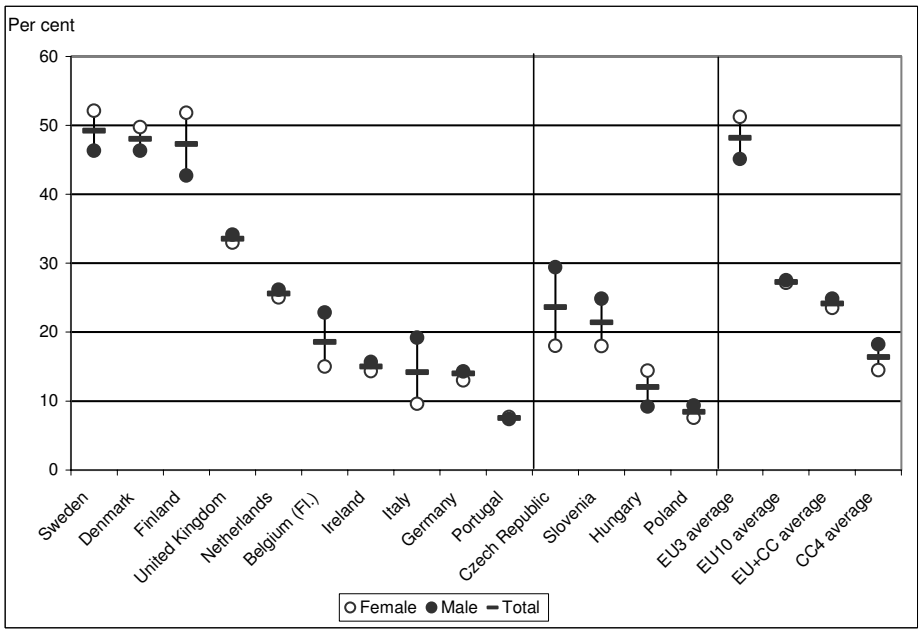
than 1.5 languages at the upper secondary level of education. Nevertheless, the three EU countries (Belgium, Finland, Luxembourg) learning the most languages at the upper secondary level exceed 2.5 languages.

2.3B Individual access, participation, progression and mobility

The following section also considers the output of educational institutions, but not in the qualifications sense as in the previous section. Gaining access, participating, progressing and moving within education and training systems are also viewed as outputs. The latter are interpreted as indicators of what education and training systems allow for in terms of capacity and flexibility. After having taken stock of the educational qualifications among adult populations, the first two indicators in this section consider the extent to which adults take up learning opportunities. Adult learning is important for upgrading and retraining the skills needed for the

Figure 2.3.6 Participation in adult education and training

Participation rates in adult education and training by gender, populations aged 45 to 64, EU member and candidate countries.



EU member and candidate countries are grouped separately and then ranked in descending order by the total participation rate in adult education and training.

Source: OECD IALS 1994-1998 Database, 2000.

OBJECTIVE 2.1: Open learning environment

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knowledge society, both from an economic and social point of view. Subsequent to this, two indicators concerning the work situation of young people are presented. Finally, an indicator of student mobility between countries is considered.

A specific objective of the EU is to encourage an open learning environment and to facilitate access of all to education and training systems. Moreover, the EU aims to encourage individuals to develop the skills needed for the knowledge society. Figure 2.3.6 depicts those aged 45 to 64 that participated in some kind of adult education and training in the 12 months preceding the survey. In general, this age group does not have the benefit of a recent education. Thus rapid changes in the labour market and the wider society have rendered the skills of many within this age group obsolete or in need of upgrading.

The figure demonstrates that few countries have rich adult learning cultures. There are only three EU countries (Denmark, Finland, Sweden) where participation rates reach over 45 percent. Among all the EU countries considered, a wide disparity exists where there are four countries that have participation rates less than 15 percent. In addition, two of the four candidate countries considered fall below this level. There is also a gender disparity in some countries, but on average there is no gender disparity among the EU countries considered. The gender disparity in the four candidate countries is 4 percent.

Turning to adult learning that is specifically geared toward the labour market, Figure 2.3.7 depicts the extent of participation in continuing and vocational training in enterprises among adult populations aged 25 to 64. Many employers in the EU region provide their employees with training courses to update their skills, but this can significantly vary by country. Participation rates in seven of the nine candidate countries considered are low. In particular, they compare with the two lowest rates among EU countries, which are lower than 20 percent. Otherwise, six EU countries exceed rates over 40 percent. With a few exceptions, gender disparities are generally low.

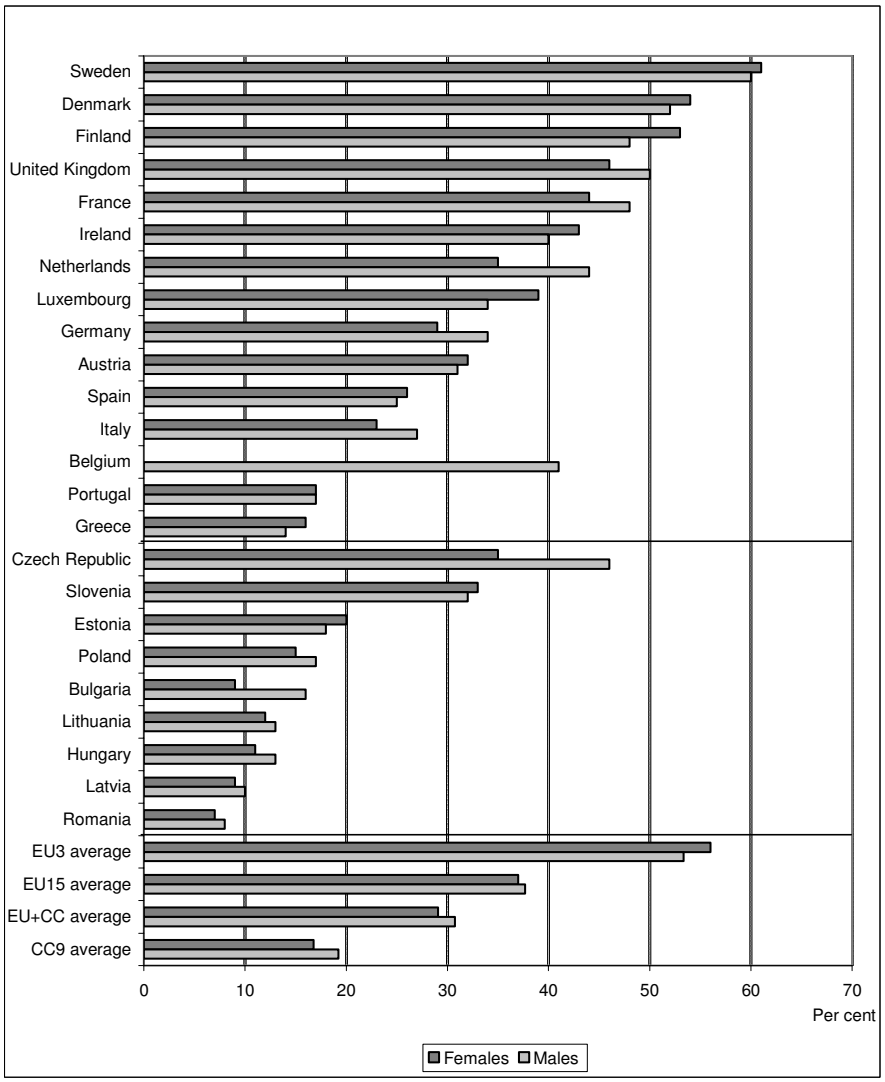
Youth unemployment is a problem in the EU region. Some argue that school does not prepare youths for the needs of the labour market, and thus the transition from school to work can be problematic for many youths. Figure 2.3.8 illustrates the employment status of youths aged 15 to 19 and 20 to 24 that are still in education. This is a good indicator demonstrating the flexibility of both education and labour market systems in terms of forming links between the two and providing students with labour market experience.

Figure 2.3.8a indicates that two EU countries (Denmark and the United Kingdom) are successful in encouraging over 35 percent of all those aged 15 to 19 to be in the labour force while at the same time pursuing an education. In contrast, three EU countries (Greece, Italy, Portugal) have less than 5 percent of those aged

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Figure 2.3.7 **Participation in CVT in enterprises**

Participation rates in continuing and vocational training offered by enterprises, populations aged 25 to 64, EU member and candidate countries, 1999.



EU member and candidate countries are grouped separately and then ranked in descending order by number of participants in CVT courses as a percentage of employees in all enterprises.

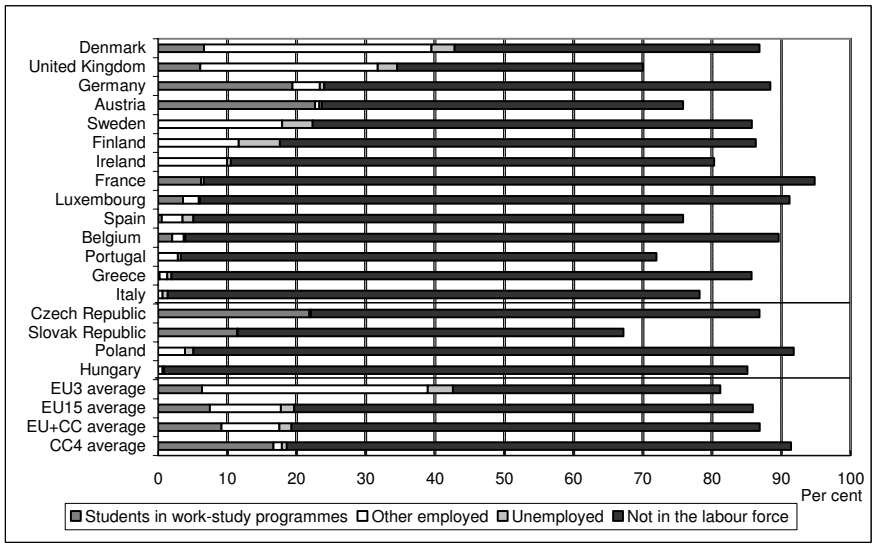
Source: Eurostat, 2002: 58-62.

OBJECTIVE 2: Facilitating the access of all to education and training systems

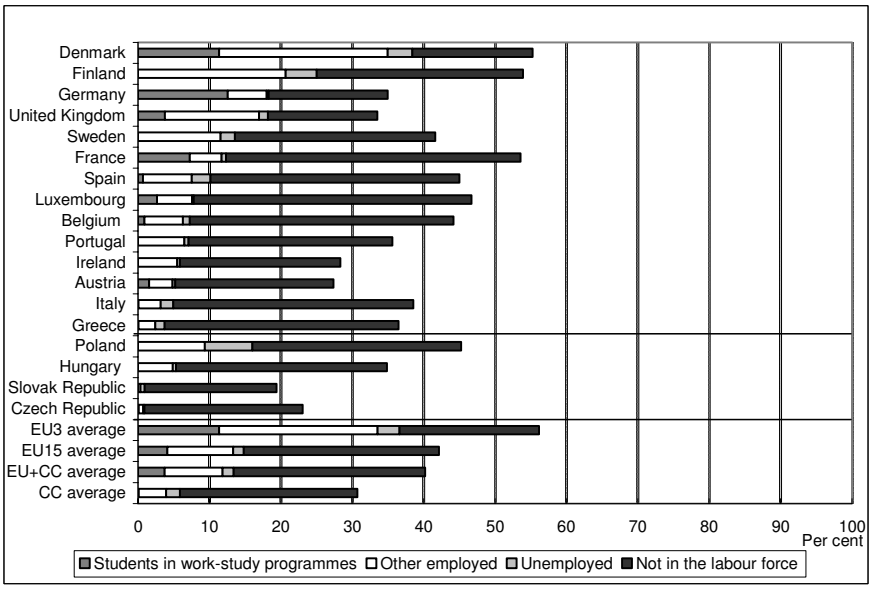
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Figure 2.3.8 **Youth transition from school to work**

A. Percentage of youth populations aged 15 to 19 in education, by work status, EU member and candidate countries, 2001.



B. Percentage of youth populations aged 20 to 24 in education, by work status, EU member and candidate countries, 2001.



EU member and candidate countries are grouped separately and then ranked by the percentage of students in the labour force.

Source: OECD, 2002a: 259.

OBJECTIVE 1: Improving the quality and effektiveness of education and training systems

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15 to 19 in both the labour force and in school. Of the four candidate countries considered, the Czech and Slovak Republic have a relatively large percentage of students in work-study programmes. Only two EU countries compare with these latter figures, namely Austria and Germany with approximately 20 percent of students in work-study programmes. On average, EU member and candidate countries have just over 15 percent of students between 15 and 19 years in the labour force, whereas the top three EU countries (Denmark, the United Kingdom and Germany) double this percentage. Even though the proportion of students in the labour market is higher for the age group 20 to 24 in all countries (as shown in Figure 2.3.8b) the relative differences between countries are similar for both age groups.

Figure 2.3.9 looks further into the work status of youth populations, but the indicator focuses on youths aged 20 to 24 who are unemployed, not in education and have not completed upper secondary education as a percentage of all 20 to 24 year-olds, not just as a proportion of those in the labour force. The latter distinction is important to note since estimates using different population bases (i.e. all 20-24 year-olds or just the 20-24 year-olds in the labour force) are significantly different. This particular subpopulation is 'at-risk' of being further excluded from the labour market of knowledge societies. A specific EU objective is to make learning more attractive to this target group.

Three EU countries (Austria, the Netherlands, the United Kingdom) have approximately one percent of 20 to 24-year-olds in this situation, whereas in two EU countries (Italy, Spain) the percentage is nearly five. This shows that scope of problem varies among member countries. Of the four candidate countries considered, three (the Czech Republic, Hungary, the Slovak Republic) have an approximate percentage of two or less while the other is nearly three per cent. With few exceptions, the percentage of males aged 20 to 24 who are unemployed, not in education and have attained less than upper secondary is higher than females of the same profile. This gender disparity is pronounced among the candidate countries that are considered.

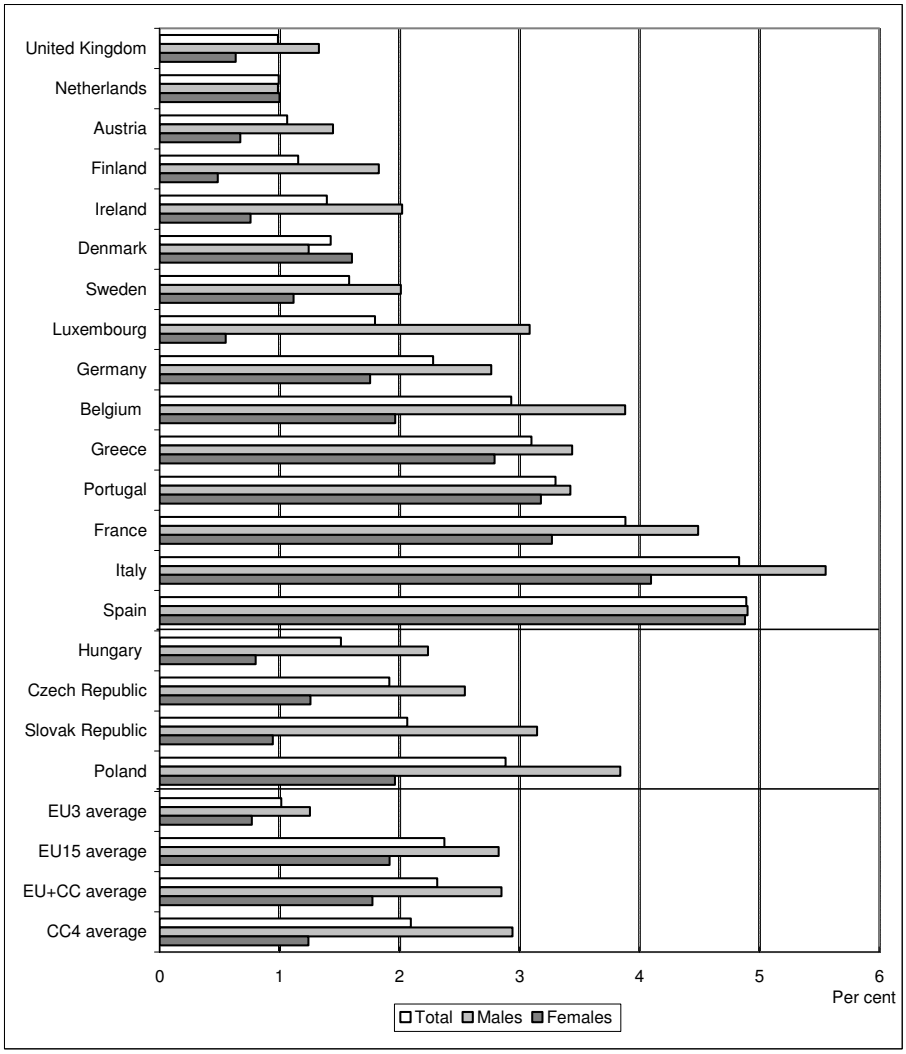
The EU has a specific objective to increase mobility and exchange of students among member and candidate countries. Figure 2.3.10 is an indicator displaying the extent of mobility from a comparative perspective. Head counts of inward and outward mobility are reported as a percentage of the total population in order to portray the extent of mobility relative to the size of each country population.

Some patterns emerge from the data. First, EU countries with relatively low mobility as measured by combining both inward and outward mobility experience a relatively imbalanced low inward mobility. This means that in these countries more students are studying abroad than there are foreign exchange students

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Figure 2.3.9 **Unemployed youth**

Youth populations aged 20 to 24 with less than upper secondary completion that are unemployed and not in education as a percentage of all 20 to 24 year-olds, by gender, EU member and candidate countries, 2001.



EU member and candidate countries are grouped separately and then ranked in ascending order by the lowest percentage that is unemployed.

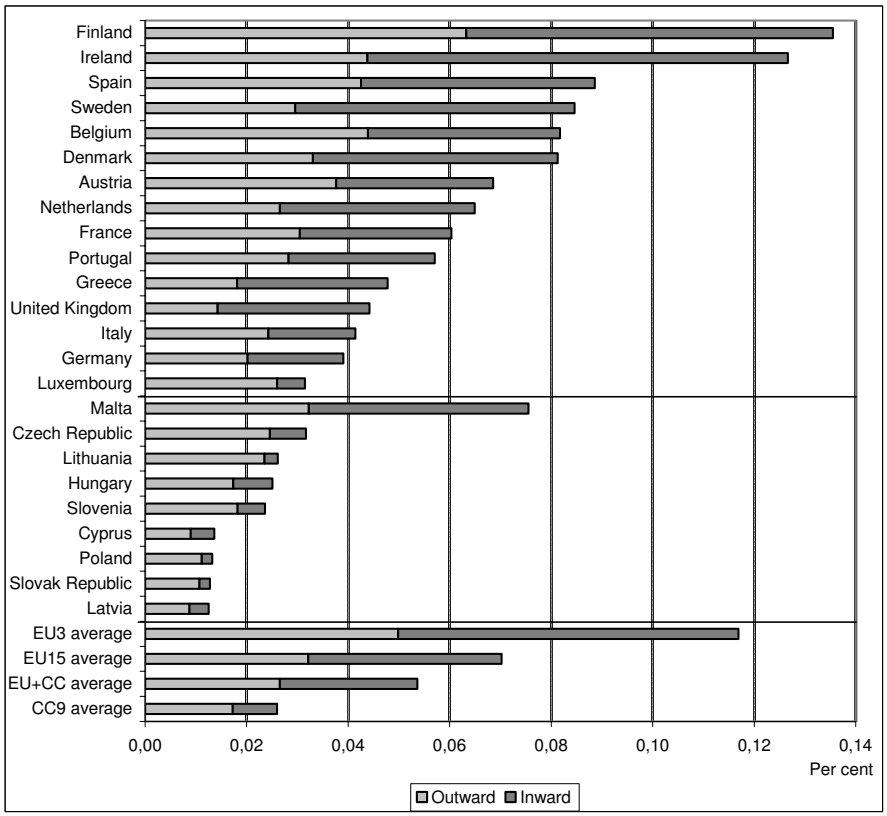
Source: OECD, 2002a: 268.

OBJECTIVE 2.2: Making learning more attractive

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Figure 2.3.10 **Mobility of students**

Inward and outward mobility of Erasmus students as a percentage of the total population of the countries of the home institution, EU member and candidate countries, 2001/2002.



EU member and candidate countries are grouped separately and then ranked in descending order by the total inward and outward mobility as a percentage of the total population.

Source: European Commission, 2003

OBJECTIVE 3.4: Increasing mobility and exchange

coming into those countries. Second, an imbalanced low inward mobility is pronounced among candidate countries. Moreover, the average mobility among the candidate countries considered is nearly half the EU average.

2.4 Learning outcomes

The framework laid out in Chapter 1 distinguishes between learning outcomes and educational outputs. Measures of learning outcomes that are available and used in this section reflect actual knowledge and skills embodied in individuals. An impor-

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tant assumption is made, namely that the observed knowledge and skills are acquired as a result of learning across multiple settings including formal, non-formal or informal contexts. As such, direct measures indicate the quality of learning systems. Moreover, they constitute good indicators of human resource potential.

Two surveys provide data on learning outcomes spanning the spectrum of lifelong learning, namely the International Adult Literacy Survey (IALS) and the Programme for International Student Assessment (PISA). The former has measures of literacy proficiency for populations aged 16 to 65, where the levels of proficiency denote how well adults use information to function in society. This section presents two indicators using IALS data, which focus on observed skills of early career-aged adults and youth. Using the PISA data, two indicators that focus on the skill levels of 15-year-old students are also reported in this section. PISA is a good indicator of the quality and effectiveness of formal schooling systems. In particular, the measures indicate how well 15-year-olds, who are approaching the end of compulsory schooling, are prepared to meet life's challenges. It assesses student's readiness to participate in the larger society and is primarily concerned with the transition from the world of school to the world of work and/or higher education.

Early career-aged adults aged 25 to 34 have the benefit of recent education and represent the potential for the next generation. Consequently, it is interesting to consider the skill profiles of these populations from a comparative perspective. Figure 2.4.1 illustrates the 5th, 25th, 50th (or median), 75th and 95th percentile scores along estimated distributions of skill among populations aged 25 to 34 whose highest level of educational attainment is upper secondary versus those who attained some kind of tertiary.

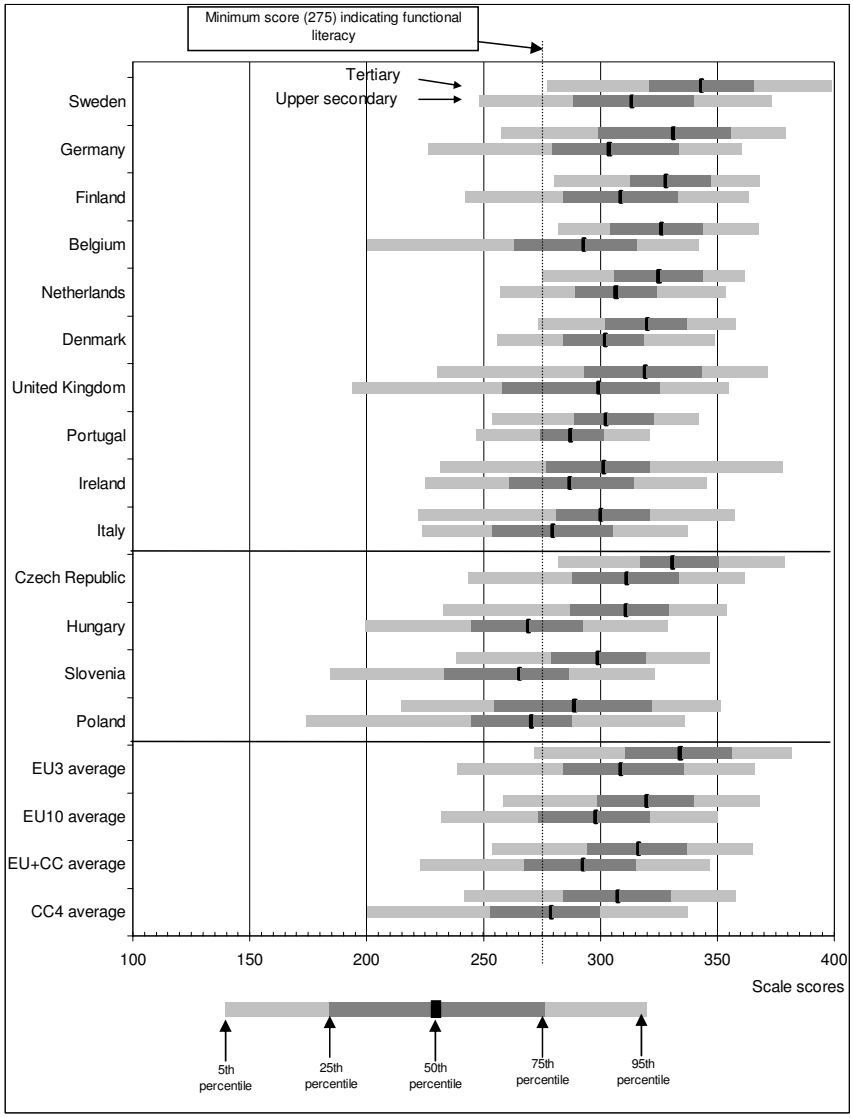
A number of interesting patterns emerge from this indicator. First, the top 50 percent of those who have attained some kind of tertiary consistently score higher than the median performance of those who only completed upper secondary. Second, well over 75 percent of tertiary completers among the EU countries considered, on average reach levels of functional literacy. This means that on average individuals attain a score higher than 274 and are proficient at Level 3 or higher, which is deemed to be the minimum level needed to cope with the demands of knowledge societies. Although less, nearly 75 percent of upper secondary completers in the EU on average also reach functional literacy. In contrast, among three of the four candidate countries (Hungary, Poland, Slovenia) considered, less than 50 percent of upper secondary completers on average reach levels of functional literacy.

While nearly all of the tertiary completers in the three best EU countries (Finland, Germany, Sweden) on average reach functional literacy, in a number of countries many who have completed some kind of tertiary education do not exhibit the skills needed to function in knowledge societies. On average, the latter

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Figure 2.4.1 **Skill profiles of early career-aged adults**

Distribution of skill scores[4] at 5th, 25th, 50th, 75th, and 95th percentiles on a scale from 0 to 500, tertiary and upper secondary completers aged 25-34, EU member and candidate countries.



EU member and candidate countries are grouped separately and then ranked in descending order by the median score of those who completed tertiary schooling.

Source: OECD IALS 1994-1998 Database, 2000.

OBJECTIVE 1.2: Developing skills for the knowledge economy

4. Skill scores are computed as the average of the prose, document and quantitative literacy skill scores as defined in the IALS.

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number is less than 25 percent in both EU and candidate countries. Similarly, many who have completed upper secondary, approximately 25 percent on average among EU countries and 50 percent on average among candidate countries, do not exhibit the skills needed to function in knowledge societies.

The EU has adopted a specific objective to make learning more attractive. In particular, it is important to encourage those with low levels of skill to pursue further education. Figure 2.4.2 presents the skill profiles of the youth populations aged 16 to 24 that are not in education, but are either employed or doing something else (latter denoted as 'others including non-employed').

Indeed, the EU and CC average suggest that more than 50 percent of those aged 16 to 24 who are not in education and not employed do not have the skills needed to cope in knowledge societies. On average the same holds for those who are employed among the candidate countries considered as well as in three EU countries (Finland, the Netherlands, Sweden).

The EU has a specific objective to develop skills for the knowledge economy. Figure 2.4.3 presents the estimated distribution of reading literacy skills of 15-year olds at the 5th, 25th, 50th (median), 75th and 95th percentile scores. It is a good indicator of the preparedness of students approaching upper secondary graduation in terms of being able to cope with the skill demands of the knowledge society.

On the PISA reading literacy scale, a score of at least 481 on a scale of 0 to 800 indicates at least Level 3 performance, which is deemed an acceptable level of performance. For example, students proficient at Level 3 are capable of reading tasks of moderate complexity, such as locating multiple pieces of information, making links between different parts of the text, and relating to everyday familiar knowledge.

Results show that in three EU countries (Greece, Portugal, Luxembourg), 50 percent or more of students do not reach Level 3 on the reading literacy scale. Only one of the four candidate countries considered displays similar results. On the other hand, in two EU countries (Finland, the Netherlands), 75 percent or more reach at least Level 3 in reading literacy.

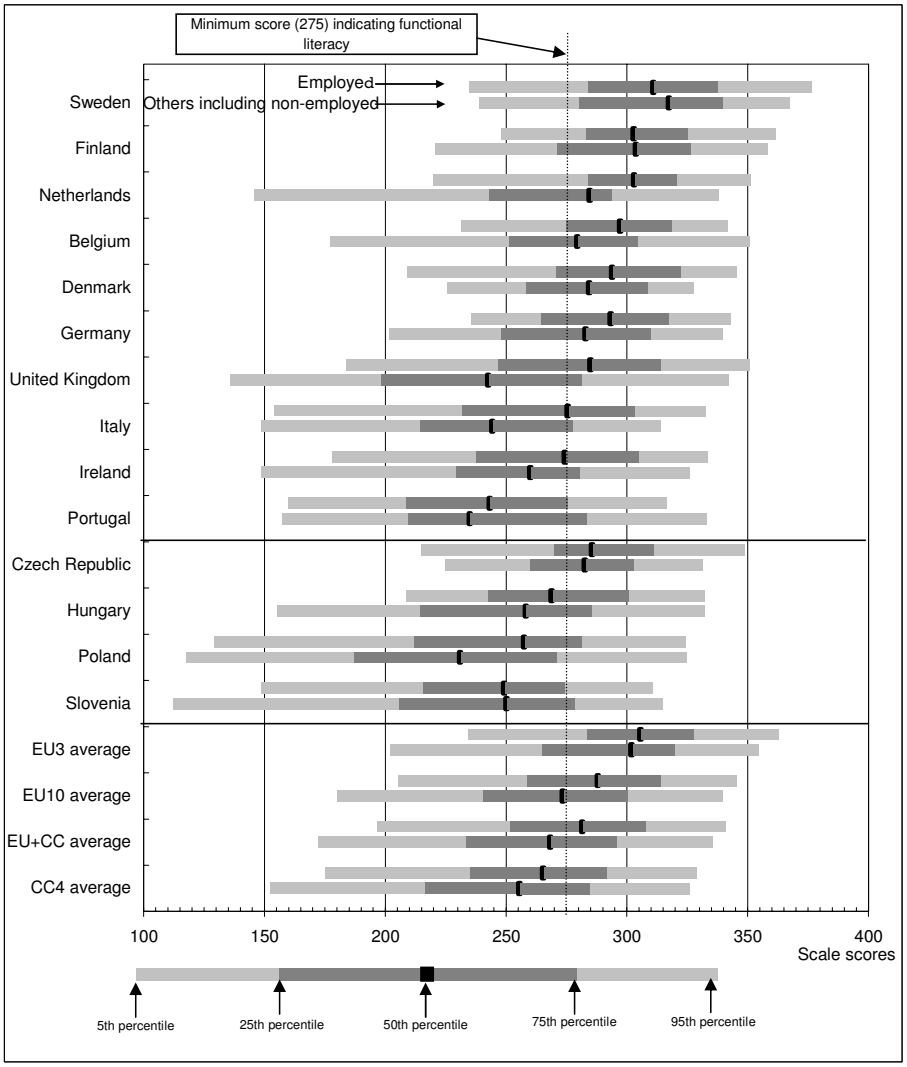
Figure 2.4.4 displays the percentage of students in each country reaching less than Level 2 on the reading scale. To help interpret the results, OECD (2001) writes that those who only reach Level 1 are not able to routinely show the most basic skills that PISA seeks to measure; and performance below Level 1 signals serious deficiencies in student's ability to use reading literacy as a tool for the acquisition knowledge and skills in other areas. Consequently, the EU seeks to reduce the percentage of low-achieving 15-year-olds in reading literacy.

The figure shows that there is a wide disparity among EU countries in the percentage of low-achievers. Among all EU countries there are on average 17 percent

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Figure 2.4.2 **Skill profile of the youth population not in education**

Distribution of skill scores at 5th, 25th, 50th, 75th, and 95th percentiles on a scale from 0 to 500, populations aged 16 to 24 who are not in education, EU member and candidate countries.



EU member and candidate countries are grouped separately and then ranked in descending order by the median score of those employed.

Source: OECD IALS 1994-1998 Database, 2000.

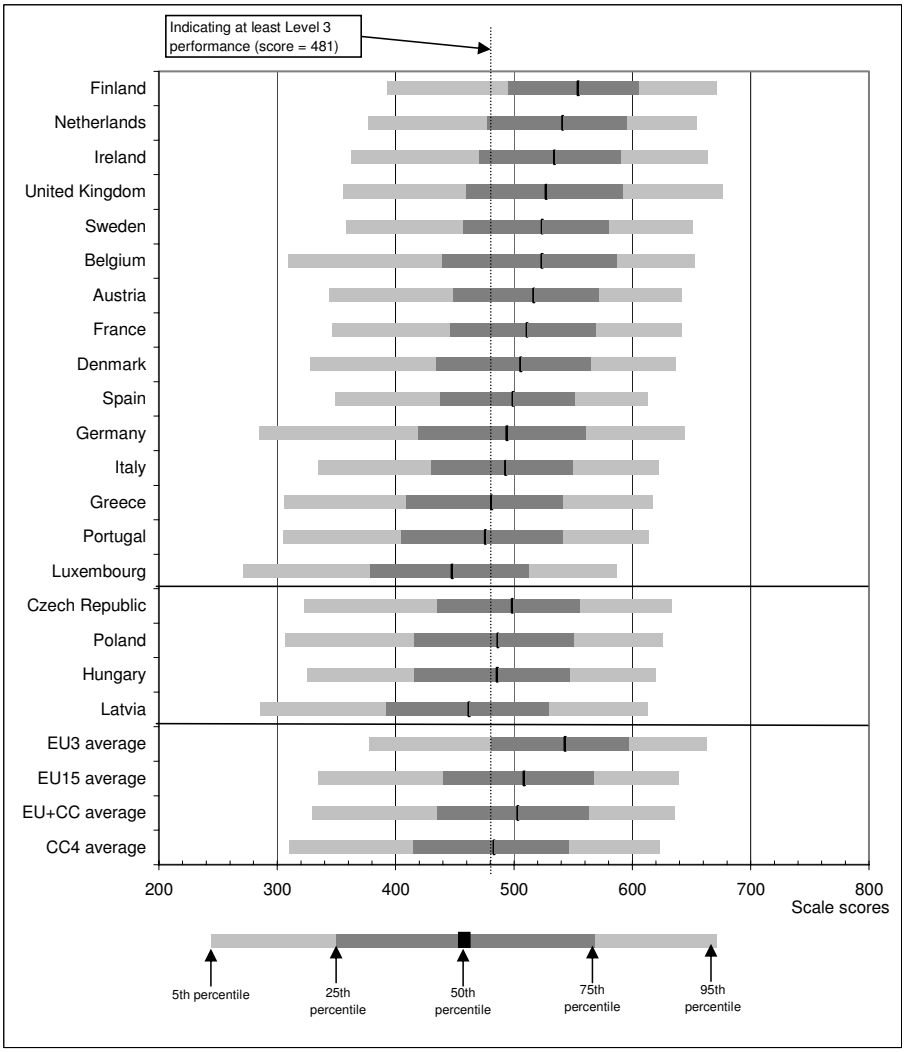
OBJECTIVE 2.2: Making learning more attractive

4. Skill scores are computed as the average of the prose, document and quantitative literacy skill scores as defined in the IALS.

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Figure 2.4.3 Skill profiles of 15-year-olds

Distribution of skill scores at 5th, 25th, 50th, 75th, and 95th percentiles on the reading literacy scale ranging from 0 to 800, student populations aged 15, EU member and candidate countries, 2000.



EU member and candidate countries are grouped separately and then ranked in descending order by the median score.

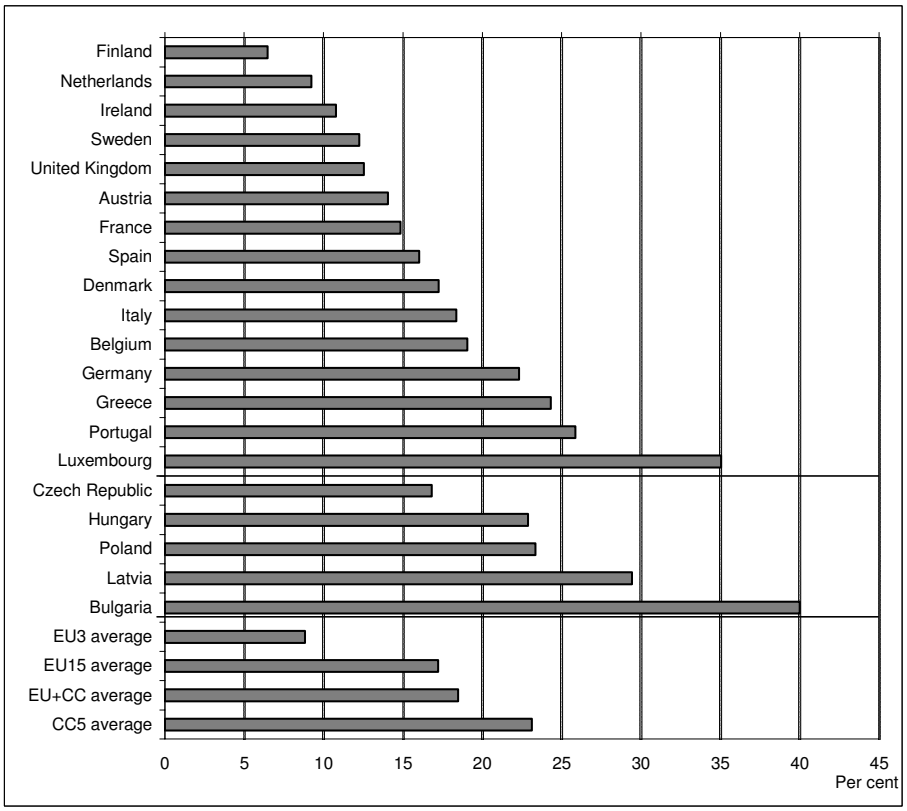
Source: OECD PISA 2000 Database, 2001.

OBJECTIVE 1.2: Developing skills for the knowledge economy

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Figure 2.4.4 **Low achievers in PISA**

Percentage of 15 year-olds performing at level 1 or below on the PISA reading literacy scale, EU member and candidate countries, 2000.



EU member and candidate countries are grouped separately and then ranked in ascending order by the lowest percentage in reading literacy level 1 or below.

Source: OECD PISA 2000 Database, 2001.

OBJECTIVE 1.2: Developing skills for the knowledge economy

of students achieving Level 1 or below on the reading literacy scale. This figure is nearly halved (9 per cent) for the three EU countries (Finland, Ireland, the Netherlands) with the lowest proportions. In contrast, the average percentage of low achievers among the five candidate countries considered is 23 percent.

2.5 Impact of learning

In this section the broader impacts of learning are considered. It is important to note, however, that for the most part, impacts are assumed. Some of the relation-

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ships are supported by research but much of the research investigating the impact of learning rests on assumptions that are not easily verified because the data are lacking. Nevertheless, many of the objectives adopted by the EU implicitly assume that learning undertaken through education and training systems will benefit European economies and societies. Accordingly, the percentage of populations who have completed tertiary education or who have attained IALS literacy Level 4/5 are compared with economic performance, competitiveness[6], labour force participation, quality of life[7] and trust[8]. The latter are some of the potential impacts of learning that underpin many of the EU objectives adopted.

The percentage of populations aged 25 to 64 who have attained tertiary education indicates the supply of high skills in different countries. In theory high skills should lead to higher labour productivity and hence higher gross domestic product. Figure 2.5.1a indeed shows a strong positive relationship between tertiary completion and GDP per capita, adjusted for purchasing power parity (PPP). The average proportion of those who have attained tertiary education among EU member countries is 23 per cent. This corresponds to an average GDP per capita of USD 22,801. Among the candidate countries considered, the corresponding figures are 12 per cent and USD 13,120. This means that if the relationship holds and everything else is held constant, a doubling of the adult population who have completed tertiary in candidate countries will increase GDP per capita by more than 1.7 times.

Attaining IALS literacy Level 4/5 indicates a high degree of information processing skills that have been acquired from a variety of contexts, not only formal education. In the context of knowledge societies where many jobs are dominated by the processing of information, high literacy proficiency is thought to be associated with higher productivity. Figure 2.5.1b depicts a positive relationship betwe-

6. Competitiveness is measured by the World Economic Forum and published annually in The Global Competitiveness Report. The Growth Competitiveness index is based on three broad categories of variables that drive economic growth in the medium and long term: technology, public institutions and the macroeconomic environment. Overall, well over 100 indicators are used to calculate the competitiveness ranking (World Economic Forum, 2003).

7. Quality of life is the sum of scores on the Human Development Index (HDI) as published in the Human Development Report annually by the UNDP. The HDI is a summary measure of human development in three basic dimensions of human development: a long and healthy life, as measured by life expectancy at birth; Knowledge, as measured by the adult literacy rate (with two-thirds weight) and the combined primary, secondary and tertiary gross enrolment ratio (with one-third weight); and a decent standard of living, as measured by GDP per capita (adjusted for PPP in USD) (UNDP, 2003).

8. Trust is measured in the World Values Survey according to responses to the question: "Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?" The World Values Survey is conducted in over 65 societies and covers almost 80 percent of the world's population. http://www.worldvaluessurvey.org/services/index.html.

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en adult literacy and GDP per capita. On average, 16 per cent of adult populations in EU countries reach IALS Levels 4/5, whereas only seven per cent reach the same level in the candidate countries considered. The relationship implies that increasing the levels of literacy skill among populations will increase economic performance.

Attaining tertiary education and IALS literacy Level 4/5 implies higher skills, which should lead to increased competitiveness in high skills industries. Figures 2.5.2a and 2.5.2b highlight positive relationships between competitiveness and tertiary attainment as well as with IALS literacy Level 4/5 attainment. Notable outliers from trend line in 2.5.2a are Ireland, which has a high percentage of the population who has attained tertiary but ranks 24th in competitiveness, and Portugal, which has a low percentage of the population who have attained tertiary, but ranks 23rd. On average, 12 per cent of populations among Candidate countries have completed tertiary and they rank 42nd in competitiveness. In EU countries, an average of 23 per cent of populations complete tertiary and they rank 20th in competitiveness. Again, the implication is that a doubling of tertiary completers among the candidate country populations would double competitiveness.

In Figure 2.5.2b, Sweden and the Czech Republic are outliers. While Sweden ranks high on the competitive index, the relationship implies that it surpasses the proportion of its population needed in IALS literacy Level 4/5 to do so. On the other hand, the Czech Republic has a relatively high percentage of its population reaching Level 4/5 (17 per cent) but ranks only 40th in economic competitiveness. In contrast, only two per cent of Portugal's population reach Levels 4/5, but it ranks 23rd on the competitiveness index.

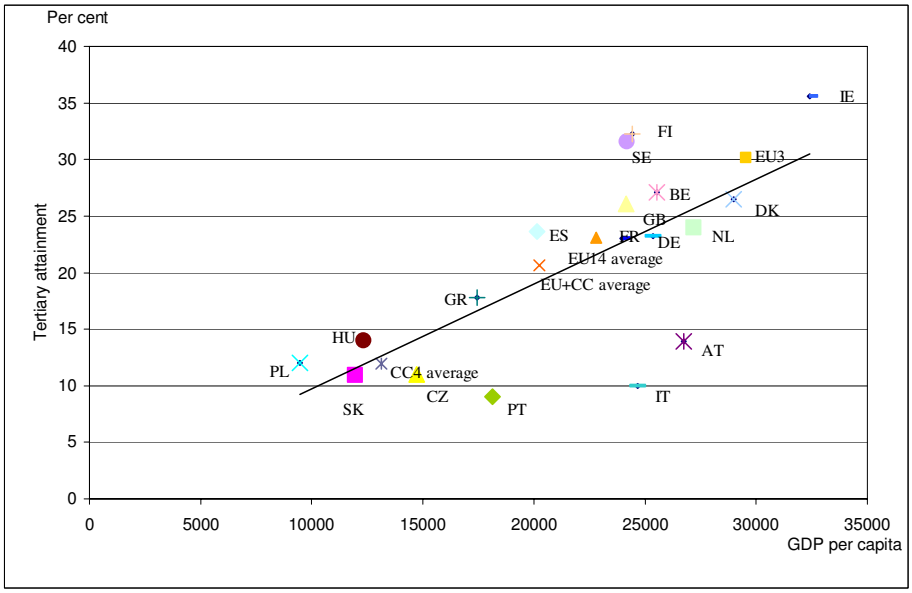
At the Lisbon European Council, the Commission invited the Council to adopt the following goal for 2010: to ensure that 80 per cent or more of the population aged 25 to 64 in the EU has attained at least upper secondary education (European Commission, 2002a:6). Figure 2.5.3 reveals the potential benefits of reaching this goal. There is a strong positive relationship between level of educational attainment and labour force participation. In fact, participation rates increase with levels of education in all eighteen countries considered. On average, labour force participation in EU member countries increases from approximately 60 per cent among those with less than upper secondary education to 80 and 88 per cent among upper secondary and tertiary completers, respectively. There is an even steeper increase within candidate countries where on average participation increases from 50 per cent for those who did not complete upper secondary to 88 per cent among tertiary graduates.

While the observation that over 85 per cent of those who have completed tertiary consistently participate in the labour force in both EU and candidate countri-

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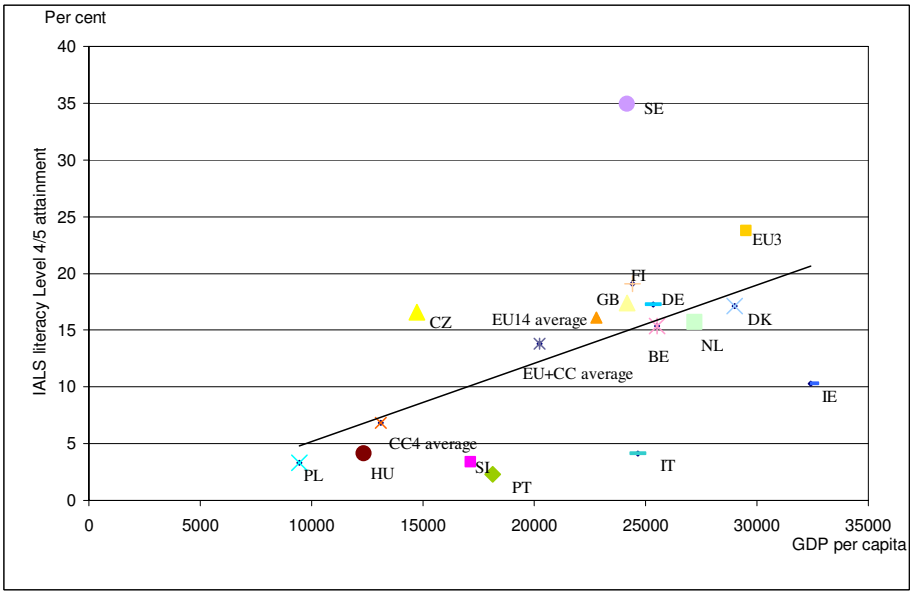
Figure 2.5.1 **Economic performance, education and skills**

A. Relationship between economic performance (GDP per capita, PPP US$, 2001)[a] and the percentage of populations aged 25 to 64 who have completed tertiary education[b], EU member and candidate countries.



Sources: ***a****. UNDP, 2003: 237;* ***b****. OECD, 2002a: 48.*

B. Relationship between economic performance (GDP per capita, PPP US$, 2001)[a] and the percentage of populations aged 25 to 64 who have attained IALS literacy Level 4/5[b], EU member and candidate countries.

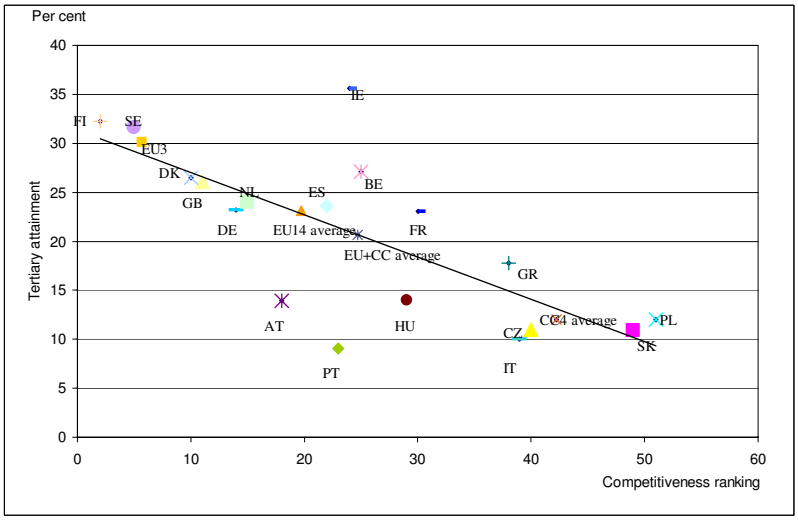


Sources: ***a****. UNDP, 2003: 237;* ***b****. OECD IALS 1994-1998 Database, 2000.*

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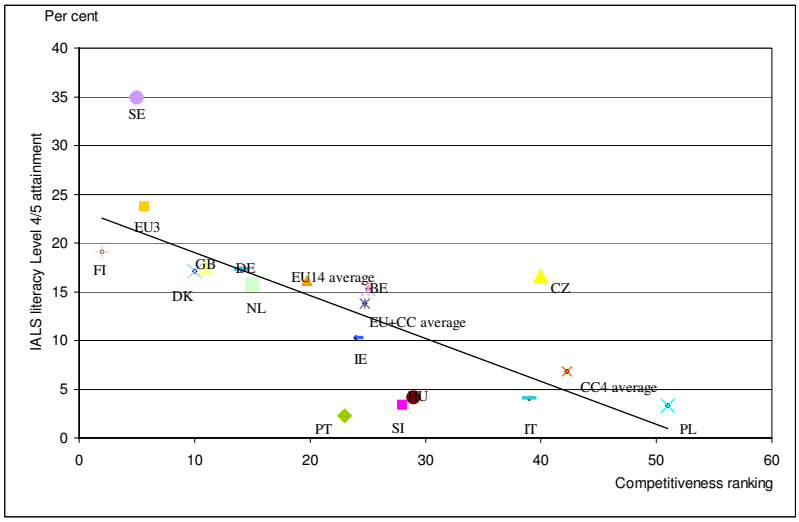
Figure 2.5.2 **Competitiveness, education and skills**

A. Relationship between competitiveness rankings[a] and the percentage of populations aged 25 to 64 who have completed tertiary education[b], EU member and candidate countries.



Sources: ***a****. World Economic Forum, 2003: xv;* ***b****. OECD, 2002a: 48.*

B. Relationship between competitiveness rankings[a] and the percentage of populations aged 25 to 64 who have attained IALS literacy Level 4/5[b], EU member and accession countries.



Sources: ***a****. World Economic Forum, 2003: xv;* ***b****. OECD IALS 1994-1998 Database, 2000.*

OBJECTIVE 1: Improving the quality and effektiveness of education and training systems

OBJECTIVE 2: Facilitating the access of all to education and training systems

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es, there is a disparity among country populations who have attained less than secondary. Among these populations, two EU countries succeed in reaching labour force participation rates of over 70 per cent, but the rates are less than 60 per cent for same populations in five EU countries. Similarly, in two of the four candidate countries considered, the participation rates fall below 50 per cent for those who have not completed secondary education.

The outcomes of education and hence skills are thought to be pervasive, involving potential benefits such as health, personal and intellectual effects as well as economic success. Literacy is also assumed to be important for cultural advancement, the preservation of democratic institutions and the general well being of societies. As such education, literacy and quality of life are expected to relate positively. Indeed, Figure 2.5.4a illustrates a positive correlation between the percentages of those who have attained tertiary education and the Human Development Indices (HDI) computed by the UNDP.

On average, 23 per cent of populations among EU countries have attained tertiary, which is accompanied by an average HDI ranking of 14. Among the three candidate countries surveyed, namely the Czech Republic, Poland and the Slovak Republic, an average of 12 per cent who have completed tertiary coincides with an average HDI ranking of 35. This result shows that there is a gap between the quality of life in EU members and candidate countries that may be driven by differences in levels of educational attainment. All of the European countries considered, however, ranked in the top 40 of almost 180, indicating the generally high quality of life throughout Europe. The same may be said for adult literacy proficiency, where 16 per cent of adult populations among EU countries reach IALS literacy Levels 4/5 compared with only 7 per cent among the three candidates countries considered.

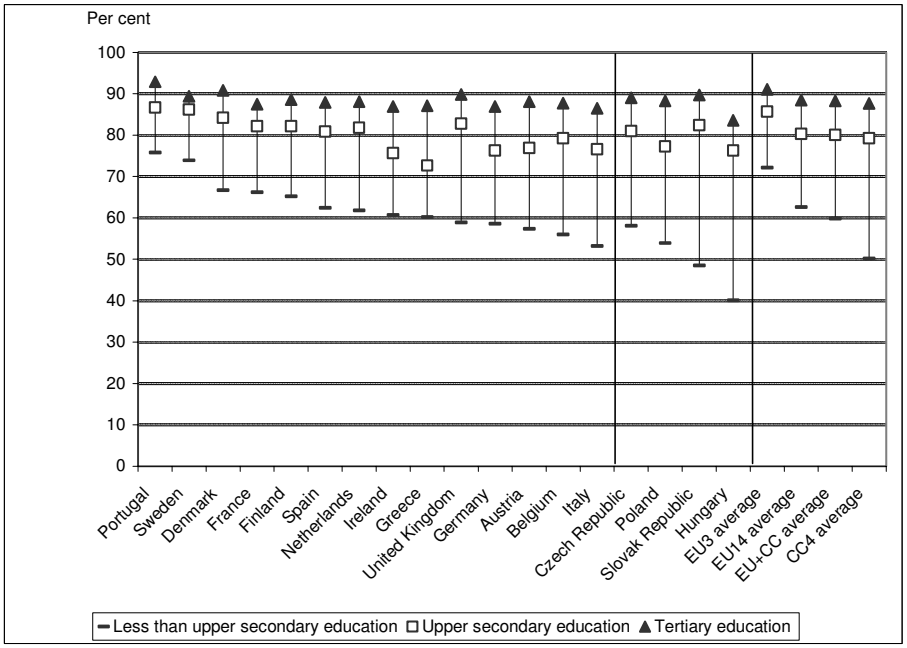
Social capital theory suggests that education and skills may foster an atmosphere of trust and hence promote communication and sharing of knowledge and ideas through networks of people. Although the theory is its infancy, and findings are not conclusive, Figures 2.5.5a and 2.5.5b reveal strong correlations between average levels of trust in other people and levels of educational and skill attainment.

Countries furthest from the trend line include Belgium, France and Ireland with lower levels of trust in other people than their relatively high levels of tertiary attainment among their populations aged 25 to 64 would imply. On average, 40 per cent of populations among EU countries trust other people compared with 28 per cent in the four candidate countries considered. Trust also increases with the proportion of those who have attained high levels of literacy proficiency. Clearly, however, there are other factors affecting levels of trust such as crime rates and political and socio-economic upheaval.

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Figure 2.5.3 **Labour force participation and education**

Labour force participation rates by level of educational attainment, populations aged 25 to 64, EU member and candidate countries, 2000.



EU member and candidate countries are grouped separately and then ranked in descending order by the highest percentage of those who have attained less than secondary and are participating in the labour force.

Source: OECD, 2002b.

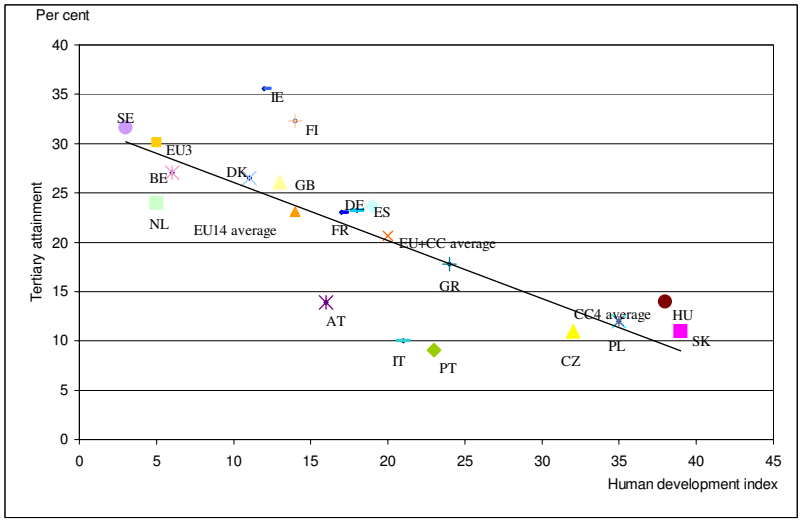
OBJECTIVE 1: Improving the quality and effektiveness of education and training systems

OBJECTIVE 2: Facilitating the access of all to education and training systems

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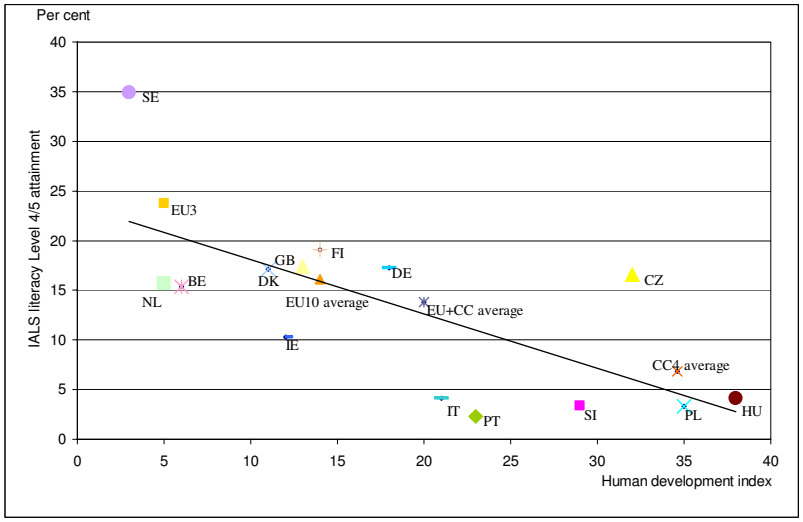
Figure 2.5.4 **Quality of life, education and skills**

A. Relationship between the human development index[a] and the percentage of populations aged 25 to 64 who have completed tertiary education[b], EU member and candidate countries.



Sources: ***a****. UNDP, 2003: 237;* ***b****. OECD, 2002a: 48.*

B. Relationship between the human development index[a] and the percentage of populations aged 25 to 64 who have attained IALS literacy Level 4/5[b], EU member and candidate countries



Sources: ***a****. UNDP, 2003: 237;* ***b****. OECD IALS 1994-1998 Database, 2000.*

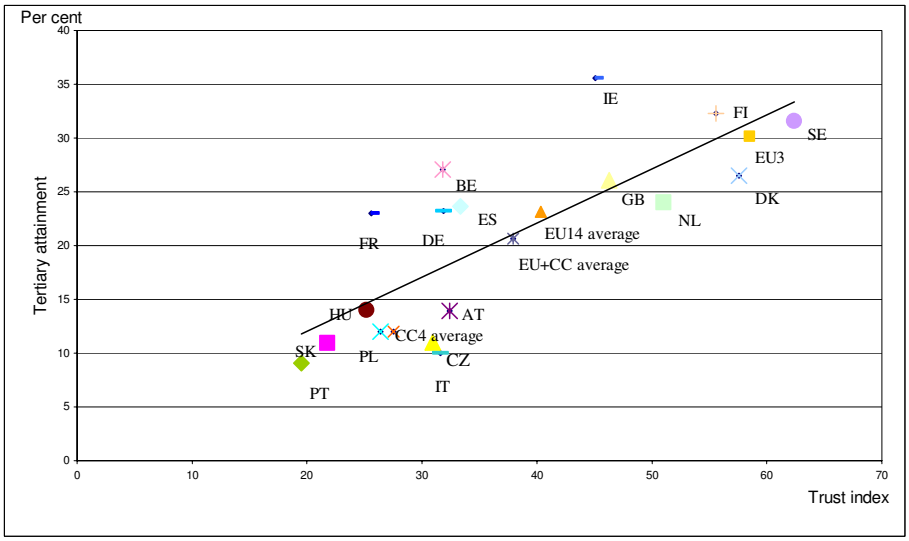
OBJECTIVE 1: Improving the quality and effektiveness of education and training systems

OBJECTIVE 2: Facilitating the access of all to education and training systems

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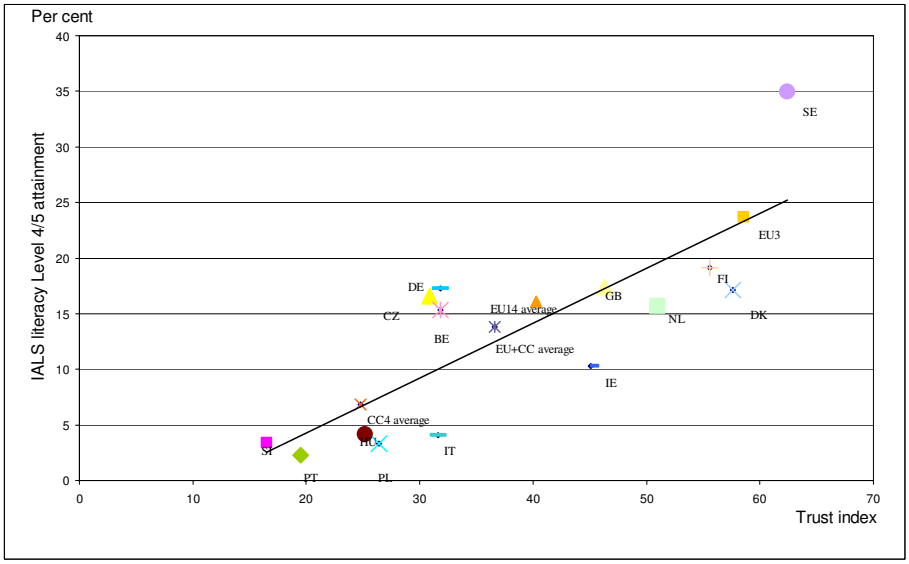
Figure 2.5.5 **Trust, education and skill**

A. Relationship between the average level of trust in other people[a] and the percentage of populations aged 25 to 64 who have completed tertiary education[b], EU member and candidate countries.



Sources: ***a****. World Values Surveys, 1981-1990-1995;* ***b****. OECD, 2002a: 48.*

B. Relationship between the average level of trust in other people[a] and the percentage of populations aged 25 to 64 who have attained IALS literacy Level 4/5[b], EU member and candidate countries.



Sources: ***a****. World Values Surveys, 1981-1990-1995;* ***b****. OECD IALS 1994-1998 Database, 2000.*

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3 Comparative analysis II: Benchmarking EU averages vs. non-EU countries

In this chapter, the focus of the report shifts to benchmarking European education and training systems against those in other regions of the world. Specifically, education and training aggregated averages for EU member and candidate countries are compared with data from select countries. As in Chapter 2, the analysis uses a comparative perspective to illustrate differences and similarities, but in this case on a global level. Many of the most competitive economies in the world are highlighted in this analysis as well as emerging and other significant economies.

Weighted averages (respectively labelled EU total, EU+CC total and CC total) are now introduced in addition to the unweigthed averages presented in Chapter 2 (i.e. EU3 average, EU average, EU+CC average and CC average). This allows for an international comparison where the EU member country area, candidate country area and the combined EU member and candidate country area are considered as a single entity. The results of select non-EU countries can thus be compared with the results of the entire EU area for which data are available.

Indicators are presented under the following sub-headings: 3.1 Inputs (Resources invested in education); 3.2 Processes (Quality of the learning environment); 3.3 Outputs (Output of educational institutions & Individual access, participation, progression and mobility); 3.4 Outcomes (Learning outcomes); and 3.5 Impacts (Impact of learning).

3.1 Resources invested in education

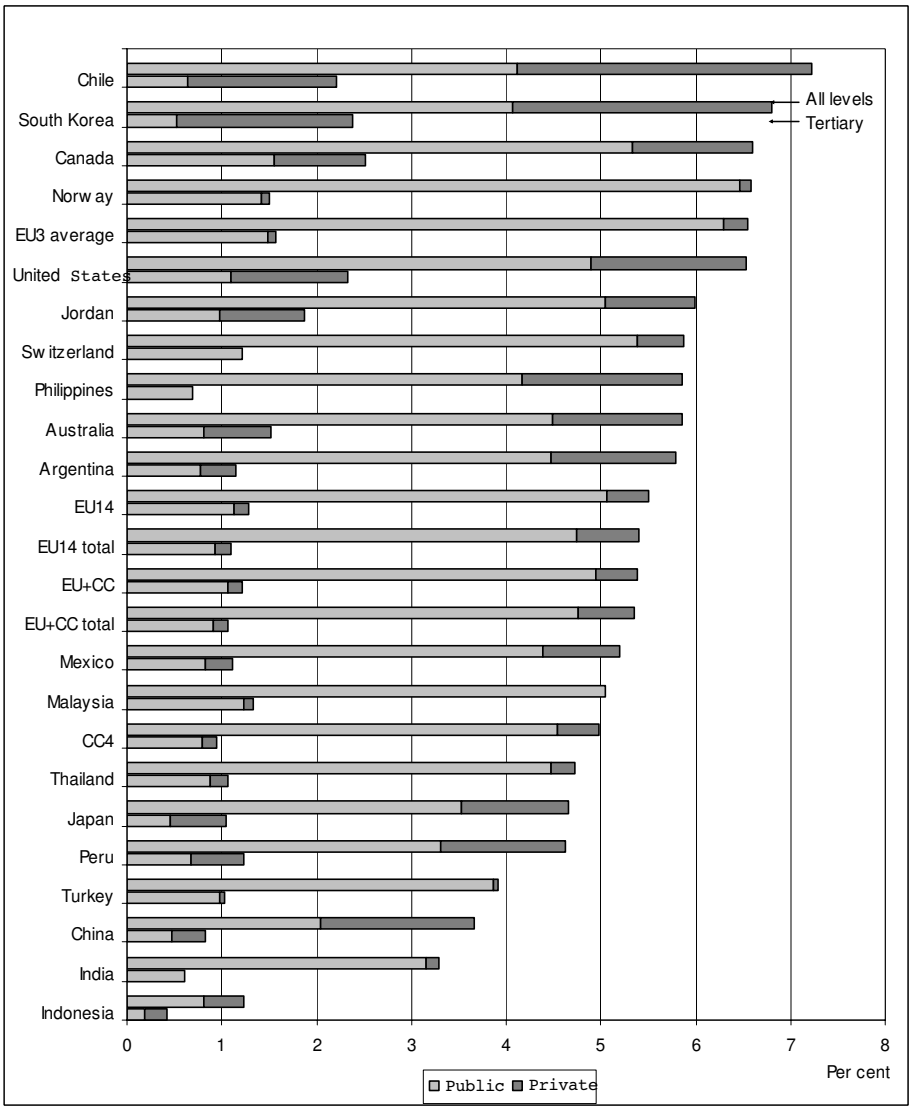
This section explores financial inputs to educational institutions and settings. Indicators include public and private expenditures on education, and expenditures per student at various levels of education. Investment in education is a key indicator. In Figure 3.1.1 it is measured in terms of expenditures as a percentage of GDP adjusted for purchasing power parity. GDP varies significantly among the countries surveyed and it is difficult to make inferences about the adequacy of resources, especially in countries where a relatively high proportion of GDP may still yield only minimal support for educational institutions. Figure 3.1.2 adjusts the GDP expenditure to per capita and per student estimates.

Figure 3.1.1 reveals that public and private expenditures on all education in the countries considered varies significantly from 7.2 per cent of GDP in Chile to 1.2 per cent of GDP in Indonesia. While three EU countries (Denmark, Sweden, Austria) spend on average 6.5 per cent of GDP on all levels of education, the ave-

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Figure 3.1.1 **Investment in education**

Public and private expenditures on tertiary and all levels of education as a percentage of GDP (PPP in USD), EU averages and non-EU countries, 1999.



EU averages and non-EU countries are ranked in descending order by the total expenditure on all levels of education as a per cent of GDP..

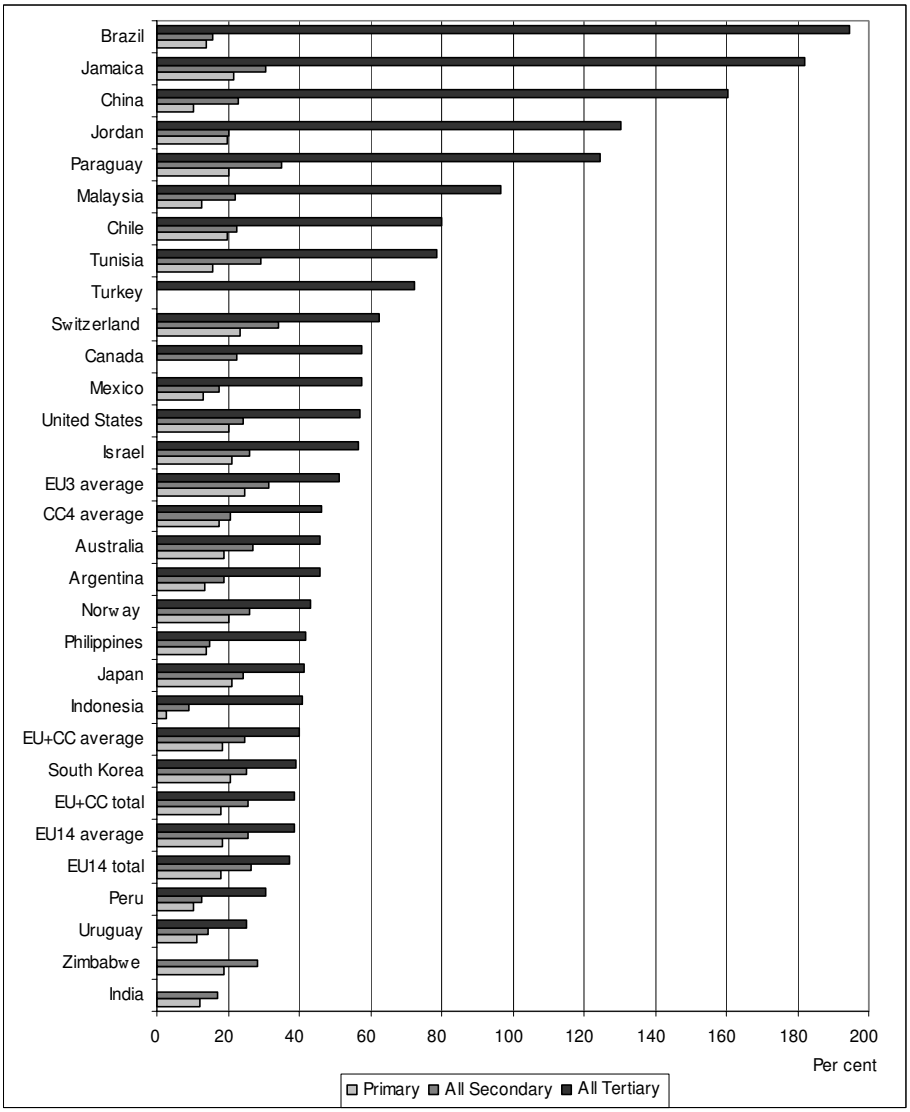
Source: OECD/UNESCO, 2002: 183.

OBJECTIVE 1.5: Making the best use of resources

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Figure 3.1.2 **Expenditure per student**

Total expenditures on primary, secondary and tertiary institutions per student relative to GDP per capita (PPP in USD), EU averages and non-EU countries, 1999.



EU averages and non-EU countries are ranked in descending order by expenditures on all tertiary institutions per student relative to GDP per capita.

Source: OECD/UNESCO, 2002: 182.

OBJECTIVE 1.5: Making the best use of resources

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rage of 14 EU countries is approximately 5.5 per cent. Non-EU countries such as Australia, Canada and the United States spend 1 per cent more of their GDP on education than the average EU country. At the same time these latter countries draw on private sources of financing over three times more than the average EU country. On average, private spending on education as percentage of GDP is less than 0.5 per cent in the EU, while it is 1.4, 1.3 and 1.6 per cent in Australia, Canada and the United States, respectively.

The share of GDP dedicated to tertiary education is especially high, exceeding two per cent of GDP, in Canada, Chile, South Korea and the United States. In comparison, the average EU country spends only 1.3 per cent of GDP on tertiary education. Again, countries spending the most on tertiary as a proportion of GDP are those that draw on private sources the most. While private spending as a percentage GDP on tertiary in the EU is on average 0.15 per cent, it is 1.0, 1.6, 1.9 and 1.2 per cent of GDP in Canada, Chile, South Korea and the United States, respectively.

Expenditure per student as a percentage of GDP is a good indicator that gauges the relative priority given to different levels of education in different countries. Figure 3.1.2 reveals that a number of low-income countries (Brazil, China, Jordan) spend more per student in tertiary than the GDP per capita in that country. Among high-income countries the expenditure per student relative to GDP per capita falls in the range of 35 to 65 per cent of GDP per capita. Countries such as Canada and the United States display expenditures in the upper part of this range at 57 per cent. In contrast, expenditures per student are lower in the EU where the three EU countries (Austria, Sweden, Netherlands) spending the most per student average 51 per cent of GDP per capita, but the average of 14 EU countries falls to the lower part of the range to approximately 38 per cent. Because per student spending in tertiary education is higher in the four candidate countries considered, namely 46 per cent of GDP per capita on average, the combined EU member and candidate country average (40 per cent) is higher than the EU average (38 per cent).

Investment in tertiary institutions represents a key effort to develop skills for the knowledge society. Naturally, there is an expectation that higher investment will yield higher tertiary completion rates among age cohorts. Comparing the data presented in Figure 3.1.1 and Figure 3.3.3 supports this expectation, but the evidence is not conclusive, implying that some tertiary systems may be more efficient than others. Countries such as Canada, South Korea and the United States who are among those that spend the most on tertiary as a percentage of GDP are also the countries with some of the highest tertiary completion rates. They invest more in tertiary education than the EU and hence produce more tertiary graduates than the

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EU. Japan is an exception, where it spends less than the EU on tertiary education as a percentage of GDP, approximately 1 per cent compared to 1.25 per cent in the EU, but boasts the highest tertiary completion rate, over 60 per cent compared to about 38 per cent in the EU.

Spending per student at primary and secondary levels is more even across low- and high-income countries, ranging from highs of 23 and 34 per cent, respectively, in Switzerland to lows of 3 (primary) and 9 per cent (secondary) in Indonesia. EU spending on primary and secondary education averages about 19 and 26 per cent respectively, which is similar to key competitors in North America, Asia and Oceania. Average spending per student in the candidate countries considered is lower at about 18 per cent of GDP at the primary level and 21 per cent at the secondary level.

3.2 The learning environment

In this section, European education process indicators are compared with those in the rest of the world. Specifically, this section provides international comparative data on teacher salaries, pupil-teacher ratios and computer access in schools. These indicators help to gauge the quality of the learning environment and contribute to a better understanding of the learning environment in Europe vis-à-vis the world.

In Figure 3.2.1, teacher salaries in Europe and the rest of the world are highlighted. This indicator helps to gauge the relative importance of education in various countries because it highlights the status and budgetary priority accorded to education in countries.

Teacher salaries tend to be highest, as a percentage of GDP, in lower income countries and are especially high in Zimbabwe at over 17 times GDP per capita. Teacher salaries in the EU average 130 to 150 per cent of GDP per capita, and are relatively similar to other industrialised countries such as Japan and the United States where teacher salaries average 162 and 112 per cent of GDP per capita, respectively. Teacher salaries tend to be lower in the candidate countries considered, averaging only 70 to 80 per cent of GDP per capita, which may impact the number and quality of individuals attracted to the teaching profession in the coming years. Salaries are especially low in Russia.

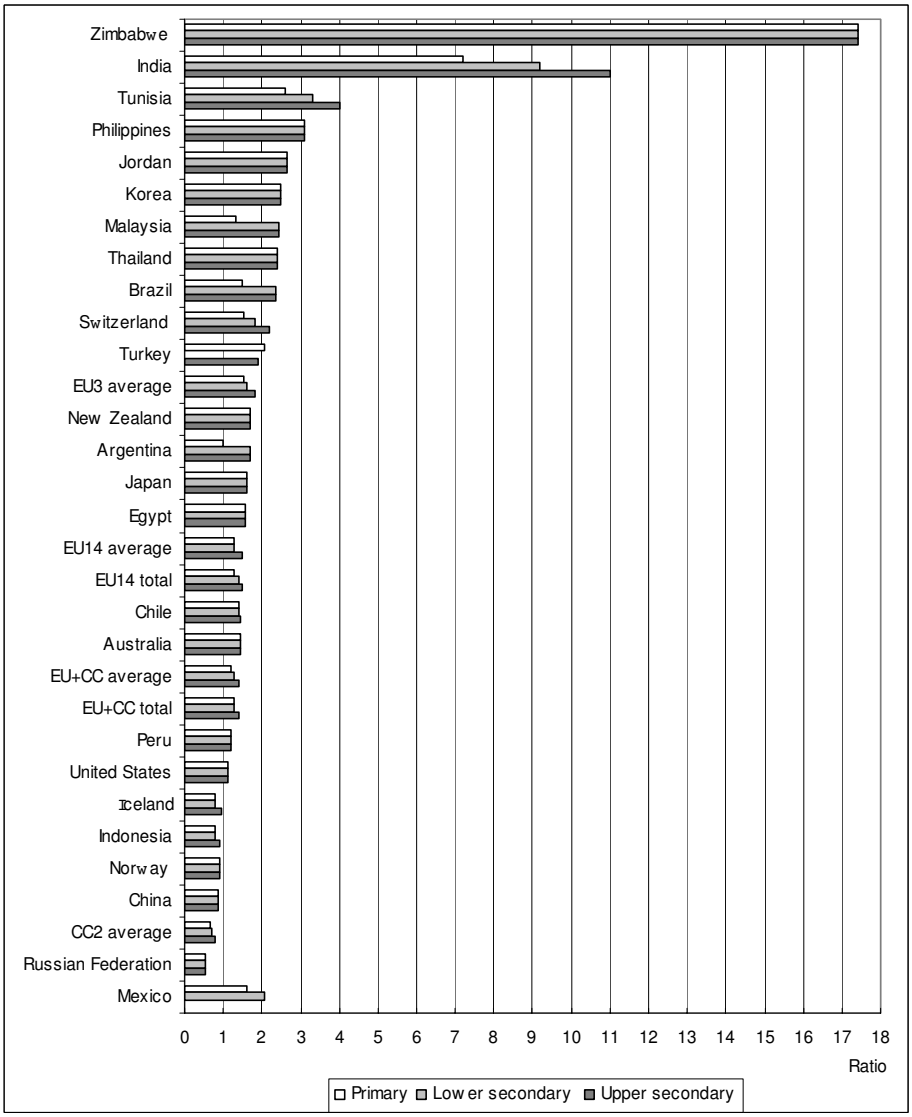
Of the countries considered and the EU averages, half display teacher salaries that increase with the level of education, whereas salaries are "flat" in Australia, China, Japan, South Korea and the United States. In both the EU member and candidate countries, teacher salaries tend to increase modestly as the level of education increases.

Figure 3.2.2 illustrates pupil-teacher ratios, which can serve as a proxy for quali-

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Figure 3.2.1 **Teacher salaries**

Ratio of salaries after 15 years of experience to GDP per capita (PPP in USD), by level of education in public institutions, EU averages and non-EU countries, 2002.



Countries are ranked by the ratio of salaries after 15 years of experience to GDP per capita.

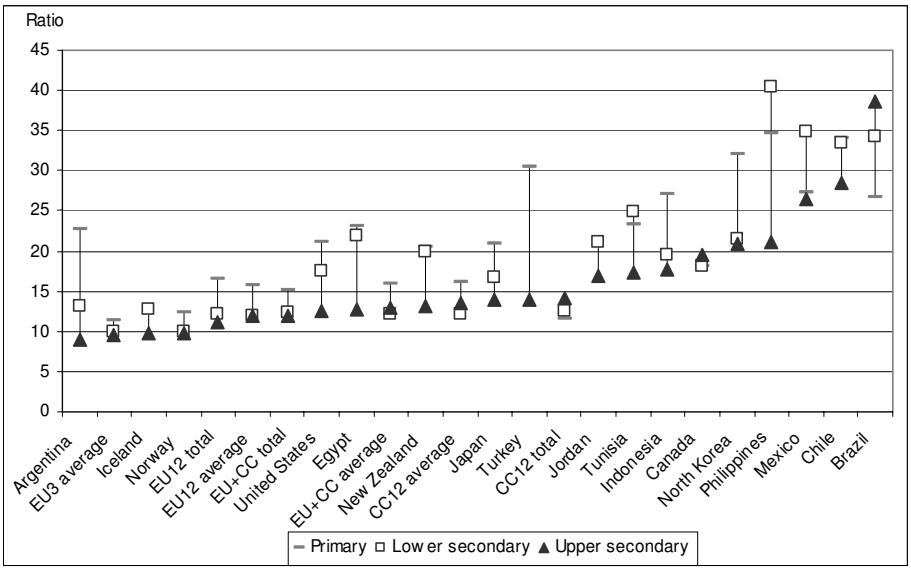
Source: OECD, 2002a: 339.

OBJECTIVE 1: Improving the quality and effektiveness of education and training systems

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Figure 3.2.2 **Pupil-teacher ratios**

Pupil-teacher ratios in primary, lower and upper secondary education, EU averages and non-EU countries, 2000.



EU averages and non-EU countries are ranked in ascending order by the pupil-teacher ratio in upper secondary education.

Source: European Commission/EURYDICE/Eurostat, 2002: 14; OECD/UNESCO, 2002: 203.

OBJECTIVE 1: Improving the quality and effektiveness of education and training systems

ty of education and training systems. There is much debate about the desirability of low pupil-teacher ratios, with many arguing that low ratios are optimal, but the evidence is not conclusive. The quality of learning environments depends on many factors including pupil-teacher ratios, the physical infrastructure, family support, social services and many other factors.

Pupil-teacher ratios tend to be highest among lower income countries however the difference between highest and lowest is not as large as with other indicators such as teacher salaries, even after adjusting for GDP per capita at purchasing power parity. Among the countries considered pupil-teacher ratios at the primary level range from a low of 12 in Norway to a high of 35 in Philippines. There are similar differences at lower and upper secondary levels.

There is a tendency for pupil-teacher ratios to be lower at the higher levels of education though there are a number of countries where the opposite is observed, such as in Brazil. For instance, EU countries have on average low pupil-teacher

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ratios ranging from 16 at the primary level to 12 at the lower and upper secondary levels, when considering both weighted and unweighted averages. On the other hand, whereas the unweighted average of candidate countries replicates the EU pattern, their weighted average reveals a ratio of 11 at primary, 12 at lower secondary and 14 at upper secondary. Moreover, in primary and lower secondary, pupil teacher ratios tend to be lower in Europe than in key competitor countries such as Japan and the United States.

Figure 3.2.3 highlights the ratio of students to computers, which relates to the objective of ensuring access to ICT for everyone. ICT access in schools is a good proxy measure to gauge several issues including educational infrastructure, research resources and computer literacy. As these data are not available for most developing countries, these observations pertain mainly to industrialised economies.

Among EU countries surveyed, the median figure is 15 students for every computer. The median is lower among the candidate countries considered with 14 students for every computer. Among all countries considered, the median student-computer ratio among 15-year olds is lowest in Australia and the United States. In contrast, some of the highest ratios are found in Europe. In fact, the data indicate that the EU member and candidate countries lag behind several key competitors, such as Australia, Japan and the United States as well as South Korea and Russia in terms of student-computer ratios. Moreover, the disparity in student-computer ratios (in terms of the variance in the ratios at the 25th, 50th and 75th percentiles) is much higher in the EU and among candidate countries than in many countries. This suggests that attention needs to be paid to ensuring relatively equitable access to the benefits of ICT in schools, not only within countries in Europe, but across the expanding European community.

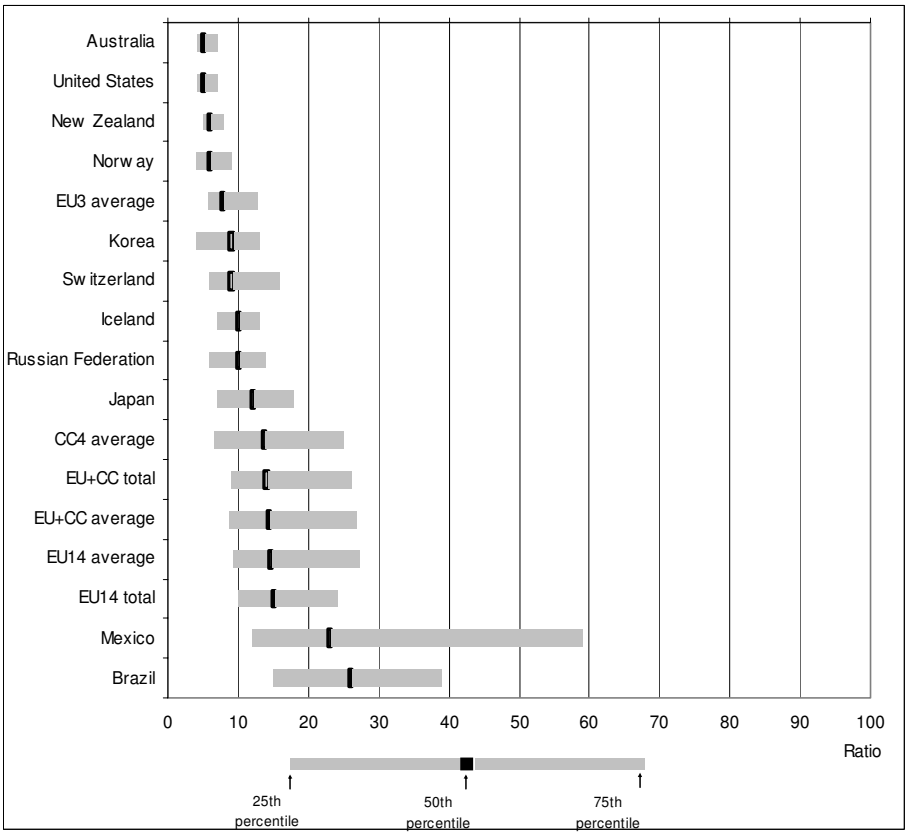
3.3 A Output of educational institutions

This section presents a series of indicators, which benchmark the average outputs of EU educational institutions with select non-EU countries from around the world. An emphasis is placed on the output of tertiary institutions. The first three indicators compare the aggregated EU and candidate country averages that were presented in Section 2.3.A with comparable data for other non-EU countries. Subsequent to this, new data is used to construct a similar indicator to 2.3.4 Graduates in Mathematics, Science and Technology. While the new indicator is less precise, available data permits a worldwide comparison. Finally an indicator projecting the number of graduates in 2015 is constructed in an effort to portray the educational output potential of large nations that are currently experiencing rapid development.

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Figure 3.2.3 **ICT access in schools**

Ratio of 15-year-old students to computers in all schools, by quartiles, EU averages and non-EU countries, 2000.



EU averages and non-EU countries are ranked in ascending order by the median ratio of 15-year-old students to computers in all schools.

Source: OECD, 2002a: 302.

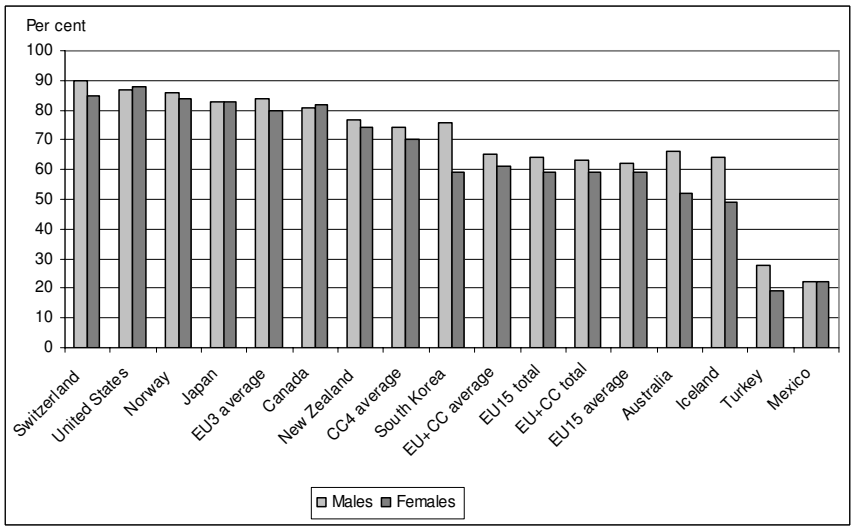
OBJECTIVE 1.3: Ensuring access to ICT for everyone

Figure 3.3.1 indicates that the populations aged 25 to 64 of several countries including Canada, Japan and the United States have on average more formal qualifications than EU member countries as well as the expanded EU region. In Figure 3.3.1a, over 80 per cent of the male and female populations of five non-EU countries have attained at least upper secondary, while approximately 60 per cent or less have on average completed secondary among EU countries. This observation is more or less the same whether the average EU country is considered or whether the entire EU member area is considered as a whole (i.e. unweighted versus weighted

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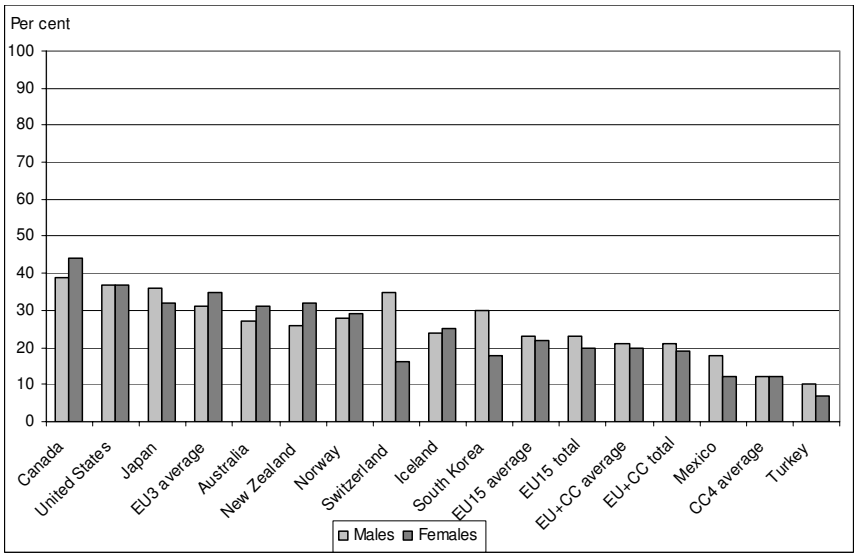
Figure 3.3.1 Educational attainment of the adult population

A. Percentage of populations aged 25 to 64 who have attained at least upper secondary education, by gender, EU averages and non-EU countries, 2001.



EU averages and non-EU countries are grouped separately and then ranked in descending order by the percentage that has attained at least upper secondary education.

B. Percentage of populations aged 25 to 64 who have attained at least tertiary education, by gender, EU averages and non-EU countries, 2001.



EU averages and non-EU countries are grouped separately and then ranked in descending order by the percentage that has attained at least upper secondary education.

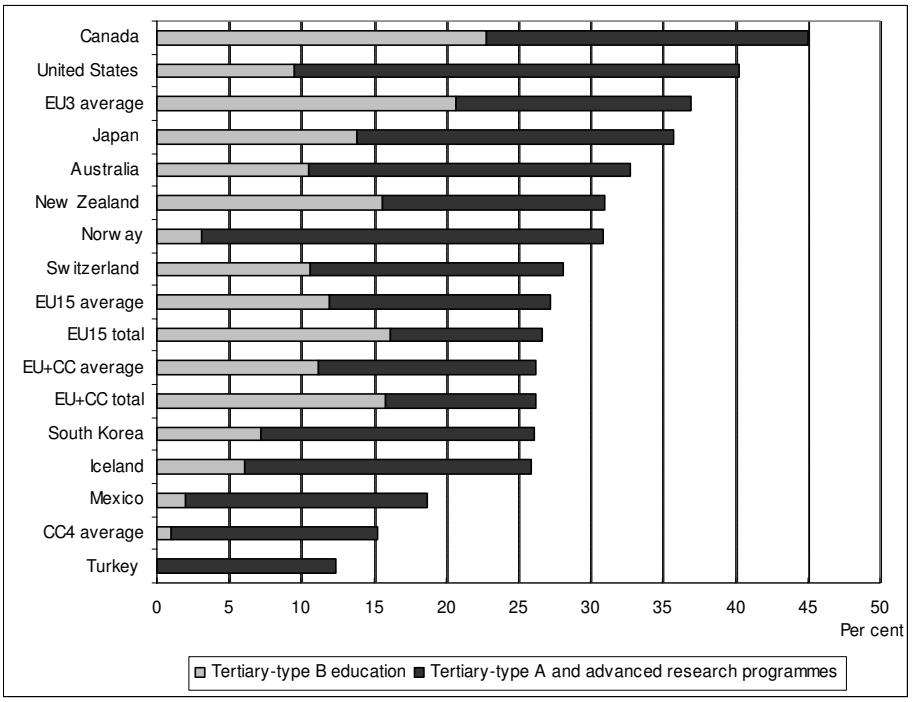
Source: OECD, 2002a: 55.

OBJECTIVE 1.2: Developing skills for the knowledge economy

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Figure 3.3.2 Tertiary completion among labour forces participants

Percentage of the labour force populations aged 25 to 64 who have attained tertiary education, by destination type, EU averages and non-EU countries, 2001.



EU member and candidate countries are grouped separately and then ranked in descending order by the percentage that have attained tertiary education of any type.

Source: OECD, 2002: 54.

OBJECTIVE 1.2: Developing skills for the knowledge economy

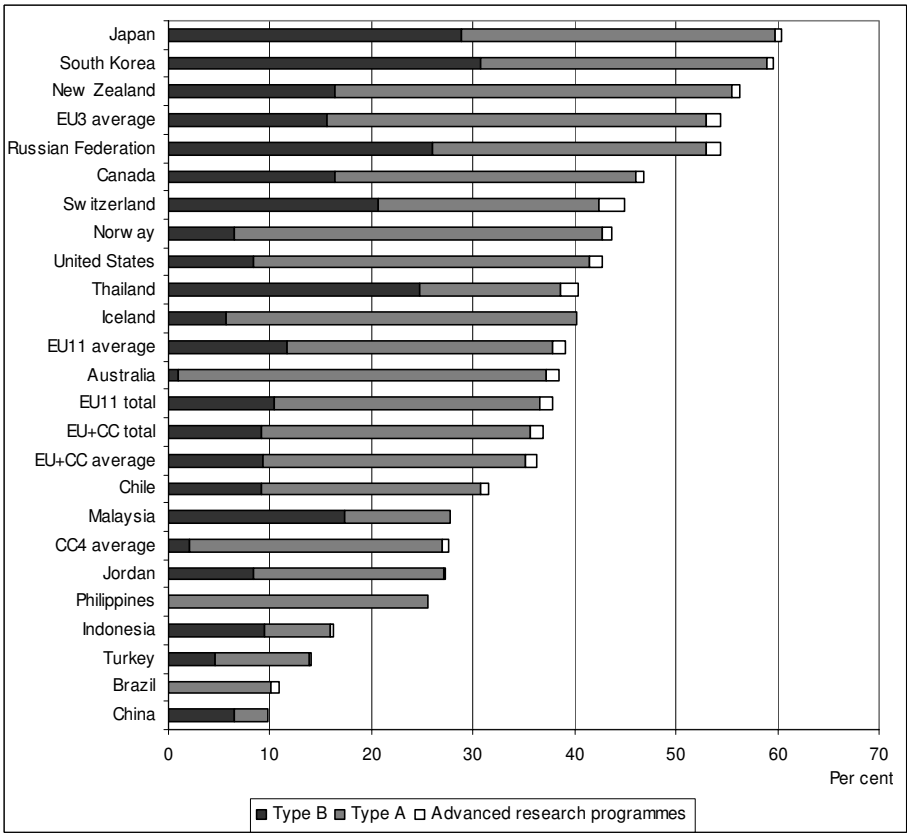
average). The average for candidate countries raises the proportion of both males and females with upper secondary qualifications in the expanded EU region, since over 70 per cent have on average completed upper secondary.

Figure 3.3.1b shows the EU also lags behind in terms of tertiary level qualifications. The average proportion, 23 and 20 per cent for male and female, respectively, who have completed tertiary among EU member populations aged 25 to 64 is nearly half of those who have attained similar in Canada. Moreover, the proportion of tertiary attainment for both males and females is 37 per cent in the United States, and 36 and 32 per cent, respectively for Japan. While the average of three EU countries (Finland, Ireland, Sweden) with the highest proportion of tertiary qualifications exceeds 30 per cent for both males and females, the results clearly

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Figure 3.3.3 **Tertiary graduatution rates**

Sum of graduation rates by single year of age multiplied by 100 by type and length of programme, EU averages and non-EU countries, 2000.



EU averages and non-EU countries are ranked in descending order by the total graduation rates in all tertiary programmes.

Source: OECD/UNESCO, 2002: 201.

OBJECTIVE 1.2: Developing skills for the knowledge economy

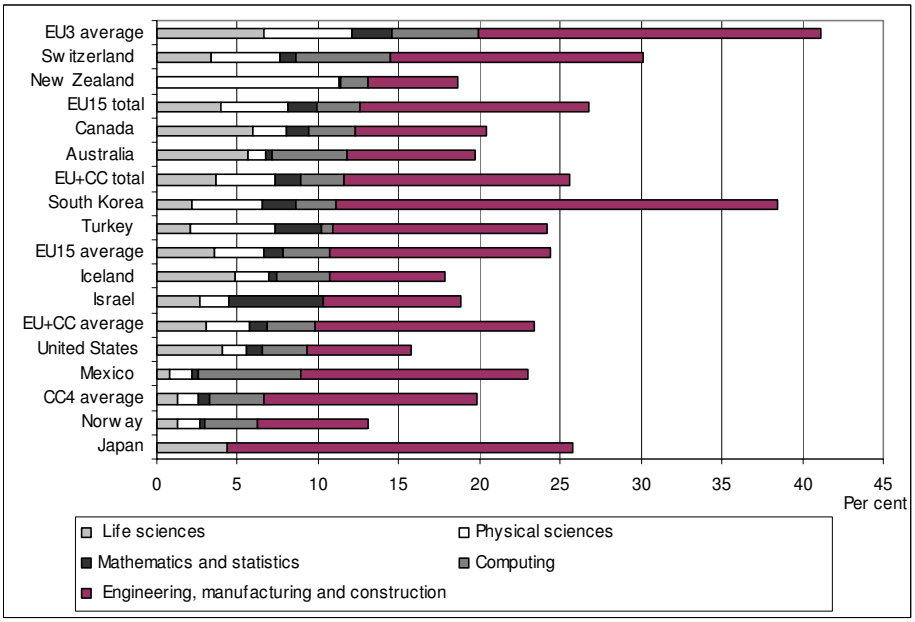
show that the EU lags behind other key competitive countries in terms of tertiary level qualifications. With 12 per cent of male and female populations among candidate countries who completed tertiary, the expanded EU region will on average have even less tertiary qualifications.

Similar results are found among labour force populations. But Figure 3.3.2 also informs on the proportion of labour force participants who have either a tertiary programme with a type A or B destination. For example, Norway and the United

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Figure 3.3.4 **Graduates in mathematics, science and technology**

Number of tertiary-type A graduates in life sciences, physical sciences, mathematics and statistics, computing and engineering, manufacturing and construction, as a percentage of all tertiary graduates, EU averages and non-EU countries, 2000.



EU averages and non-EU countries are ranked in descending order by the percentage of graduates in life sciences, physical sciences, mathematics and statistics, and computing.

Source: OECD, 2002a: 61.

OBJECTIVE 1.4: Increasing recruitment to scientific and technical studies

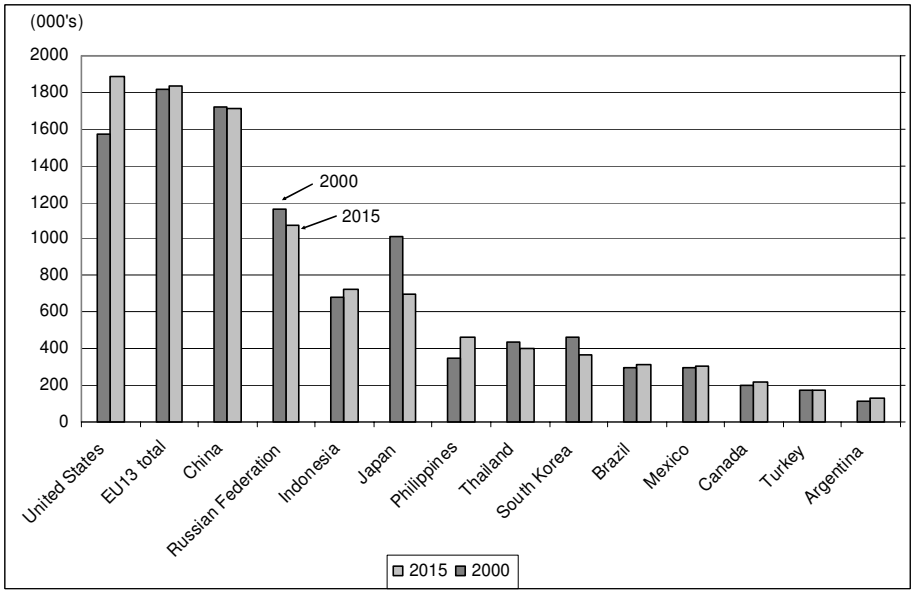
states have higher proportions of tertiary-type A graduates than the EU has of both type A and B graduates. This means that these countries have higher proportions of individuals with sufficient qualifications to enter professions with high skill requirements than the EU. Excluding Norway and the United States another pattern emerges. Countries that have high overall tertiary qualifications are those that also have high proportions of tertiary-type B graduates. In particular, three EU countries (Finland, Ireland, Sweden), which have the highest proportions of tertiary graduates among EU countries, have on average over 20 per cent of their populations with tertiary-type B qualifications. This raises the average proportion of tertiary graduates in the labour force among these three countries above Japan's, even if the latter has a relatively higher proportion of type A graduates.

Turning to the tertiary qualifications currently being produced by different education systems reveals that the EU on average is lagging behind Japan and the

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Figure 3.3.5 **Projected number of graduates 2015**

Estimated number of tertiary graduates in 2015 based on estimates of the expected changes in the relative sizes of 20 to 29 age cohorts, assuming constant graduation rates, EU region and non-EU countries.



Countries are ranked in descending order by the number of expected tertiary graduates in 2015.

Source: OECD/UNESCO, 2002: 175, 201; United Nations, 2003: 30.

OBJECTIVE 1.4: Developing skills for the knowledge society

United States in the percentage of those graduating from tertiary education. Japan and South Korea have graduation rates of approximately 60 per cent, higher than the three EU countries (Finland, France, the United Kingdom) reporting the highest rates, namely 54 per cent on average. The United States reports a rate of 43 per cent while the EU on average realises a tertiary graduation rate of 38 per cent. Candidate countries on average display a rate that is less than half of Japan, New Zealand, Russia and South Korea.

The data in Figure 3.3.4 differ from the data used in Chapter 2 for the same indicator. This is to allow for comparisons from a worldwide perspective. Consequently, the EU member and candidate averages displayed here do not correspond to those for the same indicator in Chapter 2. The data are not comparable because fields of study are classified differently in the data source used for this indicator.

Figure 3.3.4 indicates that an average of 12.6 per cent of tertiary graduates in the EU have studied one of the following fields: life or physical sciences, mathematics and statistics or computing. An additional 14 per cent have studied engineering,

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manufacturing and construction. Japan and the United States report fewer graduates as a percentage of all graduates in the sciences, mathematics and computing fields than in the EU. Japan, however, along with Korea report large proportions of graduates who studied engineering, manufacturing and construction, 21 and 27 per cent, respectively. Finally, an average of almost 20 per cent of all graduates studied sciences, mathematics or computing among three EU countries (Finland, France, Germany), which is the highest of all countries considered.

Using a conservative assumption of constant graduation rates as well as the expected change in the relative size of the 20- to 29-age cohort, Figure 3.3.5 projects the number of graduates in 2015 for select countries. The EU13 total number of tertiary graduates is expected to remain approximately the same with an estimated increase of only 20,000 from 1,820,000 to 1,840,000. In contrast, by maintaining its current graduation rate, the number of tertiary graduates in the United States is expected to increase by 320,000 from 1,570,000 to 1,890,000, which will surpass the number of tertiary graduates in the EU by 50,000. This is partly due to a higher birth rate in the United States in the last two decades but also because of higher tertiary graduation rates.

Japan is expected to experience a substantial fall in the current number of graduates because of its low birth rate. Moreover, Japan already has one of the highest tertiary graduation rates, namely 60 per cent. Turning to China, the number of graduates for such a large country is not expected to increase because population growth has been relatively flat, but if China succeeds in increasing its current tertiary graduation rate from 10 to 15 per cent by 2010 as it has committed to in its 10th five-year plan, the number of tertiary graduates could exceed those of the EU and the United States in 2010 by over 800,000 graduates.

3.3B Individual participation, progression and mobility

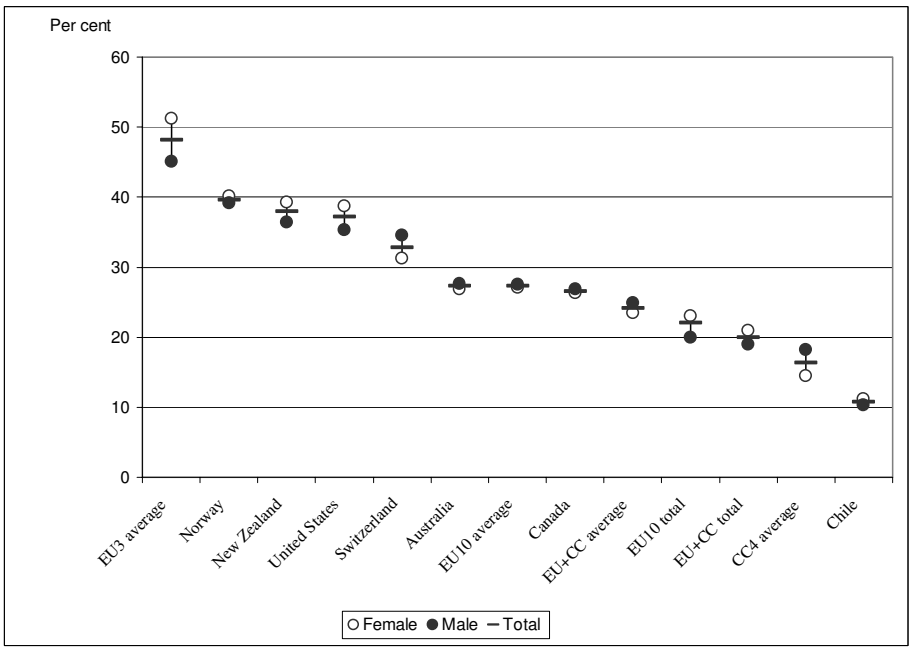
Statistics indicating what education and training systems allow individuals to do, such as participate in educational settings, progress to higher levels of education and move around within and between different educational systems are also interpreted as educational outputs. Individual interactions with education and training systems such as participation, progression, and mobility are a consequence of the systems, and as such are treated as outputs. The following section compares the participation, progression and mobility of individuals in the average EU education and training system with non-EU countries.

Competition and rapid technological change are driving factors affecting structural changes in the economy, not least the occupational structure and hence the skills needed to stay competitive. Populations aged 45 to 64 are more likely to

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Figure 3.3.6 **Participation in adult education and training**

Participation rates in adult education and training by gender, populations aged 45 to 64, EU averages and non-EU countries.



EU averages and non-EU countries are ranked in descending order by the total participation rate in adult education and training.

Source: OECD IALS 1994-1998 Database, 2000.

OBJECTIVE 2.1: Open learning environment

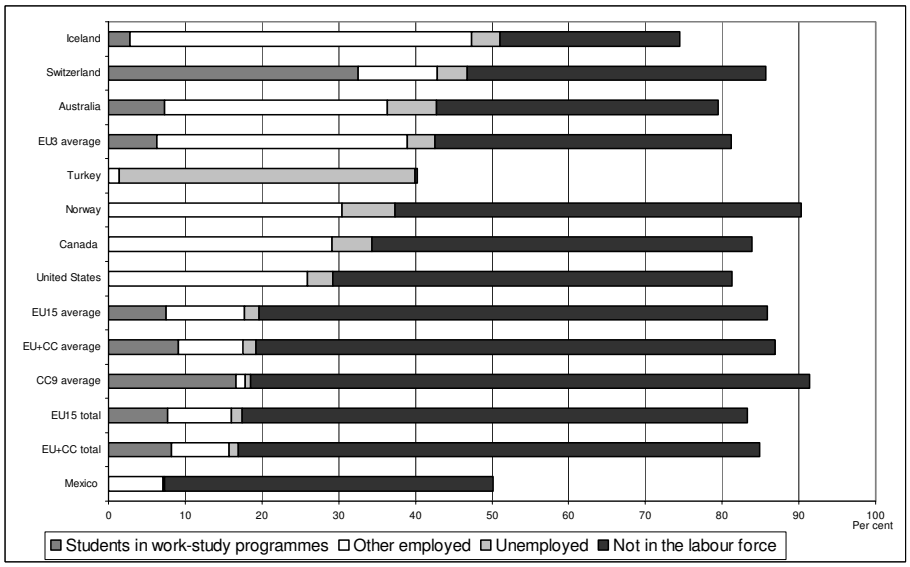
require an upgrading of old skills or learning of new skills. Figure 3.3.6 portrays the extent to which older adults engage in adult learning, which is an indicator of upgrading and retraining. Average participation rates in the EU compare to Australia and Canada, where over 20 per cent of those aged 45 to 64 participated in some kind of adult education and training in the 12 months preceding the survey. Four countries including the United States succeeded in reaching rates of over 35 per cent. This means that in the latter countries more people on average benefit from adult education and training systems in adulthood than in the EU. On the other hand, three EU countries (Denmark, Finland, Sweden) exhibiting the highest rates display an average of over 45 per cent. Finally, less than 20 per cent the same populations in candidate countries participate.

As indicated by Figure 3.3.7, small countries like Iceland and Switzerland as well as Australia succeed in having over 40 per cent of their youth populations aged 15

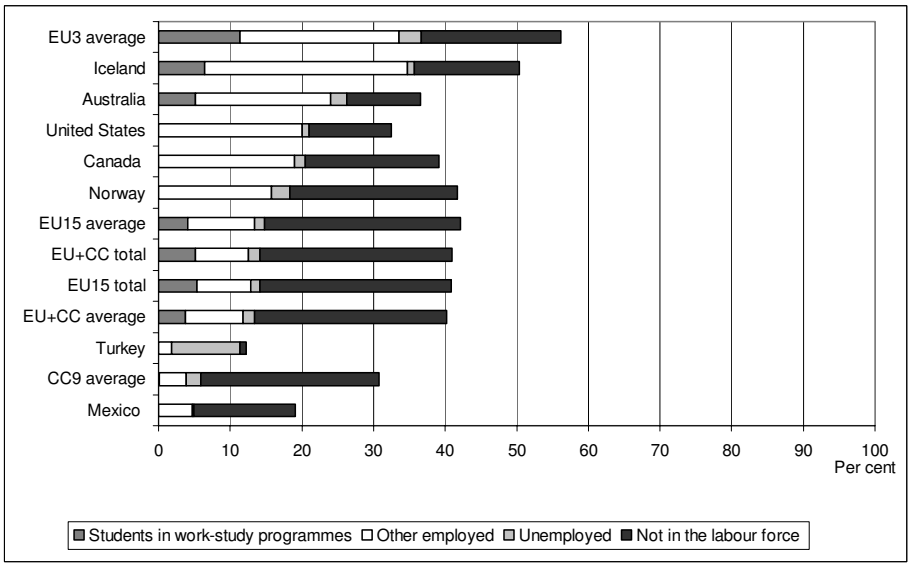
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Figure 3.3.7 **Youth transition from school to work**

A. Percentage of youth populations aged 15 to 19 in education, by work status, EU averages and non-EU countries, 2001.



B. Percentage of youth populations aged 20 to 24 in education, by work status, EU averages and non-EU countries, 2001.



EU averages and non-EU countries are ranked by the percentage of students in the labour force.

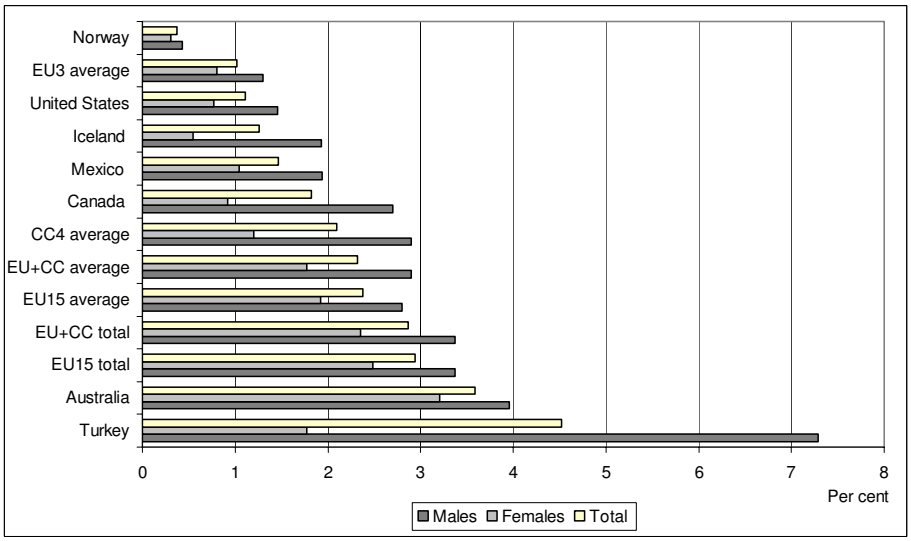
Source: OECD, 2002a: 259.

OBJECTIVE 1: Improving the quality and effektiveness of education and training systems

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Figure 3.3.8 **Unemployed youth**

Youth populations aged 20 to 24 with less than upper secondary completion that are unemployed and not in education as a percentage of all 20 to 24 year-olds, by gender, EU averages and non-EU countries, 2001.



EU member and candidate countries are grouped separately and then ranked in ascending order by the lowest percentage that is unemployed.

Source: OECD, 2002a: 268.

OBJECTIVE 2.2: Making learning more attractive

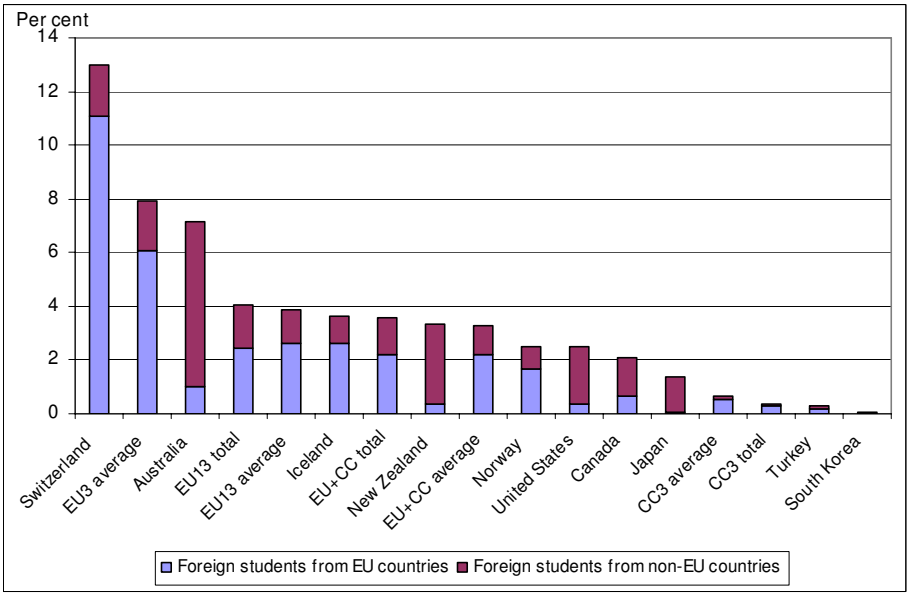
to 19 in school and in the labour force. This indicates better overall youth transition from school to work in these countries than in the EU. On the other hand the same is observed for the average of three EU countries (Denmark, Germany, the United Kingdom) that have highest proportion in education and in the labour force. Canada, Norway and the United States also have proportions over 25 per cent, which is higher than the average proportion of all EU and candidate countries considered. Turkey has nearly 40 per cent of 15 to 19 year-olds in education but almost all are reported to be unemployed. With the exception of Switzerland which has over 30 per cent of 15 to 19-year-olds in work-study programmes, few countries have many students in such programmes. The average proportion of students in work-study programmes among candidate countries, however, exceeds 15 per cent.

For youth aged 20 to 24, over 20 per cent in Australia, Canada and the United States are in education and in the labour force, compared to the average EU proportion of less than 15 per cent. Together, three EU countries (Denmark, Finland, Germany) have the highest proportion of students aged 20 to 24 in the labour force. Overall, the data indicate that in a number of countries, students are more

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Figure 3.3.9 **Inward mobility of students**

Percentage of students in tertiary education who are foreign citizens, EU averages and non-EU countries, 2000.



EU averages and non-EU countries are ranked in descending order by their total percentage of foreign students in tertiary education.

Source: OECD, 2002a: 244.

OBJECTIVE 3.4: Increasing mobility and exchange

actively engaged in the labour market than the average EU student population. This suggests that links between education systems and the labour market are better in these countries than in the EU.

Figure 3.3.8 shows that the EU is not alone in having the risk of excluding 20 to 24-year-olds with less than upper secondary attainment. Over three per cent of Australia and Turkey's populations with this profile are unemployed. In fact, over seven per cent of males in Turkey who are between 20 and 24 and have not completed secondary education are unemployed. Other countries considered feature unemployment rates among this group that are less than three per cent. Mexico and the United States have rates less than two per cent and Norway less than one per cent. In all countries, more males from this cohort with less than upper secondary are unemployed than females of the same profile.

Figure 3.3.9 presents the inward mobility of students by category of origin (EU or non-EU countries). On average close to four per cent of tertiary students in European countries are foreign citizens, of which two-thirds are from Europe.

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Thus, the low average European results net of internal mobility within the EU reveal a rather Euro-centred nature of the openness and cooperation of the EU education and training systems. Furthermore, strong disparities among EU countries can be observed. Whereas the total inward mobility is about eight per cent in three EU countries (Austria, Belgium, Denmark), on average candidate countries feature among the least open education systems among the countries considered, with less than one per cent of tertiary students who are foreigners.

3.4 Learning outcomes

The same indicators as in Section 2.4 of Chapter 2 are presented in this section, but here the aggregated EU member and candidate averages are compared with non-EU countries. Data for each indicator are ranked according to benchmarking criteria, which allows for worldwide comparative perspectives on learning outcomes. The indicators are constructed from the direct measures of knowledge and skills made available through the PISA and IALS surveys.

While countries such as Australia, Canada and the United States have higher proportions of their adult populations who have completed upper secondary and tertiary education, EU education and training systems appear to have been more effective at imparting knowledge and skills to their populations aged 25 to 34 who have completed these levels of education. For example, 50 per cent of populations in three EU countries (Finland, the Netherlands, Sweden) who have completed upper secondary, score at least 309 points on a scale from 0 to 500 compared to 50 percent, having completed a higher level of education, scoring at least 314 points in the US. This means that almost 50 per cent of secondary completers in those three EU countries score just as well if not higher than 50 per cent of tertiary completers in the US.

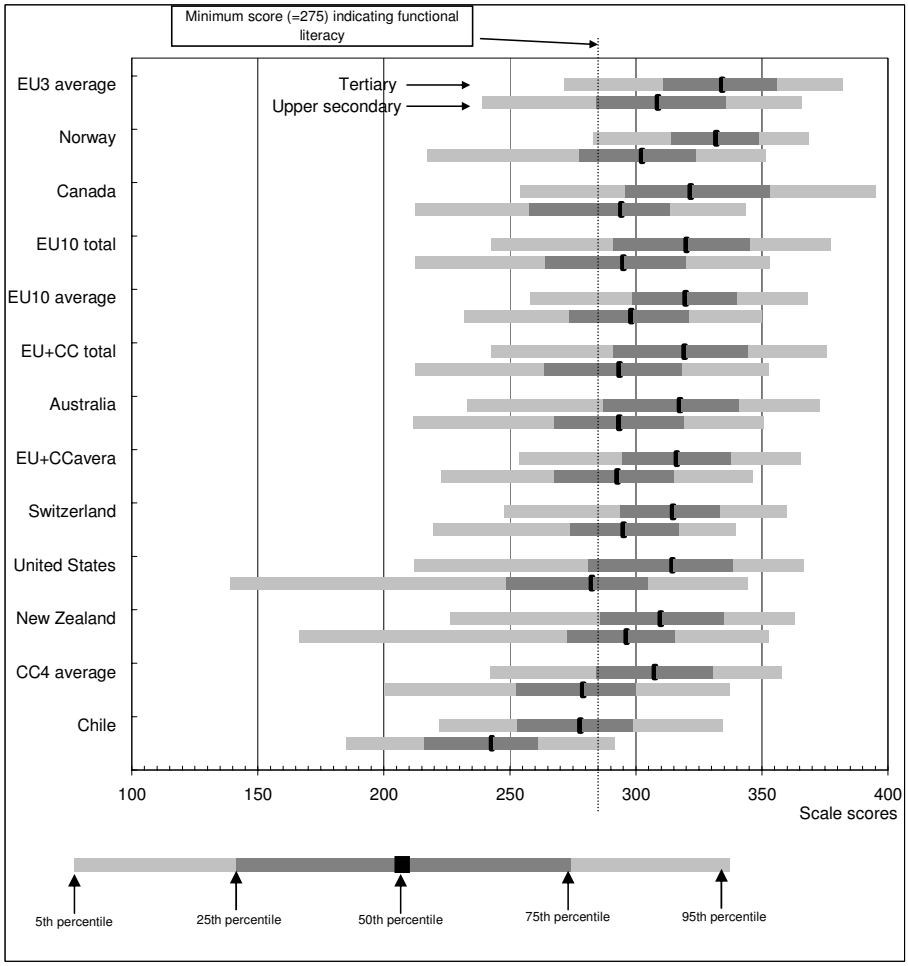
Another pattern emerges, namely EU country populations aged 25 to 34 attaining either upper secondary or tertiary education on average exhibit less variation in observed skill measures (judged by the length of bars) than Australia, Canada and the United States. This implies that on average EU education and training systems are associated with less inequality in learning outcomes.

Skill profiles of youth populations aged 16 to 24 that are not in education informs on the scope of the risk of excluding youths that do not pursue further education. It also points to a need for making learning more attractive to this group. Figure 3.4.2 demonstrates that EU member and candidate countries are not alone in facing this risk. In fact, similar to EU candidate and member countries well over 50 per cent of unemployed youths who are not in education in Canada, Chile, New Zealand, and the United States do not have the skills needed to cope

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Figure 3.4.1 **Skill profiles of early career-aged adults**

Distribution of skill scores at 5th, 25th, 50th, 75th, and 95th percentiles on a scale from 0 to 500, tertiary and upper secondary completers aged 25-34, EU averages and non-EU countries.



EU averages and non-EU countries are ranked in descending order by the median of those who completed tertiary schooling.

Source: OECD IALS 1994-1998 Database, 2000.

OBJECTIVE 1.2: Developing skills for the knowledge economy

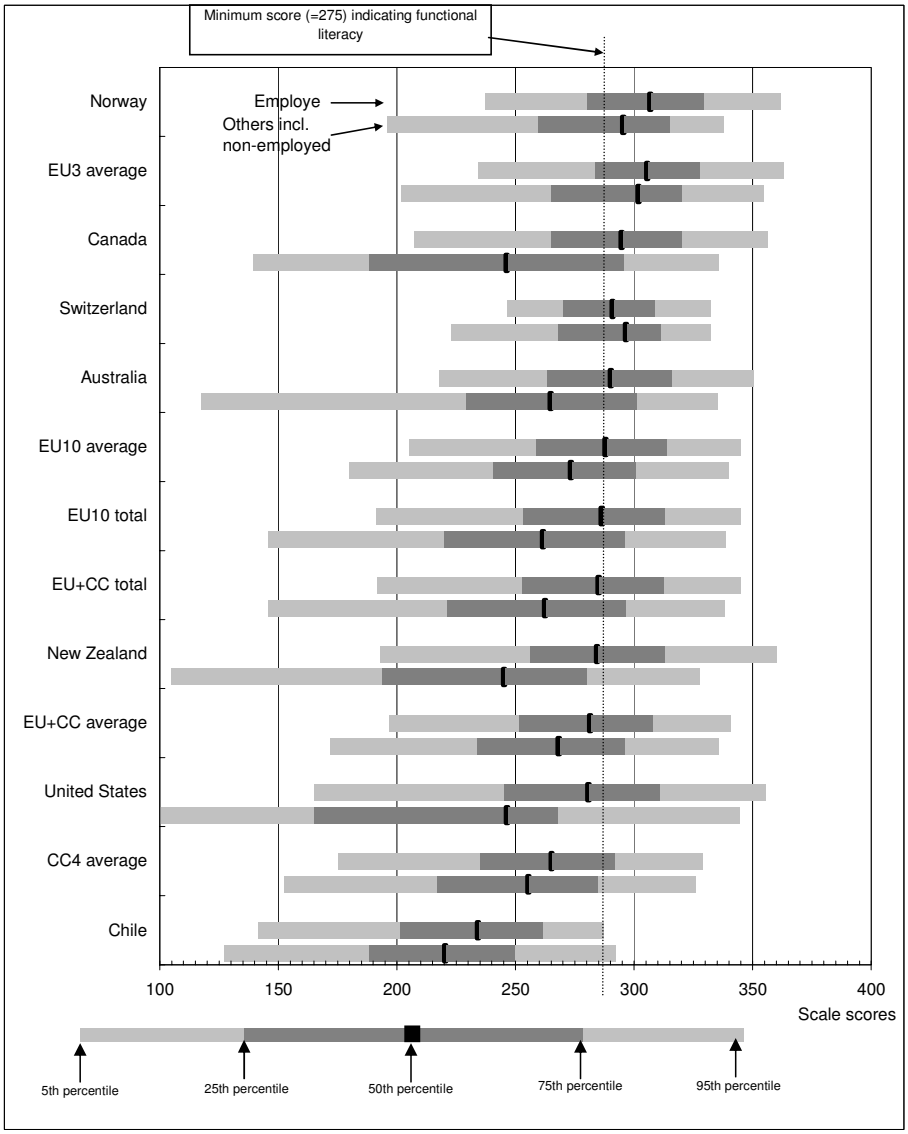
in knowledge societies. The figure is over 75 per cent for Chile and the United States.

On the other hand three EU countries (Finland, the Netherlands, Sweden) on average succeed in having over 75 per cent of their youth populations who are not in education but employed over the minimum scores indicating functional literacy.

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Figure 3.4.2 **Skill profile of the youth population not in education**

Distribution of skill scores at 5th, 25th, 50th, 75th, and 95th percentiles on a scale from 0 to 500, population aged 16 to 24 that is not in education, EU averages and non-EU countries.



EU member and candidate countries are grouped separately and then ranked in descending order by the median of those employed.

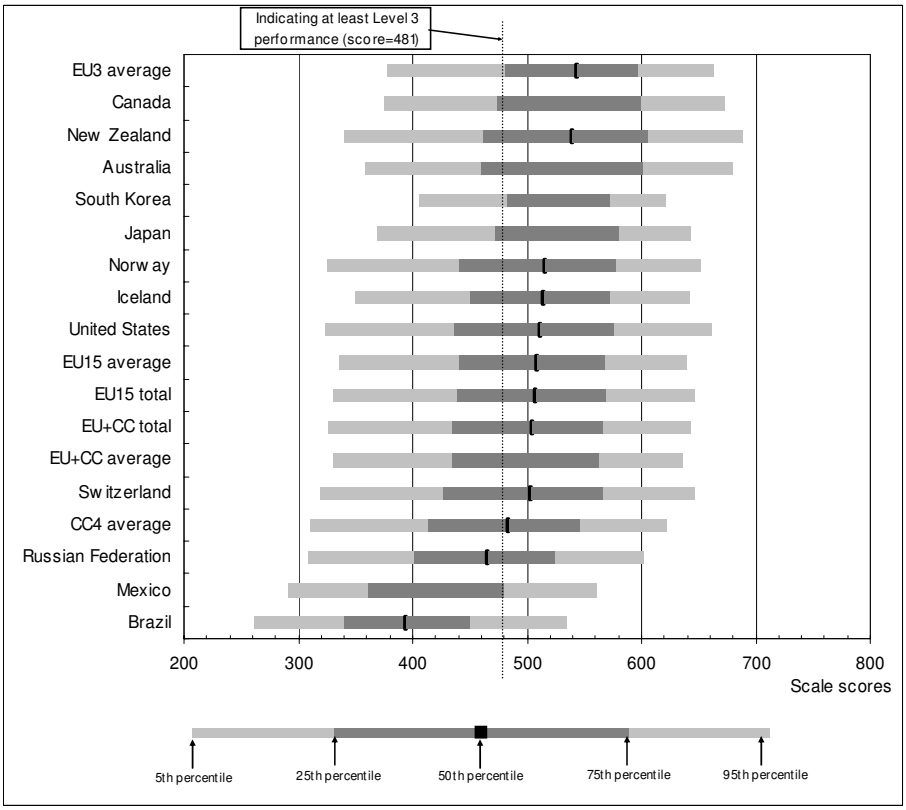
Source: OECD IALS 1994-1998 Database, 2000.

OBJECTIVE 2.2: Making learning more attractive

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Figure 3.4.3 **Skill profile of 15-year-olds**

Distribution of skill scores at 5th, 25th, 50th, 75th, and 95th percentiles on the reading literacy scale ranging from 0 to 800, student populations aged 15, EU averages and non-EU countries, 2000.



EU member and candidate countries are grouped separately and then ranked in descending order by the median scores.

Source: OECD PISA 2000 Database, 2001.

OBJECTIVE 1.2: Developing skills for the knowledge economy

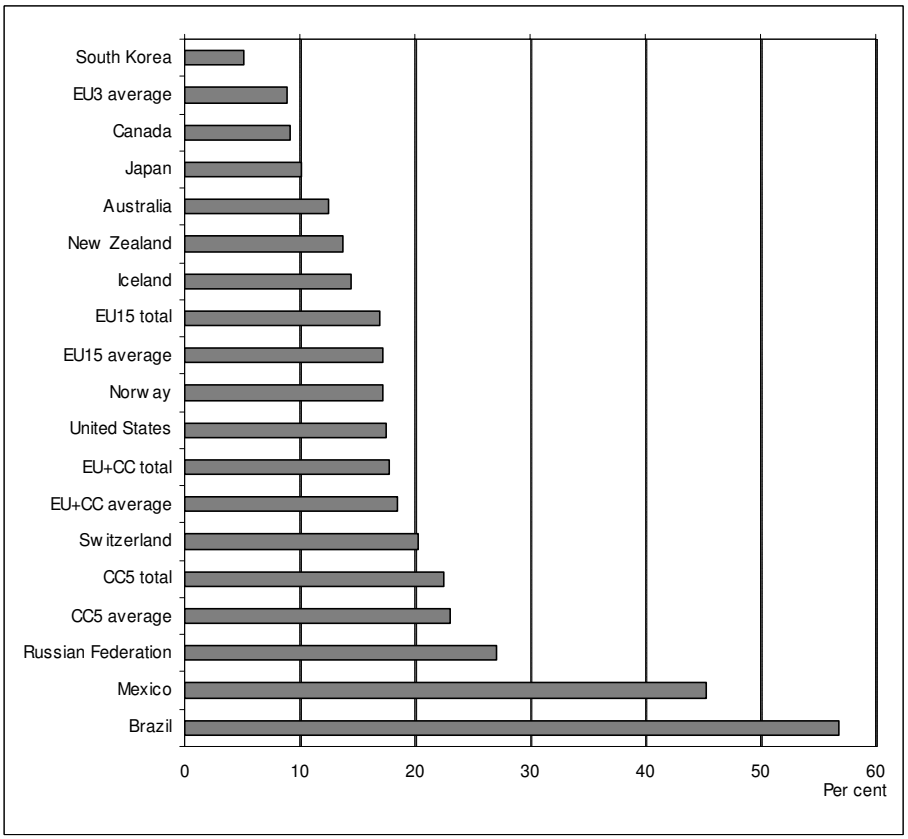
Of the countries considered, only Norway displays similar results. Otherwise, over 50 per cent of youths on average in candidate countries that are already on the labour market and no longer in education, do not display the skills needed to cope in knowledge societies. Only Chile displays a similar situation for the same population with over 75 per cent not displaying functional literacy.

From a worldwide perspective, Figure 3.4.3 shows that few education and training systems succeed in imparting a minimum acceptable level of reading literacy skills to over 75 per cent of 15-year-old students. Only the three best performing EU countries (Finland, Ireland, the Netherlands) and South Korea succeed to do

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Figure 3.4.4 Low achievers in PISA

Proportion of 15 year-olds performing at Level 1 or below on the PISA reading literacy scale, EU averages and non-EU countries, 2000.



EU member and candidate countries are grouped separately and then ranked in ascending order by the lowest proportion in reading literacy level 1 or below.

Source: OECD PISA 2000 Database, 2001.

OBJECTIVE 1.2: Developing skills for the knowledge economy

this. Otherwise, students from EU countries as well as EU countries combined with candidate countries on average perform similar to the United States, where just over 50 per cent of students achieve at least Level 3 performance. The latter is deemed the minimum acceptable level of performance. On average, EU skill profiles of 15-year-old students are better than in Brazil, Mexico and the Russian Federation.

Figure 3.4.4 shows that several countries have a lower percentage of students who display serious deficiencies in reading literacy than the EU average. EU avera-

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ges and the United States display similar results, with nearly 20 per cent of students achieving Leve1 1 or below. In contrast, Canada, Japan and South Korea succeed in having less than 10 per cent of their 15-year-old students performing at Level 1 or below in reading literacy. This latter result compares with the three EU countries (Finland, Ireland, the Netherlands) displaying the lowest proportions of low achievers in reading literacy.

3.5 Impact of learning

In this section the broader impacts of learning are considered from a global perspective. As in Section 2.5, it is important to note that the impacts of learning rest on assumptions that are not easily verified because the data are lacking. Regardless, many researchers and countries assume that education and training systems benefit economies and societies. Accordingly, the percentage of adults aged 25 to 64 who have completed tertiary education and/or who have attained IALS literacy Level 4/5 are compared with economic performance[11], competitiveness[12], labour force participation, quality of life and trust[13] – all of which are potential impacts of learning.

The percentage of those aged 25 to 64 who have attained tertiary education indicates the proportion of high skills at work in an economy, which should result in higher labour productivity and hence GDP growth. As expected, Figure 3.5.1a shows a strong positive relationship between the percentage of those aged 25 to 64 who have completed tertiary education and GDP per capita, adjusted for purchasing power parity (PPP).

Among the countries considered, Canada has the highest proportion (42 per cent) of those aged 25 to 64 with a tertiary education followed by the United States

11. Competitiveness is measured by the World Economic Forum and published annually in The Global Competitiveness Report. The Growth Competitiveness index is based on three broad categories of variables that drive economic growth in the medium and long term: technology, public institutions and the macroeconomic environment. Overall, well over 100 indicators are used to calculate the competitiveness ranking (World Economic Forum, 2003).

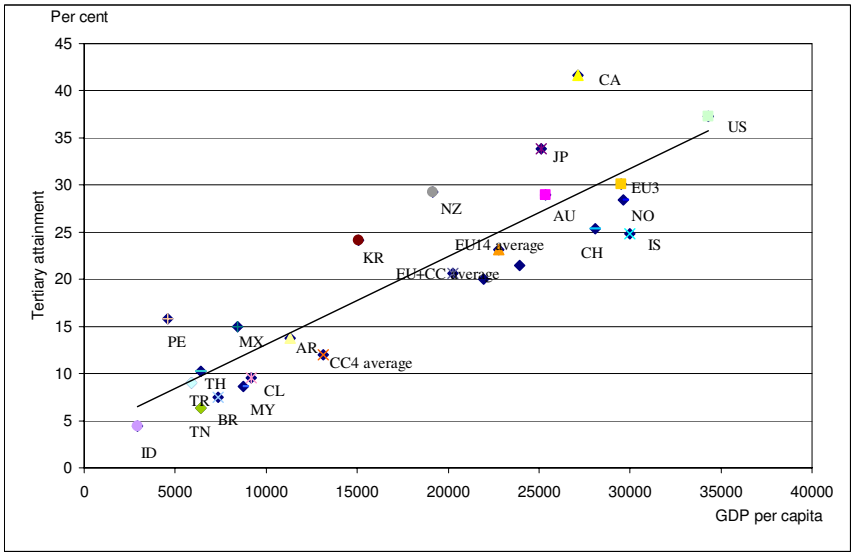
12. Quality of life is the sum of scores on the Human Development Index (HDI) as published in the Human Development Report annually by the UNDP. The HDI is a summary measure of human development in three basic dimensions of human development: a long and healthy life, as measured by life expectancy at birth; Knowledge, as measured by the adult literacy rate (with two-thirds weight) and the combined primary, secondary and tertiary gross enrolment ratio (with one-third weight); and a decent standard of living, as measured by GDP per capita (adjusted for PPP in USD) (UNDP, 2003).

13. Trust is measured in the World Values Survey according to responses to the question: "Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?" The World Values Survey is conducted in over 65 societies and covers almost 80 percent of the world's population. http://www.worldvaluessurvey.org/services/index.html.

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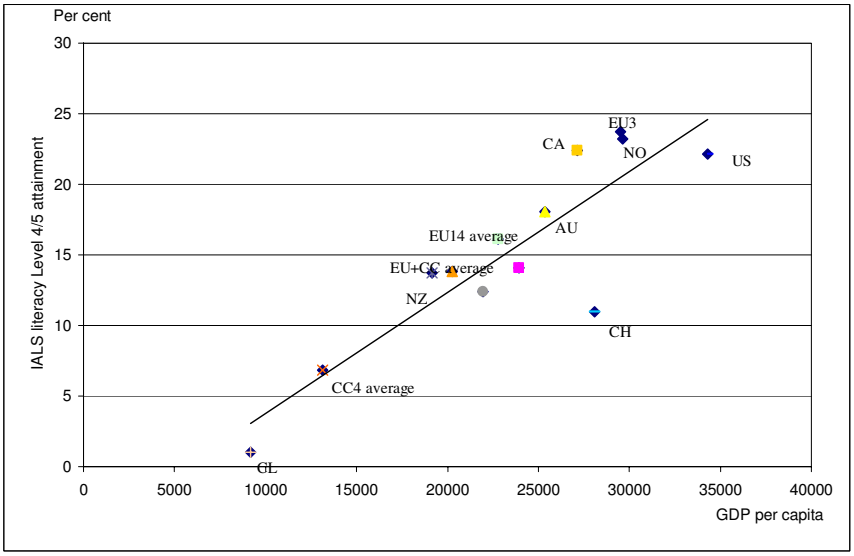
Figure 3.5.1 **Economic performance, education and skills**

A. Relationship between economic performance (GDP per capita, PPP US$, 2001)[a] and tertiary completion rates of populations aged 25 to 64[b], EU averages and non-EU countries.



Sources: ***a****. UNDP, 2003: 237;* ***b****. OECD, 2002a: 48.*

B. Relationship between economic performance (GDP per capita, PPP US$, 2001)[a] and the proportion of adult populations aged 25 to 64 attaining IALS level 4/5[b], EU averages and non-EU countries.

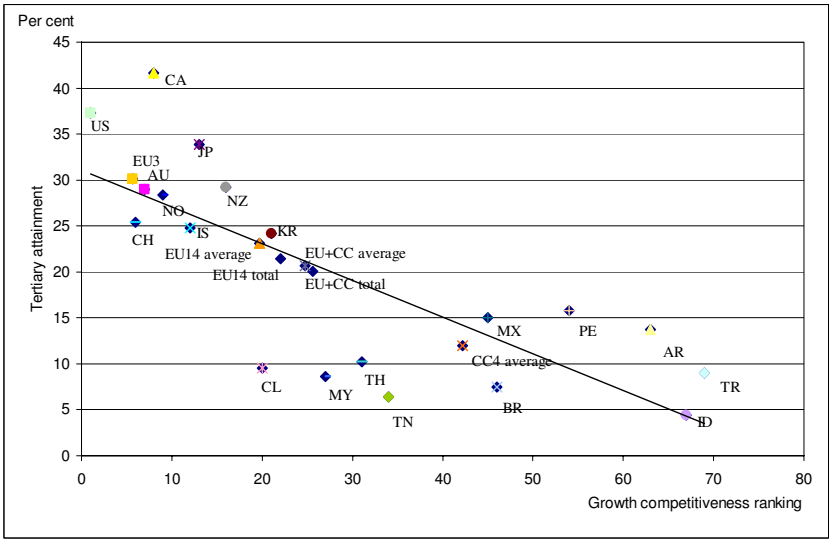


Sources: ***a****. UNDP, 2003: 237;* ***b****. OECD IALS 1994-1998 Database, 2000.*

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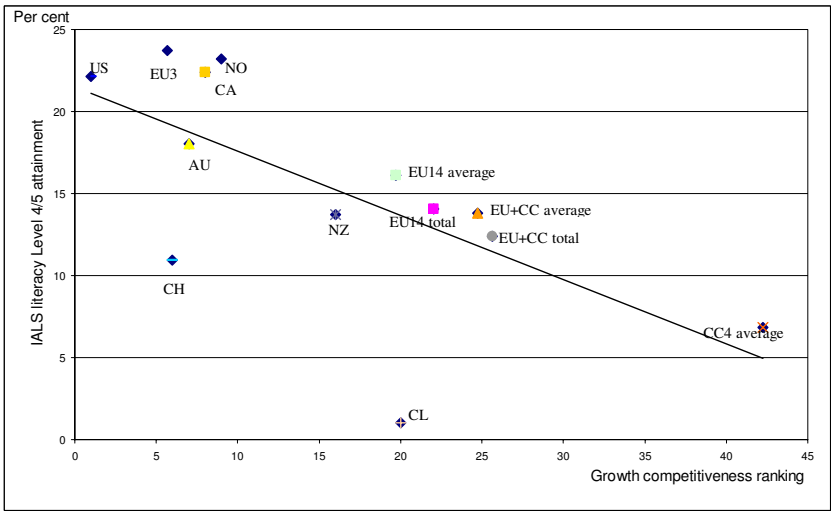
Figure 3.5.2 **Competiteveness, education and skills**

A. Relationship between competitiveness rankings[a] and tertiary completion rates of populations aged 25 to 64[b], EU averages and non-EU countries.



Sources: ***a****. World Economic Forum, 2003: xv;* ***b****. OECD, 2002a: 48.*

B. Relationship between competitiveness rankings[a] and the proportion of adult populations aged 25 to 64 attaining IALS level 4/5[b], EU averages and non-EU countries.



Sources: ***a****. World Economic Forum, 2003: xv;* ***b****. OECD IALS 1994-1998 Database, 2000.*

OBJECTIVE 1: Improving the quality and effektiveness of education and training systems

OBJECTIVE 2: Facilitating the access of all to education and training systems

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at 37 per cent and Japan at 34 per cent. These countries also rank high in terms of GDP per capita. In the EU, the average proportion is 23 per cent, which corresponds to a lower average GDP per capita of USD 22,801. By contrast, the average completion rate among three EU countries (Finland, Ireland, Sweden) is 30 per cent, which corresponds to some of the highest GDP per capital's. Data from the IALS reveal similar results, implying that increasing skill levels will increase productivity.

Attaining tertiary education and IALS literacy Level 4/5 implies high skills, which may lead to increased competitiveness in high skills industries. Figures 3.5.2a and 3.5.2b highlight positive relationships between competitiveness, as measured by the World Economic Forum, and tertiary attainment as well as IALS literacy Level 4/5 attainment at the global level.

Figure 3.5.2a illustrates that Canada's leading tertiary completion does not translate into it being the most competitive economy (it ranks 8th). On the other hand, the relatively low tertiary completion rates in Chile and Malaysia translate into relatively high competitiveness rankings (20th and 27th, respectively). The average EU, and especially candidate countries, skill scores lag behind some key competitors such as Japan and the United States. However, three EU countries (Finland, Ireland, Sweden) boast average tertiary completion rates and competitiveness rankings that are among the best in the world. Overall, the relationship implies that higher proportions of populations attaining tertiary or high levels of skill increases competitiveness.

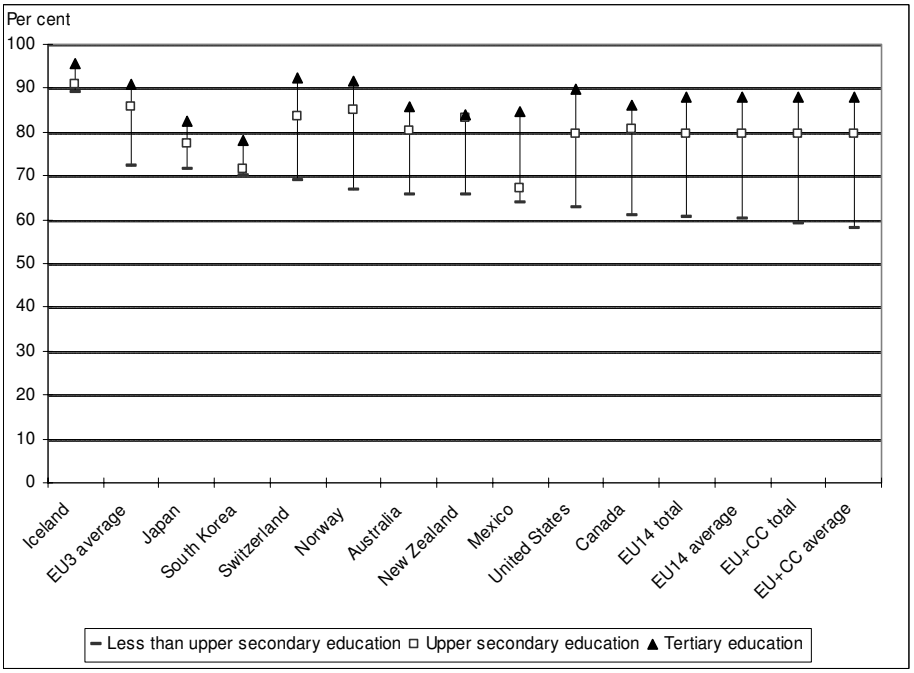
As noted in the previous chapter, the Commission has adopted a goal to ensure 80 per cent or more of the population aged 25 to 64 in the EU attains at least upper secondary education by 2010. One benefit of achieving this is implied by Figure 3.5.2. There is a strong positive correlation between level of educational attainment and labour force participation. In fact, labour force participation increases with level of education in all countries considered. However, the increase in labour force participation with level of education is much greater in Europe, especially among candidate countries, and North America than in nations such as Japan and South Korea. Indeed, labour force participation rates among those with a tertiary education are at least 40 per cent higher than in Europe and North America than among those without an upper secondary education. Labour force participation rates among those with a tertiary education do not vary nearly as much internationally as among those with less than an upper secondary education. Therefore, in all countries people who have a tertiary education are more actively engaged in the labour market.

As stated in the previous chapter, the outcomes of education and skills are thought to have potential benefits such as health, personal and intellectual effects

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Figure 3.5.3 **Labour force participation and education**

Labour force participation rates by level of educational attainment, populations aged 25 to 64, EU averages and non-EU countries, 2000.



EU averages and non-EU countries are ranked in descending order by the highest percentage of those who have attained less than secondary and are participating in the labour force.

Source: OECD, 2002b.

OBJECTIVE 1: Improving the quality and effektiveness of education and training systems

OBJECTIVE 2: Facilitating the access of all to education and training systems

as well as economic success. Literacy is also assumed to be important for the general standard of societies. As such, there is an expectation for a positive relationship between education, literacy and quality of life. Indeed, there is a positive correlation between the percentages of those who have attained tertiary education/high skills and Human Development Index (HDI) rankings, as depicted in Figures 3.5.4a and 3.5.4b.

OBJECTIVE 2.3: Supporting active citizenship, equal opportunities and social cohesion

Social capital theory suggests that education and skills may foster an atmosphere

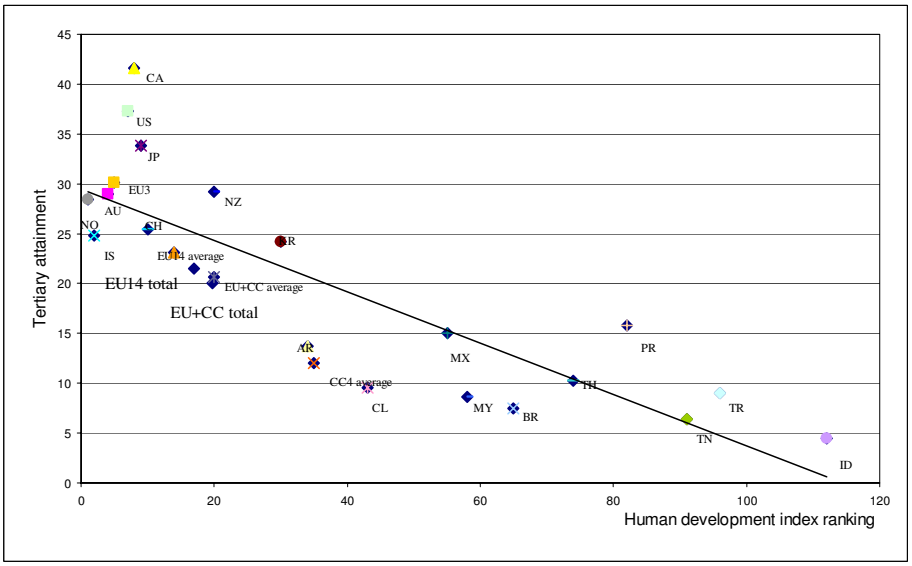
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of trust and promote the sharing of knowledge through networks of people. Figures 3.5.5a and 3.5.5b reveal strong relationships between average levels of trust in other people and levels of education and literacy. The average level of trust in people ranges from a low of five per cent in Brazil and Peru to 59 per cent among the EU top three (Denmark, Finland, Sweden) and 67 per cent in Norway. Average trust levels in the EU are similar to Japan but somewhat lower than in North America and Australia. Trust levels in candidate countries are low, perhaps representing the economic, political and social upheaval in those countries over the past two decades.

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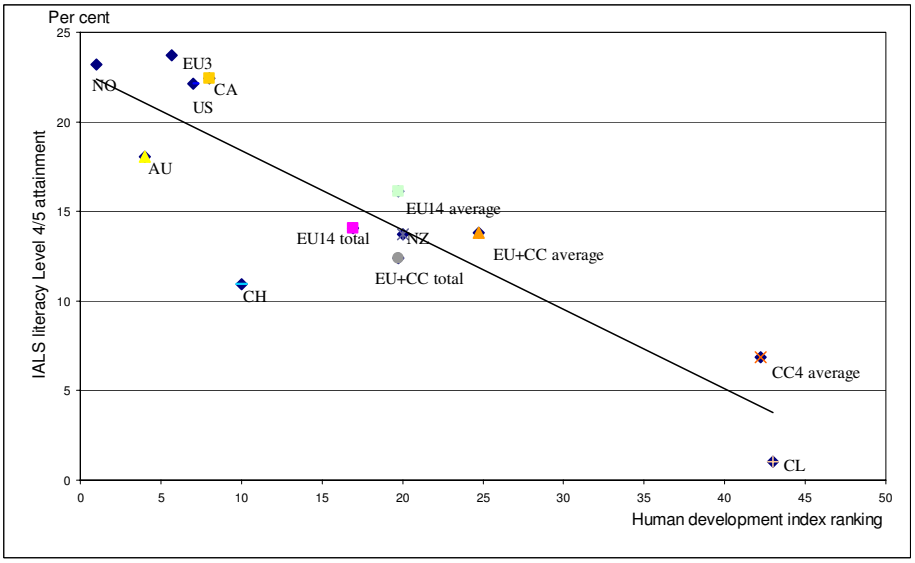
Figure 3.5.4 **Quality of life, education and skills**

A. Relationship between the human development index[a] and tertiary completion rates of adult populations aged 25 to 64[b], EU averages and non-EU countries.



Sources: ***a****. UNDP, 2003: 237;* ***b****. OECD, 2002a: 48.*

B. Relationship between the human development index[a] and the proportion of adult populations aged 25 to 64 attaining IALS Level 4/5[b], EU averages and non-EU countries.

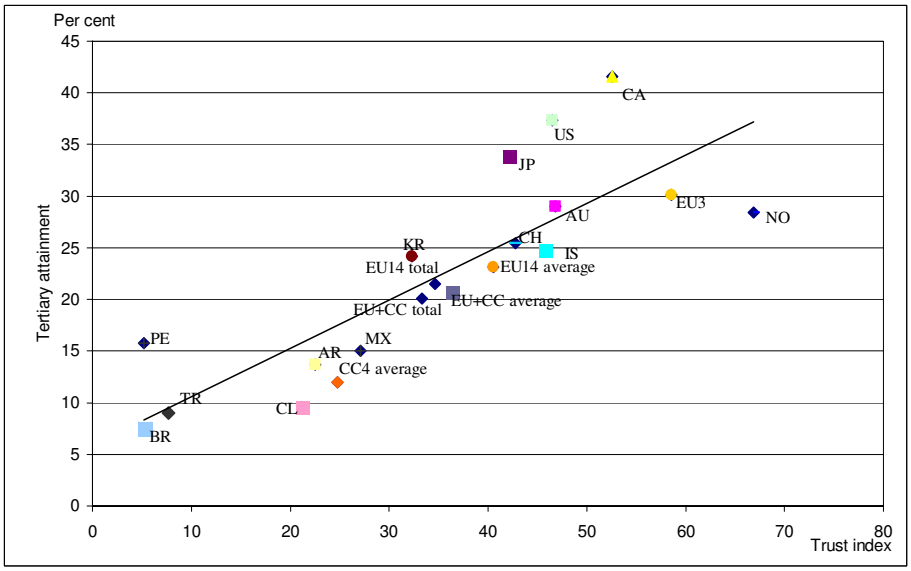


Sources: ***a****. UNDP, 2003: 237;* ***b****. OECD IALS 1994-1998 Database, 2000.*

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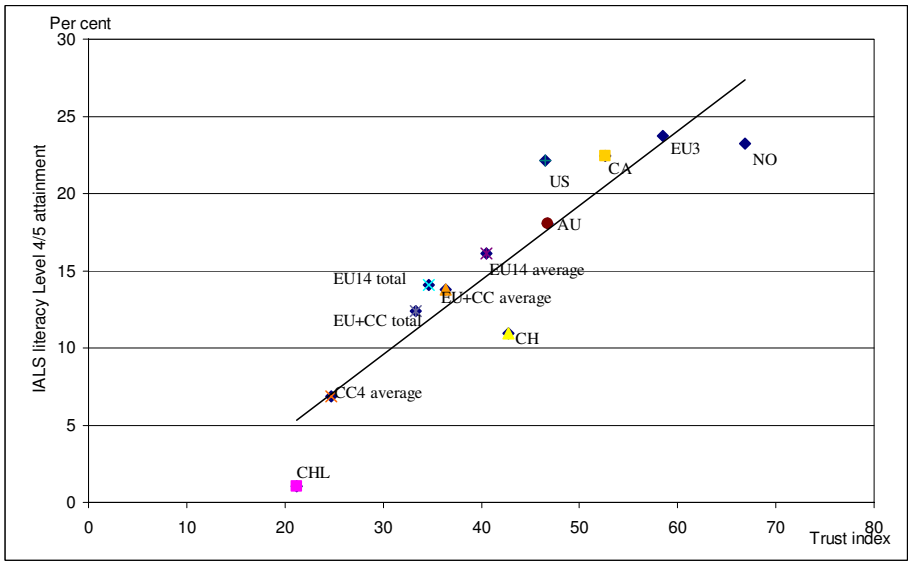
Figure 3.5.5 **Trust, education and skill**

A. Relationship between the average level of trust in other people[a] and tertiary completion rates of populations aged 25 to 64[b], EU averages and non-EU countries.



Sources: ***a****. World Values Surveys, 1981-1990-1995;* ***b****. OECD, 2002a: 48.*

B. Relationship between the average level of trust in other people[a] and the proportion of adult populations aged 25 to 64 attaining IALS Level 4/5[b], EU averages and non-EU countries.



Sources: ***a****. World Values Surveys, 1981-1990-1995;* ***b****. OECD, 2002a: 48.*

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4. Synthesis and concluding discussion

After a synthesis of the main findings of this report (4.1), Chapter 4 presents a general note on benchmarking (4.2) highlighting the main benefits and challenges of such an approach when applied to education and training systems. Moreover, a detailed coverage of the impacts of data gaps on the present exercise (4.3) is then followed by a list of recommendations to improve benchmarking in similar contexts (4.4).

4.1 Strengths and weaknesses of EU education and training systems

The synthesis follows the structure under which the indicators are grouped and presented throughout the report, i.e. *Inputs* (Resources invested in education); *Processes* (The learning environment); *Outputs* (Output of educational institutions); *Outcomes* (Learning outcomes); and *Impacts* (Impact of learning).

4.1.1 Resources invested in education

Investment in education measured as a percentage of GDP per capita is a key indicator. On average EU member states spend 5.5 per cent of GDP on education compared with 4.9 per cent in candidate countries, and over 90 per cent of education funding in Europe is sourced with public funds. Globally, education spending varies from over seven per cent of GDP in Chile to just over one per cent in Indonesia. Europe's key competitors dedicate similar resources to education but tend to spend more on tertiary education and tap more private funding than in Europe. At compulsory levels of education Europe's per student expenditures are similar to key competitors in North America and Asia. But per student spending at the tertiary level tends to lag behind that of key competitors.

4.1.2 The learning environment

The learning environment is shaped by factors such as teacher salaries, pupil-teacher ratios and ICT access in schools. These indicators help to gauge the quality of the learning environment. Teacher salaries in the EU, average 130 to 150 per cent of GDP per capita, which is similar to key competitors such as Japan and the United States. However, teacher salaries are low in candidate countries and average only 70 to 80 per cent of GDP. This could result in teacher shortages in candidate countries since other opportunities as well as teaching in other countries, may prove more attractive.

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In general, there is a tendency for pupil-teacher ratios to be lower at the higher levels of education however there are a number of countries where the opposite is observed. EU countries have, on average, low pupil-teacher ratios and the pattern is similar among candidate countries. On average, pupil teacher ratios are slightly lower in Europe than in key competitors such as Japan and the United States.

The ratio of students to computers relates to the EU objective ensuring access to ICT for everyone. In the EU, the median number of computers per pupil is 15. Of the candidate countries considered the number is 14. The lowest student-computer ratios are found in Australia and the United States. Overall, Europe lags behind several key competitors, such as Japan, Russia and South Korea. Moreover, the disparity in student-computer ratios between schools is much higher in the EU and among candidate countries than in many other countries.

4.1.3 Output of educational institutions

Comparative indicators reflecting the output of educational institutions provide insight into the human resource potential of different nations. Adults aged 25 to 64 in several countries including Canada, Japan and the United States have more formal qualifications than those in the EU and in candidate countries. While over 80 per cent of the males and females of several non-EU countries have attained at least upper secondary, 60 per cent or less have reached that level in the EU, and 70 per cent in candidate countries. The EU also lags in terms of tertiary level qualifications among adults with an average proportion half of Canada's and substantially less than in Japan and the United States. The entry of candidate countries to the EU will further lower average tertiary completion among adults.

There is a difference in the type of tertiary education pursued in various regions, and a tendency for countries with high proportions of tertiary-type B graduates (in particular, the top three EU countries (Belgium, Denmark, Finland) with over 20 per cent of their populations with tertiary-type B qualifications) to have high tertiary completion rates overall. This raises the average proportion of tertiary graduates in the labour force in the top three EU countries (Finland, Ireland, Sweden) to a level above that of Japan, even though the latter has a higher proportion of type A graduates.

Turning to graduation rates in tertiary level education, the EU average lags behind countries such as Japan, South Korea and the United States. Japan and South Korea have graduation rates of approximately 60 per cent, which is higher than the top three EU countries. The United States reports a rate of 43 per cent while the EU average graduation rate is 39 per cent. Candidate countries' graduation rates are less than half that of Japan and South Korea.

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There is a high demand for graduates from science and technology programmes, and they are deemed important for Europe to remain competitive. In the EU approximately 25 per cent of tertiary graduates studied mathematics, sciences, computing or engineering. Japan and the United States report a lower percentage of graduates in the sciences, mathematics and computing fields than in the EU, though Japan and South Korea report very high proportions of engineering graduates. The top three EU countries (Finland, France, Germany) topped the world with almost 20 per cent of all graduates from the sciences, mathematics or computing.

When projecting future numbers of tertiary graduates by region, the EU total number of tertiary graduates is expected to remain rather constant over the next decade. In contrast, maintaining its current graduation rate, the number of tertiary graduates in the United States is expected to increase by 320,000 and will surpass the number of graduates in the EU by 50,000 by 2015, largely because of higher birth rates and tertiary graduation rates in the United States. However, if China succeeds in increasing its tertiary graduation rate from 10 to 15 per cent by 2010, as committed in its 10th five-year plan, the number of tertiary graduates in that country will exceed those of the EU and the United States in 2010 by over 800,000 graduates.

The average number of foreign languages learned per student at different levels of education is an educational output that is important to a number of EU goals, including the promotion of cohesion, diversity and mobility. Throughout Europe pupils and students generally learn 1 to 3 foreign languages at the upper secondary level. However, levels of language proficiency are not considered in this report.

Participation in adult education and training is becoming increasingly important in the knowledge economy, especially for older adults (aged 45 to 64) who often require skills upgrading. Adult education participation rates in the EU are similar to those in Australia and Canada, where over 25 per cent of those aged 45 to 64 participate. Among the same populations in candidate countries, the average participation rates are below 20 per cent. Several countries, including the United States, have participation rates in excess of 35 per cent, though the top three EU countries (Denmark, Finland, Sweden) have the highest adult education participation rates, exceeding 45 per cent.

Ensuring successful school to work transitions is a challenge for all economies. In countries such as Iceland, Switzerland and Australia, however, over 40 per cent of youth aged 15 to 19 are in school and the labour force. The United States has proportions over 25 per cent, higher than the average proportion of all EU and candidate countries considered. For youth aged 20 to 24, over 20 per cent in Australia, Canada and the United States are in education and in the labour force, compared

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with the EU average of less than 15 per cent. However, the top three EU countries (Denmark, Finland, Germany) have the highest proportion of students aged 20 to 24 in the labour force. Overall, students in a number of countries are more actively engaged in the labour market than the average EU student population, suggesting that links between education and the labour market are better in these countries than in the EU.

Youth unemployment is also a common problem. Data indicate that the EU is not alone in facing high unemployment rates among youth, especially among 20 to 24 year-olds with less than upper secondary attainment. Over three per cent of Australia's populations with this profile are unemployed and over seven per cent of 20 to 24 year-old males in Turkey who have not completed secondary education are unemployed. Mexico and the United States have rates less than two per cent and Norway less than one per cent. In all countries, more males from this cohort with less than upper secondary are unemployed than females of the same profile.

4.1.4 Learning outcomes

Aggregated EU member and candidate country averages of knowledge and skills obtained though the PISA and IALS surveys reveal a number of interesting trends vis-à-vis other countries. While countries such as Australia, Canada and the United States have higher proportions of young adult populations who have completed upper secondary and tertiary education, EU education and training systems, in particular the top three EU systems, have been more effective at imparting knowledge and skills to young adults who have completed these levels of education. Moreover, EU education and training systems generate less variation in skill measures (i.e. exhibit more equitable learning outcomes) than Australia, Canada and the United States. This implies that on average EU education and training systems are associated with less inequality in learning outcomes.

Skill profiles of youth aged 16 to 24 that are not in education informs on the risk of excluding youths that do not pursue further education. Well over 50 per cent of unemployed youths who are not in education in the EU and in candidate countries as well as in Canada and New Zealand do not have the skills needed to cope in knowledge societies. The figure is over 75 per cent for Chile and the United States. On the other hand, three EU countries (Finland, the Netherlands, Sweden) on average succeed in having over 75 per cent of their youth populations who are not in education achieve functional literacy.

Regarding reading skills, Japan, South Korea, Canada and the top three EU countries (Finland, Ireland, the Netherlands) succeed in imparting a minimum acceptable level of reading literacy skills to over 75 per cent of 15-year-old students.

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Students from EU member states and candidate countries on average perform similar to the United States, where just over 50 per cent of students achieve an acceptable level of reading literacy. Moreover, the EU has a similar proportion of low achievers to the United States, with nearly 20 per cent of students at or below the lowest level of literacy. In contrast, Canada, Japan and South Korea succeed in having less than 10 per cent of their 15-year-old students at this level.

4.1.5 Impacts of learning

The broader impacts of learning are considered in a global perspective by exploring the relationships between outputs/outcomes of education systems with economic performance, competitiveness, labour force participation, quality of life and trust. Data suggests that there is a strong positive relationship between the percentage of those who have completed tertiary education and GDP per capita. The average proportion of adults who have attained tertiary education among EU member countries is 23 per cent, corresponding to an average GDP per capita of USD 22,801. But tertiary completion rates (and GDP per capita) are lower in much of Europe, especially in candidate countries, than in several key competitors.

High levels of skill are also positively related with GDP per capita, implying that increasing skills levels will fuel economic performance. While 16 per cent of adults in EU countries reach IALS literacy Level 4/5, only seven per cent reach this level in candidate countries. As with tertiary completion, the average EU score lags behind the United States and Canada in terms of the proportion of the population that reach high skills but many EU countries have a more even dispersion of skills.

Tertiary education and skills are also positively related with competitiveness. The average EU countries scores and especially candidate country scores lag behind some key competitors such as Japan and the United States. However, the top three EU countries (respectively, Finland, Ireland, Sweden, and France, Greece, Italy) boast tertiary completion rates and competitiveness rankings that are among the best in the world.

There is also a strong positive correlation between level of education and labour force participation. In fact, labour force participation increases with level of education in every one of the 29 countries covered globally. The increase in labour force participation with level of education is much greater in Europe, especially among candidate countries, and North America than in nations such as Japan and South Korea. Indeed, labour force participation rates among those with a tertiary education are at least 40 per cent higher in Europe and North America than among those without an upper secondary education.

Education and skills are also thought to generate broader benefits such as health

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and well being. In fact, there is a positive correlation between the percentages of those who have attained tertiary education and high levels of skill with the Human Development Index (HDI). In general, EU member states score quite well on the HDI, reflecting the weight accorded to other social factors as well as GDP per capita in ranking countries.

Finally, on synthesising results of the study, social capital theory suggests that education and skills foster an atmosphere of trust and promote the sharing of knowledge. Indeed, strong relationships are observed between average levels of trust in other people and levels of education and skills. The average level of trust in other people ranges from a low of five per cent in Brazil and Peru to 59 per cent among the top three EU countries (Denmark, Finland, Sweden). Average trust levels in the EU are similar to Japan but somewhat lower than in North America and Australia. Trust levels in candidate countries are low.

4.2 A note on benchmarking

In order for education statistics to qualify as indicators they must be benchmarks. As such, indicators are measures of performance, and interpreted on the basis of some defined criteria. The EU has recently adopted three overarching strategic objectives that have been broken down into 13 specific objectives and 42 key issues, which form a basis for defining benchmarking criteria. The specification of these objectives is critical to the benchmarking exercise.

Indicators do not inform about performance in isolation, they must be compared, either with previous observations or with other regions or countries. The purpose of this report was to benchmark the performance of EU education and training systems in light of the strategic objectives adopted by the EU, with other countries from around the world. Thus comparisons are drawn between EU member countries, candidate countries and a number of other interesting countries. An emphasis is placed on recent performance due to the lack of comparable data over time that would allow for comparisons of progress toward objectives. To monitor the development of certain indicators it is necessary to have comparable data over time.

Comparisons between countries do not only inform about performance in relation to objectives, they also point to differences, similarities or uniqueness among various education and training systems. Many indicators are limited in that they do not inform on the underlying reasons for these observations. Thus the value of the information that can be discerned from them is limited. Further analyses of a more descriptive and developmental nature are needed to supplement the information derived. This can permit for a more effective assessment of the relative merit of

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policies and practices, and hence inform decision making that can lead to better performance. It is possible, however, to integrate more detailed information into the indicator framework. Feasibility depends on whether the potential reasons explaining the differences and similarities can be classified in a comparable manner.

The indicators presented in this report relate to each other to form an indicator system. In particular, indicators reflect certain elements of a wider set of relationships between resources, education and training systems, individuals, economies and societies. The elements are broken down into the inputs, processes, outputs, outcomes and impacts that are associated with education and training systems. While each indicator reflects a part of a wider set of relationships, the criteria by which they are judged often transcends the different parts of the indicator system. By classifying them into categories, indicators inform about the system by describing a particular feature of it, but fail to inform on the relationships between the different parts of the system.

More complex indicators, which combine indicators that inform on only a particular part of the system, need to be constructed. This allows for an analysis of the interrelationships among different parts of the system. In so doing, differences in relationships between countries as well as changes in these relationships can be observed. These observations would inform on concepts that transcend systems such as effectiveness, relevance, efficiency, quality and also provide information about how the individual components work together to produce the overall effects. The importance of informing on such important concepts by the use of more complex indicators is now widely recognized by researchers (Bottani and Tuijnman 1994: 32). As an example, the *First report on the activities of the Working Group: Making the Best Use of Resources* (European Commission, 2003) describes the need for a more complex indicator that relates to *Objective 1.5 'Making the Best Use Resources*', namely the achievement in mathematics, science and reading according to PISA divided by the total cumulative spending per student from age 5 to 15.

Since most of the objectives specified by the EU transcend the indicator system, complex indicators would inform better about performance on such objectives. This report placed an emphasis on indicators that correspond to particular parts of the indicator system, and did not consider more complex indicators of the nature described here. This is in part due to limited availability of and access to data as well as limited resources. The indicators in this report were derived from secondary sources, which are not easily amenable to the construction of complex indicators. In summary, benchmarking exercises would benefit from complex indicators that explore the relationships between inputs, processes, outputs, outcomes and impacts.

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4.3 Data gaps

4.3.1 Country coverage

Between the *Education at a Glance* (EAG) indicators and *World Education Indicators* (WEI), a reasonably large number of countries were incorporated into the European and worldwide benchmarking analyses. Of the candidate countries, however, only four are OECD members. Consequently, most candidate country data are not reflected in the majority of indicators analysed. In general, indicators that use data from Eurostat, EURYDICE or the European Commission include data for candidate countries. On few occasions, the OECD member country data could be supplemented with comparable data from candidate countries such as indicators pertaining to PISA. On a worldwide level, many countries participating in the WEI programme did not report data on all indicators, and as a result were excluded from the analysis.

4.3.2 Data coverage

Some of the 13 objectives adopted by the EU were not benchmarked at the worldwide level because the data did not exist, but were benchmarked at the European level. The latter allowed for a comparison between EU member and candidate countries. There were no data available for non-EU countries for the following indicators:

- Figure 2.1.3. Enterprise expenditure on CVT (related to Objective 1.5: Making the best use of resources);
- Figure 2.2.2. Teacher training (relates to Objective 1.1: Improving education and training for teachers and trainers);
- Figure 2.2.3. Instructor mobility (related to Objective 3.4: Increasing mobility and exchange);
- Figure 2.3.5. Number of foreign languages (relates to Objective 3.3: Improving foreign language learning);
- Figure 2.3.7. Participation in CVT in enterprises (related to Objective: Facilitating the access of all to education and training systems); and
- Figure 2.3.11. Mobility of students (relates to objective 3.4: Increasing mobility and exchange).

4.3.3 Availability of time series data

The OECD warns that time series before 2000 may not be comparable, because data collection procedures have changed several times. A major example involves

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the revision of the International Standard Classification of Education (ISCED) in 1997. Because data from the last three years were not deemed to be adequate to identify trends or patterns over time, time series were not used in this report.

4.3.4 Access to available data and indicators

The OECD provided access to the UOE data for this project. However, much of the data needed to compute indicators similar to the EAG or WEI indicators such as population estimates were not made available. While the latter data are accessible through other sources, population bases for particular indicators such as age cohorts reflecting typical age of graduation are difficult to compute and hence require additional resources. Future benchmarking exercises should seek further cooperation with experts who are familiar with calculating population base estimates as well as the formulas used to derive indicators. Access to raw data of this nature will increase the flexibility to develop different indicators than are already reported as well as more complex indicators.

4.3.5 Comparability of Eurostat and OECD indicators

Since the OECD indicators do not cover all candidate countries, the use of Eurostat indicators was necessary in some instance to benchmark as many candidate countries as possible with EU countries. For example, *Figures 2.3.4 and 3.3.4. Graduates in mathematics, science and technology*, used different data sources. The former used data from a European level institution, namely Eurostat and the latter used data from the OECD to permit a worldwide level analysis. While both the OECD and Eurostat had such an indicator available, they were not comparable because fields of study were classified differently. This points to a potential area for improved cooperation between the EU and the OECD. For example, a common indicator framework would improve and facilitate benchmarking at both the European and worldwide levels.

4.3.6 Additional data on specific features of education and training systems

For benchmarking to be more effective, it may be worth exploring the feasibility of cataloguing various features of EU education and training systems in a comparable manner. Data could be derived from this information to enhance the value of benchmarking. Supplementing the analysis in this way would facilitate identification of best practices and policies. Moreover, this method would be systematic and consistent.

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4.3.7 Adult learning data

Finally, few comparable data were available to benchmark adult education and training systems. Only the IALS data, which dates 1994 to 1998, provides international data that are comparable to benchmark participation in adult education and training and also provides data that inform on the skill levels of adult populations.

4.4 Recommendations

The worldwide benchmarking of EU education and training systems undertaken in this report demonstrates the wealth of existing data currently available, and what can be done with it. At the same time it also points to potential areas where more data could be collected as well as improvements to the development and analysis of indicators. The following summarises a list of next steps that are suggested to improve benchmarking of a similar nature:

1. Specify current objectives in a more detailed manner by taking into account the different elements of a chosen indicator system. By operationalising objectives in terms of quantifiable data, efforts to monitor progress and the achievement of such goals will be improved.

2. Develop more complex indicators that explore the relationships between different elements of an indicator framework. This will improve the interpretability of indicators in terms of complex concepts such as effectiveness, efficiency, quality and equality. It would also inform on the nature of the relationships between different parts of the system and in particular how they work together to produce the desired outcomes and impacts.

3. Improve access to raw data and formulas used to construct existing indicators, such as the EAG and WEI indicators published by the OECD and the UNESCO Institute for Statistics. This would promote cooperation, reduce the duplication of efforts, improve comparability between sources, and increase flexibility in the development of more complex indicators.

4. Explore feasibility of gathering detailed data on features of education and training systems, which could be incorporated into benchmarking. This would help to identify best practices and good policies.

5. Develop and support an adult skills measurement program that produces direct measures of skills and links to other surveys that provide information on adult learning such as the Continuing Vocational and Training Surveys, the ad hoc

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module on lifelong learning in the 2003 Labour Force Survey, the planned European Adult Education Survey and the education and training modules of the planned Statistics on Income and Living Conditions Survey. This would allow for the benchmarking of adult learning systems. Moreover, supporting international surveys of this nature would allow for international benchmarking.

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Annex A.
Objectives for EU education and training systems

The following is a list of the three overarching strategic objectives and 13 specific objectives adopted by the Education Council. Indicators that have been selected by the Commission to monitor the implementation of these objectives are also included.

1. Improving the quality and effectiveness of education and training systems in the EU

1.1 Improving education and training for teachers and trainers

A. Age distribution of teachers as a proxy for future requirements together with upper and lower retirement age.

B. Number of young people in the 0-15 and 16-19 age groups and as percentage of total population.

C. Ratio of pupils to teaching staff by education level.

1.2 Developing skills for the knowledge society

A. Percentage of those aged 22 who have successfully completed at least upper secondary education (ISCED 3).

B. Percentage of total number of pupils with reading literacy proficiency "level 1" and lower" on the PISA reading literacy scale.

C. Distribution and mean performance of students, per country, on the PISA reading literacy scale.

D. Distribution and mean performance of students, per country, on the PISA mathematical literacy scale.

E. Distribution and mean performance of students, per country, on the PISA science literacy scale.

F. Percentage of adults with less than upper secondary education who have participated in any form of education or training, in the last 4 weeks by age group (25-34, 35-54 and 55-64).

1.3 Ensuring access to ICT for everyone

❑ No indicators selected by commission

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1.4 Increasing recruitment to scientific and technical studies

A. Students enrolled in mathematics, science and technology as a proportion of all students in tertiary education (ISCED 5A, 5B and 6).

B. Graduates in mathematics, science and technology (ISCED 5A, 5B and 6) as percentage of all graduates (ISCED 5A, 5B and 6).

C. Total number of tertiary (ISCED 5A, 5B and 6) graduates from mathematics, science and technology fields.

D. Share of tertiary graduates in mathematics, science and technology per 1000 inhabitants aged 20-29 - Broken down by ISCED levels 5A, 5B and 6.

E. Share of tertiary graduates in mathematics, science and technology per 1000 inhabitants at typical age of graduation - Broken down by ISCED levels 5A, 5B and 6.

1.5 Making the best use of resources

A. Public expenditure on education as a percentage of GDP

B. Private expenditure on educational institutions as a percentage of GDP

C. Enterprise expenditure on continuing vocational training as a percentage total labor costs.

D. Total expenditures per pupil/student by level of education (PPS)

E. Expenditures on educational institutions per pupil/student relative to GDP per capita (PPS).

2. Facilitating the access of all to education and training systems

2.1 Open learning environment

A. Percentage of population aged 25-64 participating in education and training in 4 weeks prior to the survey by levels of education.

2.2 Making learning more attractive

A. Hours in CVT courses per 1000 hours worked (only enterprises with CVT courses), by NACE.

B. Hours in CVT courses per 1000 hours worked (all enterprises), by NACE

C. Participation rates in education by age.

D. Proportion of the population aged 18-24 with only lower secondary education and not in education or training

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2.3 Supporting active citizenship, equal opportunities and social cohesion

❑ No indicators selected by commission

3. Opening up education and training systems to the wider world

3.1 Strengthening the links with working life and research and society at large

❑ No indicators selected by commission

3.2 Developing the spirit of enterprise

❑ No indicators selected by commission

3.3 Improving foreign language learning

A. Distribution of lower/ upper secondary pupils learning foreign languages.

B. Average number of foreign languages learned per pupil in upper secondary education.

3.4 Increasing mobility and exchange

A. Inward and outward mobility of teachers and trainers within the Socrates (Erasmus Comenius, Lingua and Grundtvig) and Leonardo da Vinci programmes

B. Inward and outward mobility of Erasmus students and Leonardo da Vinci trainees

C. Proportion of Foreign students enrolled in tertiary education

D. Proportion of citizens in tertiary education studying abroad

3.5 Strengthening the European co-operation

❑ No indicators selected by commission

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Annex B.
Data values for the figure

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Table 2.1.1
Public and private expenditures on tertiary and all levels of education as a percentage of GDP (PPP in USD), EU member and candidate countries, 1999

	Tertiary			All levels of education		
	Public[1]	Private[2]	Total	Public[1]	Private[2]	Total
Austria[3,*]	1,4	0,0	1,5	6,0	0,3	6,3
Belgium*	1,3	-	-	5,3	0,3	5,6
Denmark[3,*]	1,5	0,0	1,6	6,4	0,3	6,7
Finland*	1,8	0,0	1,8	5,7	0,1	5,8
France*	1,0	0,1	1,1	5,8	0,4	6,2
Germany*	1,0	0,1	1,1	4,3	1,2	5,6
Greece[3,*]	1,0	n	1,0	3,6	0,3	3,9
Ireland[4]	1,1	0,3	1,4	4,1	0,4	4,6
Italy	0,7	0,1	0,8	4,4	0,4	4,8
Netherlands*	1,0	0,3	1,3	4,3	0,4	4,7
Portugal*	1,0	0,1	1,1	5,6	0,1	5,7
Spain	0,9	0,3	1,1	4,4	0,9	5,3
Sweden[4]	1,5	0,2	1,7	6,5	0,2	6,7
United Kingdom*	0,6	0,3	1,1	4,4	0,7	5,2
EU3 average	1,5	0,1	1,6	6,3	0,3	6,6
EU14 average	1,1	0,2	1,3	5,1	0,4	5,5
EU+CC average	1,1	0,2	1,2	4,9	0,4	5,4
CC4 average	0,8	0,2	1,0	4,5	0,4	4,9
Czech Republic*	0,8	0,1	0,9	4,2	0,6	4,7
Hungary	0,8	0,2	1,1	4,5	0,6	5,2
Poland	0,8	0,2	1,0	5,1	-	5,3
Slovak Republic[3,4]	0,8	0,1	0,8	4,3	0,1	4,4

Source: OECD/UNESCO, 2002: 183.

Notes:

Average for EU3 is computed using the three EU countries with the highest expenditure on all levels of education.

EU3 countries: Denmark, Sweden, Austria.

- Data not available.

n Magnitude is either negligible or zero.

* See Annex 3 in EAG (2002) for additional notes (www.oecd.org/els/education/eag2002).

1. Including public subsidies to households attributable for educational institutions. Including direct expenditure on educational institutions from international sources.

2. Net of public subsidies attributable for educational institutions.

3. Public subsidies to households not included in public expenditure, but in private expenditure.

4. Direct expenditure on tertiary-level educational institutions from international sources exceeds 1.5 per cent of all public expenditure.

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Table 2.1.2
Total expenditures on primary, secondary and tertiary institutions per student relative to GDP per capita (PPP in USD), EU member and candidate countries, 1999

	Primary	All secondary	All tertiary
Austria*	26	33	47
Belgium*	16	26	39
Denmark*	24	28	39
Finland*	18	25	35
France*	18	31	34
Germany*	16	27	42
Greece[1,*]	14	18	27
Ireland	12	17	37
Italy[1]	22	27	32
Netherlands[2,*]	16	21	46
Portugal*	20	30	28
Spain	19	26	30
Sweden	24	25	61
United Kingdom*	16	24	41
EU3 average	25	31	51
EU14 average	19	26	38
EU+CC average	18	25	40
CC4 average	18	21	46
Czech Republic*	13	25	42
Hungary[1,*]	19	21	51
Poland[1]	21	18	44
Slovak Republic	-	19	48

Source: OECD/UNESCO, 2002: 182.
Notes:
EU3 averages for each level of education are computed using the three EU countries with the highest expenditure per student relative to GDP within the level of education.
EU3 countries for primary education: Austria, Denmark, Sweden.
EU3 countries for secondary education: Austria, France, Portugal.
EU3 countries for all tertiary education: Sweden, Austria, Netherlands.
* See Annex 3 in EAG (2002) for additional notes (www.oecd.org/els/education/eag2002).
1. Public institutions only.
2. Public and government-dependent private institutions only.

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Table 2.1.3
Total costs of continuing and vocational courses for all enterprises as a percentage of total labour costs, EU member and candidate countries, 1999

	10 to 19 employees	20 to 49 employees	50 to 249 employees	250 to 499 employees	500 to 999 employees	1000 and more employees	All enterprises
Austria	1,0	1,0	1,2	1,5	1,1	1,8	1,3
Belgium	1,0	1,1	1,6	1,7	1,9	2,0	1,6
Denmark	2,5	2,4	3,3	2,8	3,0	3,2	3,0
Finland	1,8	1,8	1,9	2,4	2,7	2,9	2,4
France	0,7	1,1	1,8	2,3	2,7	3,2	2,4
Germany	1,0	0,9	1,4	1,1	1,6	1,8	1,5
Greece	0,2	0,3	1,4	1,0	0,7	1,0	0,9
Ireland	2,0	2,2	2,1	2,5	5,2	1,9	2,4
Italy	1,1	1,3	1,5	1,8	2,3	2,2	1,7
Luxembourg	-	-	-	-	-	-	1,9
Netherlands	1,6	1,5	2,5	2,9	3,2	4,2	2,8
Portugal	0,2	0,4	0,8	1,2	3,2	2,0	1,2
Spain	0,5	0,7	1,1	1,9	2,1	2,1	1,5
Sweden	1,8	2,3	2,1	2,6	3,7	3,2	2,8
United Kingdom	4,8	3,1	5,9	6,2	4,5	2,6	3,6
EU3 average	3,1	2,6	3,9	4,0	4,5	3,5	3,1
EU15 average	1,4	1,4	2,0	2,3	2,7	2,4	2,1
EU+CC average	1,2	1,2	1,6	1,8	2,1	2,1	1,7
CC9 average	0,8	0,9	0,9	1,0	1,1	1,7	1,2
Bulgaria	0,7	0,3	0,2	0,2	0,4	2,0	1,0
Czech Republic	1,1	1,1	1,6	2,6	1,7	2,4	1,9
Estonia	1,7	1,5	2,3	1,3	1,5	1,8	1,8
Hungary	0,9	1,2	1,0	1,2	1,1	1,5	1,2
Latvia	0,3	0,4	0,5	0,7	0,7	1,6	0,8
Lithuania	0,9	1,5	0,8	1,3	1,1	1,4	1,1
Poland	0,4	0,7	0,6	0,6	1,2	1,7	0,8
Romania	0,2	0,3	0,2	0,4	0,3	0,8	0,5
Slovenia	1,0	0,8	0,9	1,0	2,0	1,8	1,3

Source: Eurostat, 2002: 90.
Notes:
EU3 averages for each size of enterprise are computed using the three EU countries with the highest total costs of CVT as a percentage of total labour costs within the size category.
EU3 countries for the category '10 to 19 employees': United Kingdom, Denmark, Ireland.
EU3 countries for the category '20 to 49 employees': United Kingdom, Denmark, Sweden.
EU3 countries for the category '50 to 249 employees': United Kingdom, Denmark, Netherlands.
EU3 countries for the category '250 to 499 employees': United Kingdom, Netherlands, Denmark.
EU3 countries for the category '450 to 999 employees': Ireland, United Kingdom, Sweden.
EU3 countries for the category '1000 and more employees': Netherlands, Sweden, Denmark.
EU3 countries for the category 'all enterprises': United Kingdom, Denmark, Netherlands.
- Data not available.

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Table 2.2.1
Average teachers' salaries at starting, top of scale and after 15 years of experience and the ratio of salaries after 15 years of experience to GDP per capita (PPP in USD), by level of education in public institutions, averages of EU member and candidate countries, 2002

		Ratio	Salary (USD)		
			Top of scale	Starting	After 15 years experience
Austria	Primary	1,0	44 461	21 953	26 570
	Lower secondary	1,1	47 055	22 574	27 691
	Upper secondary[1]	1,2	53 808	24 192	30 584
Belgium (Flemish)	Primary	1,2	38 328	24 122	32 318
	Lower secondary	1,3	41 547	24 336	34 079
	Upper secondary[1]	1,6	52 383	30 194	43 580
Belgium (French)	Primary	1,2	37 459	22 983	31 282
	Lower secondary	1,3	40 666	23 466	33 173
	Upper secondary[1]	1,6	51 540	29 275	42 707
Denmark	Primary	1,2	32 883	29 116	32 883
	Lower secondary	1,2	32 883	29 116	32 883
	Upper secondary[1]	1,4	40 931	28 825	38 279
England	Primary	1,5	35 487	22 428	35 487
	Lower secondary	1,5	35 487	22 428	35 487
	Upper secondary[1]	1,5	35 487	22 428	35 487
Finland	Primary	1,0	26 140	18 489	25 183
	Lower secondary	1,2	30 124	20 720	28 690
	Upper secondary[1]	1,2	31 878	21 517	30 124
France	Primary	1,2	40 091	20 199	27 172
	Lower secondary	1,3	42 357	22 358	29 331
	Upper secondary[1]	1,3	42 357	22 358	29 331
Germany	Primary	1,5	41 021	31 213	37 905
	Lower secondary	1,6	46 180	34 891	40 561
	Upper secondary[1]	1,8	52 004	37 394	43 881
Greece	Primary	1,5	29 358	20 065	24 336
	Lower secondary	1,5	29 680	20 387	24 658
	Upper secondary[1]	1,5	29 680	20 387	24 658
Ireland	Primary	1,2	40 365	22 063	35 760
	Lower secondary	1,3	40 750	23 163	36 145
	Upper secondary[1]	1,3	40 750	23 163	36 145
Italy	Primary	1,0	30 306	20 927	25 115
	Lower secondary	1,1	33 510	22 657	27 507
	Upper secondary[1]	1,2	35 138	22 657	28 329
Netherlands	Primary	1,2	39 563	27 411	32 686
	Lower secondary	1,3	43 466	28 443	34 985
	Upper secondary[1]	1,8	57 907	28 713	48 840
Portugal	Primary	1,5	49 492	17 914	26 607
	Lower secondary	1,5	49 492	17 914	26 607
	Upper secondary[1]	1,5	49 492	17 914	26 607
Scotland	Primary	1,5	34 798	20 931	34 798
	Lower secondary	1,5	34 798	20 931	34 798
	Upper secondary[1]	1,5	34 798	20 931	34 798
Spain	Primary	1,5	37 238	25 029	29 261
	Lower secondary	1,7	39 804	27 046	31 616
	Upper secondary[1]	1,8	42 521	29 081	33 985

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Table 2.2.1 (cont'd)

		Ratio	Salary (USD)		
			Top of scale	Starting	After 15 years experience
Sweden	Primary	1,1	-	19 893	25 553
	Lower secondary	1,1	-	19 893	25 553
	Upper secondary[1]	1,1	-	21 663	27 241
EU3 average	Primary	1,5	42 584	24 719	31 258
	Lower secondary	1,6	38 555	27 441	32 278
	Upper secondary[1]	1,8	50 811	31 729	42 235
EU14 average	Primary	1,3	37 133	22 796	30 182
	Lower secondary	1,3	40 154	23 706	32 152
	Upper secondary[1]	1,5	44 186	24 904	35 142
EU+CC average	Primary	1,2	34 195	20 993	27 829
	Lower secondary	1,3	37 044	21 901	29 715
	Upper secondary[1]	1,4	40 931	23 121	32 616
CC2 average	Primary	0,7	12 165	6 565	8 999
	Lower secondary	0,7	12 165	6 565	8 999
	Upper secondary[1]	0,8	14 892	7 973	11 139
Czech Republic	Primary	0,7	12 524	7 043	9 339
	Lower secondary	0,7	12 524	7 043	9 339
	Upper secondary[1]	0,8	15 221	8 570	11 381
Hungary	Primary	0,7	11 805	6 086	8 659
	Lower secondary	0,7	11 805	6 086	8 659
	Upper secondary[1]	0,9	14 562	7 375	10 896

Source: OECD, 2002a: 339.

Notes:

EU3 averages for each level of education are computed using the three EU countries with the highest ratio to GDP per capita salary after 15 years experience.

EU3 countries for primary: England, Germany, Greece.

EU3 countries for lower secondary: Spain, Germany, England.

EU3 countries for upper secondary: Germany, Netherlands, Spain.

- Data not available.

1. General upper secondary programmes.

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Table 2.2.2A
Minimum number of years of initial training required for teachers by level of education, 2000/2001

	Primary	Lower secondary	Upper secondary
Austria	3,0	3,0	5,5
Belgium	3,0	3,0	4,0
Denmark	4,0	4,0	5,5
Finland	5,0	5,0	5,0
France	5,0	5,0	5,0
Germany	5,5	6,5	6,5
Greece	4,0	4,0	4,0
Ireland	3,0	4,0	4,0
Italy	4,0	6,0	6,0
Luxembourg	3,0	6,0	6,0
Netherlands	4,0	4,0	5,0
Portugal	4,0	6,0	5,0
Spain	3,0	4,5	4,5
Sweden	3,5	4,5	4,5
United Kingdom[1] (E, W, NI)	5,0	5,0	5,0
United Kingdom[1] (Sc)	6,0	6,0	6,0
EU3 average	5,5	6,2	6,2
EU15 average	4,1	4,8	5,1
EU+CC average	4,0	4,6	4,8
CC12 average	3,9	4,3	4,5
Bulgaria	4,0	4,0	4,0
Cyprus	4,0	5,0	5,0
Czech Republic	4,0	4,0	5,0
Estonia	4,0	4,0	5,0
Hungary	4,0	4,0	5,0
Latvia	4,0	4,0	4,0
Lithuania	3,0	4,0	4,0
Malta	4,0	4,0	4,0
Poland	5,0	5,0	5,0
Romania	3,0	4,0	4,0
Slovenia	4,0	4,5	4,0
Slovak Republic	4,0	5,0	5,0

Source: European Commission/EURYDICE/Eurostat, 2002a: 6-10.

Notes:

EU3 averages for each level of education are computed using the three EU countries with the highest minimum number of years of initial training.

EU3 countries for primary: Scotland, Germany, Finland.

EU3 countries for lower secondary: Germany, Luxembourg, Scotland.

EU3 countries for upper secondary: Germany, Luxembourg, Scotland.

* See EURYDICE (2002, p.G4-G11) for detailed country notes.

1. For the United Kingdom data is reported separately for Scotland (Sc), while for England (E), Wales (W) and Northern Ireland (NI) the date are reported together.

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Table 2.2.2B
Minimum level of initial training for teachers at primary, lower and upper secondary levels of education, 2000/2001

Level of education	Level of teacher training	Countries
Primary	ISCED 5A[1]	Austria; Finland; France; Germany, Greece, Ireland, Italy, Netherlands; Portugal; Spain; Sweden; UK (England, Wales, Northern Ireland); UK (Scotland); Bulgaria; Cyprus; Czech Republic; Estonia; Hungary; Latvia; Malta; Poland; Slovenia; Slovak Republic
	ISCED 5B[2]	Belgium; Luxembourg; Estonia; Lithuania; Malta; Romania
Lower secondary	ISCED 5A[1]	Finland; France; Germany, Greece, Ireland, Italy, Luxembourg; Netherlands; Cyprus; Portugal; Spain; Sweden; UK (England, Wales, Northern Ireland); UK(Scotland); Bulgaria; Czech Republic; Estonia; Hungary; Latvia; Lithuania; Malta; Poland; Romania; Slovenia; Slovak Republic
	ISCED 5B[2]	Austria; Belgium; Denmark
Upper secondary	ISCED 5A[1]	All countries

Source: European Commission/EURYDICE/Eurostat, 2002a: 6-10.
Notes:
1. Tertiary-type A education.
2. Tertiary-type B education.

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Table 2.2.3A
Inward and outward mobility of Erasmus teachers as a percentage of the total population of the country of the home institution, EU member and candidate countries, 2001/2002

	Total Population	Outward		Inward		Total	
		Head counts	Per cent of total population	Head counts	Per cent of total population	Head counts	Per cent of total population
Austria	8 032 000	533	0,007	502	0,006	1035	0,013
Belgium	10 300 000	825	0,008	648	0,006	1473	0,014
Denmark	5 300 000	266	0,005	273	0,005	539	0,010
Finland	5 200 000	701	0,013	937	0,018	1638	0,032
France	59 600 000	1766	0,003	649	0,001	2415	0,004
Germany	82 300 000	2117	0,003	2190	0,003	4307	0,005
Greece	10 900 000	279	0,003	573	0,005	852	0,008
Ireland	3 900 000	151	0,004	235	0,006	386	0,010
Italy	57 500 000	922	0,002	1559	0,003	2481	0,004
Luxembourg	400 000	0	0,000	10	0,003	10	0,003
Netherlands	16 000 000	639	0,004	567	0,004	1206	0,008
Portugal	10 000 000	460	0,005	658	0,007	1118	0,011
Spain	40 900 000	1488	0,004	1643	0,004	3131	0,008
Sweden	8 900 000	367	0,004	440	0,005	807	0,009
United Kingdom	58 900 000	1411	0,002	1424	0,002	2835	0,005
EU3 average	16 666 667	686	0,009	696	0,010	1382	0,020
EU15 average	25 966 667	795	0,004	821	0,005	1616	0,010
EU+CC average	17 904 889	554	0,007	558	0,007	1 112	0,014
CC12 average	8 775 000	252	0,010	230	0,008	482	0,019
Bulgaria	8 000 000	35	0,000	125	0,002	160	0,002
Cyprus	800 000	2	0,000	448	0,056	450	0,056
Czech Republic	10 300 000	229	0,002	80	0,001	309	0,003
Estonia	1 400 000	200	0,014	44	0,003	244	0,017
Hungary	10 000 000	25	0,000	76	0,001	101	0,001
Latvia	2 400 000	77	0,003	451	0,019	528	0,022
Lithuania	3 500 000	782	0,022	167	0,005	949	0,027
Malta	400 000	246	0,062	19	0,005	265	0,066
Poland	38 700 000	50	0,000	618	0,002	668	0,002
Romania	22 400 000	533	0,002	548	0,002	1081	0,005
Slovak Republic	5 400 000	800	0,015	98	0,002	898	0,017
Slovenia	2 000 000	44	0,002	85	0,004	129	0,006

Source: European Commission, 2003.
Notes:
EU3 averages for each direction of mobility are computed using the three EU countries with the highest mobility as measured by head counts per total population.
EU3 countries: Finland, Belgium, Austia

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Table 2.2.3 B Total number of inward and outward mobility through the Erasmus teacher exchange program, head counts per country, EU member and candidate countries, 2001/2002

Country of home institution	Host country	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK	IS	LI	NO	BG	CZ	EE	CY	LV	LT	HU	MT	PL	RO	SI	SK	CC12	Total
EU-18		452	196	1253	410	1424	1416	210	1215	10	431	344	531	703	348	1104	34	4	172	125	448	80	44	76	167	451	19	618	548	85	98	13016
BE			12	38	36	101	106	21	66	0	54	14	54	53	24	61	0	1	2	6	25	2	3	7	13	20	1	45	45	7	8	825
BE fr			3	9	10	34	65	4	24	0	3	3	15	6	3	15	0	0	0	1	4	0	1	2	0	2	0	9	23	0	2	238
BE nl			9	29	26	67	41	17	42	0	51	11	39	47	21	46	0	1	2	5	21	8	2	5	13	18	1	36	22	7	6	587
DK		7		34	8	28	21	5	15	0	11	3	7	10	11	49	6	0	13	1	91	10	3	29	46	3	3	11	1	1	0	286
DE		30	33		72	223	271	32	179	4	58	79	50	153	54	203	4	1	32	35	91	10	0	4	16	122	1	156	88	15	34	2117
EL		12	2	48		22	38	1	29	0	10	14	8	12	6	25	1	0	0	9	30	6	0	4	16	76	0	5	37	24	5	6	1	279
ES		94	19	164	33		262	21	327	0	36	28	132	42	40	145	4	0	9	4	68	6	6	0	4	16	0	37	118	6	9	1	1488
FR		72	16	201	58	260		33	255	0	28	21	58	30	19	150	2	0	14	24	68	6	4	6	16	76	0	118	213	9	9	1766
IE		9	4	30	3	22	29		7	0	4	6	4	12	2	6	0	0	0	0	2	0	0	0	2	1	0	6	2	0	0	151
IT		44	6	87	40	211	182	9		0	17	33	50	23	10	47	4	0	6	8	18	0	2	1	9	32	2	31	37	5	8	922
LU		0	0	0	0	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NL		48	19	91	9	56	28	9	31	0		20	19	72	25	69	0	0	19	7	25	2	4	3	5	38	1	23	17	1	3	639
AT		11	7	71	17	41	31	12	37	4	18		8	44	24	40	3	1	15	10	17	30	6	0	2	9	27	0	16	19	14	5	533
PT		29	5	39	21	84	65	5	46	2	3	8		17	10	32	0	0	8	4	17	1	2	5	3	8	0	22	15	6	3	480
FI		31	8	108	24	54	37	17	27	0	42	40	23		8	104	1	0	2	2	28	26	3	11	19	40	1	31	3	4	7	701
SE		18	3	34	11	53	20	7	15	0	15	17	14	14		67	4	0	12	0	12	1	1	3	12	15	2	9	4	4	0	367
UK		34	37	222	38	144	199	13	98	0	64	32	34	155	69		5	0	38	9	59	7	2	6	8	29	7	63	27	19	6	1411
IS		1	7	4	2	3	3	0	6	0	0	0	0	4	1	4																35
LI		0	0	1	0	0	0	0	0	0	0	1	0	0	0	0																2
NO		12	6	43	2	21	18	4	11	0	17	14	10	9	21	41																229
BG		11	0	61	28	6	32	0	18	0	5	1	3	3	2	30																200
CY		0	0	5	11	1	1	0	0	0	0	0	1	4	0	2																25
CZ		32	10	243	20	53	92	7	58	0	34	51	25	43	16	98																782
EE		6	2	11	3	6	4	0	3	0	1	4	0	26	3	8																77
HU		11	24	62	6	9	18	4	13	0	7	10	4	38	27	13																246
LT		5	2	14	1	1	4	0	3	0	0	5	0	11	2	2																50
LV		25	8	131	9	27	86	1	77	0	29	31	13	57	9	30																533
MT		1	0	5	0	0	4	0	13	0	5	0	0	1	2	13																44
PL		41	19	248	29	69	109	8	50	0	34	22	42	34	25	70																800
RO		59	12	112	53	35	278	4	86	0	19	14	23	4	2	33																734
SI		2	0	10	0	5	10	0	11	0	0	13	10	3	3	3																70
SK		3	0	35	3	7	11	1	12	0	2	7	6	10	1	18																116
CC12		196	77	937	163	219	649	25	344	0	136	158	127	234	92	320																3677
Total		648	273	2190	573	1643	2065	235	1559	10	567	502	658	937	440	1424	34	4	172	125	448	80	44	76	167	451	19	618	548	85	98	16693

Source: European Commission, 2003.

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Table 2.2.4
Pupil-teacher ratios in primary, lower and upper secondary education, EU member and candidate countries, 1999/2000

	Primary	Lower secondary	Upper secondary
Belgium	15,0	x	9,7
Denmark	10,1	10,1	9,1
Finland	16,9	10,7	17,0
France	19,8	14,7	10,4
Germany	19,8	15,7	12,5
Greece	13,4	10,8	10,5
Ireland	21,5	x	15,9
Italy	11,0	10,4	10,2
Luxembourg	15,9	9,2	-
Netherlands	16,8	x	-
Spain	14,9	13,7	9,7
Sweden	12,8	12,8	15,2
EU3 average	11,3	9,9	9,5
EU12 average	15,7	12,0	12,0
EU+CC average	15,9	12,1	12,9
CC12 average	16,2	12,2	13,6
Bulgaria	16,8	12,1	11,6
Cyprus	18,1	x	12,7
Czech Republic	19,7	14,7	11,5
Estonia	14,9	11,2	10,1
Hungary	10,9	10,9	9,9
Latvia	18	12,7	13,3
Lithuania	16,7	10,0	21,9
Malta	19,1	9,0	16,8
Poland	12,7	11,5	16,9
Romania	x	15,0	12,9
Slovak Republic	18,3	13,5	12,8
Slovenia	13,4	13,8	13,1

Source: European Commission/EURYDICE/Eurostat, 2002a: 14.
Notes:
EU3 averages for each level of education are computed using the three EU countries with the lowest pupil teacher ratio within the level of education.
EU3 countries for primary: Denmark, Italy, Sweden.
EU3 countries for lower secondary: Denmark, Italy, Luxembourg.
EU3 countries for upper secondary: Denmark, Spain, Belgium.
- Data not available.
x Data included in another category or column of the table.

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Table 2.2.5
Ratio of 15-year-old students to computers in all schools, by quartiles, EU member and candidate countries, 2000

	All schools		
	25th percentile	50th percentile (median)	75th percentile
Austria	5	7	15
Belgium	7	11	18
Denmark	6	8	11
Finland	6	8	12
France	6	11	15
Germany	14	22	31
Greece	14	28	83
Ireland	10	14	19
Italy	7	12	19
Luxembourg	8	9	11
Portugal	20	36	100
Spain	14	21	29
Sweden	7	8	10
United Kingdom	6	8	9
EU3 average	6	8	13
EU14 average	9	15	27
EU+CC average	9	14	27
CC4 average	7	14	25
Czech Republic	9	15	28
Hungary	5	9	15
Latvia	4	5	12
Poland	8	26	45

Source: OECD, 2002a: 302.
Notes:
EU3 averages are computed using the three EU countries with the lowest median ratio of students per computer within all schools.
EU3 countries: Austria, Denmark, Finland.

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Table 2.3.1
Percentage of populations aged 25 to 64 who have attained at least upper secondary or tertiary education, by gender, EU member and candidate countries, 2001

		At least upper secondary education	At least tertiary education (Type A, B and advanced research programmes)
Austria	Males	82	17
	Females	69	11
Belgium	Males	59	27
	Females	58	28
Denmark	Males	82	24
	Females	79	29
Finland	Males	72	29
	Females	76	36
France	Males	67	22
	Females	61	24
Germany	Males	87	28
	Females	78	18
Greece	Males	54	20
	Females	49	16
Ireland	Males	55	35
	Females	60	36
Italy	Males	44	10
	Females	43	10
Luxembourg	Males	58	21
	Females	47	15
Netherlands	Males	63	26
	Females	61	21
Portugal	Males	19	7
	Females	21	11
Spain	Males	42	24
	Females	40	23
Sweden	Males	79	30
	Females	82	34
United Kingdom	Males	69	27
	Females	57	25
EU3 average	Males	84	31
	Females	80	35
EU15 average	Males	62	23
	Females	59	22
EU+CC average	Males	65	21
	Females	61	20
CC4 average	Males	74	12
	Females	70	12
Czech Republic	Males	91	13
	Females	82	9
Hungary	Males	75	14
	Females	66	15
Poland	Males	39	11
	Females	52	13
Slovak Republic	Males	90	11
	Females	81	11

Source: OECD, 2002a: 55.

Notes:

EU3 averages for each gender and level of education are computed using the three EU countries with the highest percentage that attained within the level of education and gender.

EU3 countries for the category 'At least upper secondary education' (Males): Germany, Denmark, Austria.

EU3 countries for the category 'At least upper secondary education' (Females): Sweden, Denmark, Germany.

EU3 countries for the category 'At least tertiary education' (Males): Ireland, Sweden, Finland.

EU3 countries for the category 'At least tertiary education' (Females): Ireland, Finland, Sweden.

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Table 2.3.2
Percentage of labour force populations aged 25 to 64 who have attained tertiary education, by type of destination programme, EU member and candidate countries, 2001

	Tertiary-type A and advanced research programmes	Tertiary-type B
Austria	8	8
Belgium	15	18
Denmark	9	21
Finland	17	19
France	13	13
Germany	16	11
Greece	16	6
Ireland	17	25
Italy	13	x(2)
Luxembourg	14	8
Netherlands	24	3
Portugal	8	3
Spain	21	8
Sweden	18	15
United Kingdom	20	9
EU3 average	22	22
EU15 average	15	12
EU+CC average	15	11
CC4 average	14	1
Czech Republic	13	x(2)
Hungary	18	n
Poland	14	x(2)
Slovak Republic	12	1

Source: OECD, 2002a: 54.
Notes:
Average for EU3 is computed using the three EU countries with the highest percentage that attained tertiary of any type.
EU3 countries: Ireland, Finland, Sweden.
- Data not available.
x Data included in another category or column of the table (e.g. x(2) means that data included in column 2 of the table).
n Magnitude is either negligible or zero.

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Table 2.3.3
Sum of graduation rates in tertiary education by single year of age multiplied by 100 by type and length of programme, EU member and candidate countries, 2000

	Tertiary-type B programmes (first-time graduation)	Tertiary-type A programmes				Advanced research programmes	All tertiary programmes
		All programmes (first graduation)	Medium first-degree programmes (3 to < 5 years)	Long first-degree programmes (5 to 6 years)	Very long first-degree programmes (> 6 years)		
Austria	-	13,3	1,6	11,7	n	1,4	-
Belgium[1]	28,7	17,8	x	17,8	x	0,8	47,3
Denmark	22,6	9,2	9,2	a	a	1,1	32,9
Finland	15,4	38,8	20,4	18,4	a	1,9	56,1
France[1]	18,3	37,2	30,6	5,7	0,9	1,2	56,7
Germany	10,7	16,8	5,3	11,5	a	2	29,5
Ireland[1]	15,2	30,7	29,5	1,2	x	0,8	46,7
Italy[1]	0,6	16,4	0,9	15,5	a	0,4	17,4
Netherlands	1	34,1	32,7	1,4	a	-	-
Portugal	3,5	31,7	31,7	x	x	1	36,2
Spain	7,5	28,4	12,6	15,8	n	0,5	36,4
Sweden	3,9	29,1	27,8	1,3	a	2,5	35,5
United Kingdom	13,3	35,9	33,6	2,2	0,1	1,3	50,5
EU3 average	15,7	37,3	28,2	8,8	0,5	1,5	54,4
EU13 average	11,7	26,1	19,7	9,3	0,5	1,2	39,1
EU+CC average	9,3	25,8	17,9	10,1	0,5	1,1	36,2
CC4 average	2,1	24,9	12,6	12,4	-	0,6	27,5
Czech Republic	4,8	14,6	5,9	8,7	a	0,6	20
Hungary	0,4	29,4	19,1	10,3	a	0,6	30,4
Poland[1]	0,9	34,3	19,7	14,6	a	-	-
Slovak Republic[1]	2,2	21,3	5,5	15,8	n	0,5	24

Source: OECD/UNESCO, 2002: 201.

Notes:

EU3 averages are computed using the three EU countries with the highest total average of graduation rates in all tertiary programmes.

EU3 countries: France, Finland, United Kingdom.

- Data not available.

a Data not applicable because the category does not apply.

n Magnitude is either negligible or zero.

x Data included in another category or column of the table (e.g. x(2) means that data included in column 2 of the table).

* For national data sources see: www.oecd.org/els/education/eag2002

1. Gross graduation rate, calculated as the ratio of graduates to total population at typical age of graduation (multiplied by 100).

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Table 2.3.4
Tertiary graduates in mathematics, science and technology as a percentage of all tertiary graduates, EU member and candidate countries, 1998-2001

	1998	1999	2000	2001
Austria	17	17	16	16
Belgium	33	30	30	27
Denmark	-	-	19	19
Finland	22	24	25	27
France	30	30	31	-
Germany	20	18	22	-
Ireland	29	27	27	26
Italy	32	-	34	31
Luxembourg	24	24	23	-
Netherlands	21	-	15	-
Portugal	-	-	18	17
Spain	26	30	28	-
Sweden	26	28	31	32
United Kingdom	26	26	25	27
EU3 average	30	29	32	30
EU14 average	25	25	24	25
EU+CC average	23	21	21	21
CC12 average	19	18	18	19
Bulgaria	16	18	17	19
Cyprus	-	14	12	-
Czech Republic	25	24	24	22
Estonia	11	19	19	18
Hungary	17	12	10	-
Latvia	19	17	16	12
Lithuania	25	27	26	26
Malta	-	5	10	9
Poland	11	11	11	10
Romania	24	25	25	24
Slovak Republic	21	21	21	26
Slovenia	24	23	23	20

Source: Eurostat/UOE, 2000.
Notes:
EU3 averages for each year are computed using the three EU countries with the highest number of tertiary graduates in science, mathematics and technology as a percentage of all graduates within the year.
EU3 countries for year 1998: Belgium, Italy, France.
EU3 countries for year 1999: France, Belgium, Spain.
EU3 countries for year 2000: Italy, Sweden, France.
EU3 countries for year 2001: Sweden, Italy, Belgium.
– Data not available.

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Table 2.3.5
Average number of foreign languages learned per pupil in lower and upper secondary school, EU member and candidate countries, 1999/2000

	Lower secondary	Upper secondary
Austria	1,1	1,7
Belgium (Flemish)	1,5	2,6
Belgium (French)	0,9	1,8
Belgium (German)	1,4	2,6
Denmark	1,7	2,3
Finland	2,3	2,8
France	1,5	1,9
Germany	1,2	-
Greece	1,9	1,2
Ireland	1,0	0,9
Italy	1,1	1,2
Luxembourg	2,5	3,0
Netherlands	2,0	1,7
Spain	1,5	1,1
Sweden	1,7	2,2
EU3 average	2,3	2,8
EU13 average	1,6	1,9
EU+CC average	1,6	1,9
CC12 average	1,5	1,8
Bulgaria	1,1	1,8
Cyprus	2,0	2,0
Czech Republic	1,1	2,0
Estonia	2,0	2,3
Hungary	-	1,2
Latvia	1,5	1,9
Lithuania	1,7	1,9
Malta	2,2	1,1
Poland	1,3	1,9
Romania	1,9	1,9
Slovak Republic	1,1	2,0
Slovenia	1,1	2,0

Source: European Commission/EURYDICE/Eurostat, 2002b: 14.
Notes:
EU3 average for each level of education is computed using the three EU countries with the highest number of languages learned per pupil within the level of education.
EU3 countries for lower secondary: Luxembourg, Finland, Netherlands.
EU3 countries for upper secondary: Luxembourg, Finland, Belgium (Flemish).
– Data not available.

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Table 2.3.6
Participation rates in adult education and training by gender, adult population aged 45 to 64, EU member and candidate countries

		Age group		
		25-44	45-64	25-64
Belgium (Fl.)	Male	25	23	24
	Female	23	15	19
	Total	24	19	22
Denmark	Male	60	46	54
	Female	67	50	59
	Total	64	48	56
Finland	Male	65	43	54
	Female	71	52	62
	Total	68	47	58
Germany	Male	22	14	18
	Female	22	13	18
	Total	22	14	18
Ireland	Male	23	16	20
	Female	30	14	24
	Total	27	15	22
Italy	Male	32	19	26
	Female	25	10	18
	Total	29	14	22
Netherlands	Male	46	26	38
	Female	41	25	34
	Total	44	26	36
Portugal	Male	20	7	14
	Female	16	8	12
	Total	18	8	13
Sweden	Male	58	46	53
	Female	59	52	56
	Total	58	49	54
United Kingdom	Male	54	34	46
	Female	53	33	44
	Total	54	34	45
EU3 average	Male	61	45	54
	Female	66	51	59
	Total	63	48	56
EU10 average	Male	41	28	35
	Female	41	27	35
	Total	41	27	35
EU+CC average	Male	38	25	32
	Female	37	24	31
	Total	37	24	31
CC4 average	Male	30	18	25
	Female	27	14	22
	Total	29	16	23
Czech Republic	Male	37	29	33
	Female	25	18	22
	Total	31	24	27
Hungary	Male	23	9	17
	Female	24	14	19
	Total	23	12	18

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Table 2.3.6 (cont'd)

		Age group		
		25-44	45-64	25-64
Poland	Male	18	9	15
	Female	17	8	13
	Total	18	8	14
Slovenia	Male	42	25	35
	Female	43	18	32
	Total	43	21	33

Source: OECD IALS 1994-1998 Database, 2000.

Notes:

EU3 averages for each gender and age group are computed using the three EU countries with the highest total participation rate within the age group.

EU3 countries for age-group 25-44: Finland, Denmark, Sweden.

EU3 countries for age-group 25-64: Finland, Denmark, Sweden.

EU3 countries for age-group 45-64: Sweden, Denmark, Finland.

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Table 2.3.7
Participation in CVT courses as a percentage of employees in all enterprises, EU member and candidate countries, 1999

	Total	Females	Males
Austria	31	32	31
Belgium[1]	41	-	-
Denmark	53	54	52
Finland	50	53	48
France	46	44	48
Germany	32	29	34
Greece	15	16	14
Ireland	41	43	40
Italy	26	23	27
Luxembourg	36	39	34
Netherlands	41	35	44
Portugal	17	17	17
Spain	25	26	25
Sweden	61	61	60
United Kingdom	49	46	50
EU3 average	55	56	53
EU15 average	38	37	38
EU+CC average	30	29	31
CC9 average	18	17	19
Bulgaria	13	9	16
Czech Republic	42	35	46
Estonia	19	20	18
Hungary	12	11	13
Latvia	10	9	10
Lithuania	12	12	13
Poland	16	15	17
Romania	8	7	8
Slovenia	32	33	32

Source: Eurostat, 2002: 58-62.
Notes:
EU3 average for each gender is computed using the three EU countries with the highest total participation rate.
EU3 countries: Sweden, Denmark, Finland.
- Data not available.
1. Belgium does not provide any gender-disaggregated data. The number presented in this graph is the total number of participants.

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Table 2.3.8
Percentage of youth population in education, by work status and age group, EU member and candidate countries, 2001

	Age group	Students in work-study programmes[1]	Other employed	Unemployed	Not in the labour force	Sub-total in education
Austria	15-19	22,7	0,6	0,4	52,2	75,8
	20-24	1,6	3,3	0,4	22,1	27,4
Belgium	15-19	2,0	1,7	0,3	85,7	89,7
	20-24	0,9	5,4	0,9	36,9	44,2
Denmark	15-19	6,6	32,9	3,4	44,0	86,8
	20-24	11,4	23,6	3,5	16,8	55,3
Finland	15-19	a	11,6	5,9	68,7	86,3
	20-24	a	20,6	4,4	28,9	53,9
France	15-19	6,2	0,4	n	88,2	94,9
	20-24	7,3	4,4	0,6	41,3	53,6
Germany	15-19	19,4	4,0	0,6	64,5	88,5
	20-24	12,6	5,5	0,3	16,7	35,0
Greece	15-19	0,2	1,1	0,6	83,8	85,7
	20-24	0,1	2,4	1,3	32,8	36,5
Ireland	15-19	a	9,9	0,5	69,8	80,3
	20-24	a	5,5	0,4	22,4	28,3
Italy	15-19	n	0,6	0,8	76,8	78,2
	20-24	0,1	3,1	1,8	33,6	38,6
Luxembourg	15-19	3,6	2,3	0,2	85,2	91,2
	20-24	2,6	4,9	0,3	38,9	46,7
Netherlands[2]	15-19	-	39,3	4,7	36,4	80,4
	20-24	-	22,3	1,4	12,9	36,6
Portugal	15-19	a	2,9	0,4	68,7	72,0
	20-24	a	6,5	0,6	28,5	35,6
Spain	15-19	0,5	3,0	1,6	70,7	75,8
	20-24	0,7	6,8	2,6	34,9	45,0
Sweden	15-19	a	17,9	4,4	63,4	85,8
	20-24	a	11,6	2,0	28,0	41,6
United Kingdom	15-19	6,1	25,6	2,8	35,5	70,0
	20-24	3,8	13,2	1,2	15,3	33,5
EU3 average	15-19	6,4	32,6	3,6	38,6	79,1
	20-24	11,4	22,2	3,1	19,5	48,6
EU15 average	15-19	7,5	10,3	1,9	66,2	82,8
	20-24	4,1	9,3	1,4	27,3	40,8
EU+CC average	15-19	9,2	8,3	1,7	67,6	82,8
	20-24	3,7	8,1	1,6	26,8	38,6
CC4 average	15-19	16,6	1,2	0,7	72,9	82,8
	20-24	0,1	3,8	2,0	24,8	30,6
Czech Republic	15-19	21,9	0,2	n	64,8	87,0
	20-24	0,1	0,6	0,2	22,2	23,1
Hungary	15-19	a	0,6	0,2	84,3	85,1
	20-24	a	4,8	0,5	29,5	34,8

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Table 2.3.8 (cont'd)

	Age group	Students in work-study programmes[1]	Other employed	Unemployed	Not in the labour force	Sub-total in education
Poland	15-19	a	3,9	1,2	86,7	91,8
	20-24	a	9,4	6,7	29,2	45,2
Slovak Republic	15-19	11,4	0,1	n	55,7	67,3
	20-24	a	0,4	0,6	18,5	19,4

Source: OECD, 2002a: 259.

Notes:

EU3 averages for each age group are computed using the three EU countries with the highest proportion of students in the labour force, within the age group.

EU3 countries for age group 15-19: Denmark, United Kingdom, Germany.

EU3 countries for age group 20-24: Denmark, Finland, Germany.

- Data not available.

a Data not applicable because the category does not apply.

n Magnitude is either negligible or zero.

1. Students in work-study programmes are considered to be both in education and employed, irrespective of their labour market status according to the ILO definition.

2. Year of reference 2000.

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Table 2.3.9
Youth populations aged 20 to 24 with less than upper secondary completion that are unemployed and not in education as a percentage of all 20 to 24 year-olds, by gender, EU member and candidate countries, 2001

	Males	Females	Total
Austria	1,4	0,7	1,1
Belgium	3,9	2,0	2,9
Denmark	1,2	1,6	1,4
Finland	1,8	0,5	1,2
France	4,5	3,3	3,9
Germany	2,8	1,8	2,3
Greece	3,4	2,8	3,1
Ireland	2,0	0,8	1,4
Italy	5,6	4,1	4,8
Luxembourg	3,1	0,5	1,8
Netherlands[1]	1,0	1,0	1,0
Portugal	3,4	3,2	3,3
Spain	4,9	4,9	4,9
Sweden	2,0	1,1	1,6
United Kingdom	1,3	0,6	1,0
EU3 average	1,3	0,8	1,0
EU15 average	2,8	1,9	2,4
EU+CC average	2,9	1,8	2,4
CC4 average	2,9	1,2	2,1
Czech Republic	2,5	1,3	1,9
Hungary	2,2	0,8	1,5
Poland	3,8	2,0	2,9
Slovak Republic	3,1	0,9	2,1

Source: OECD, 2002a: 268.

Notes:

EU3 averages for each gender are computed using the three EU countries with the lowest total percentage of unemployed.

EU3 countries: United Kingdom, Netherlands, Austria.

Students in work-study programmes are considered to be both in education and employed, irrespective of their labour market status according to the ILO definition.

1. Year of reference 2000.

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Table 2.3.10A
Inward and outward mobility of Erasmus students as a percentage of the total population of the country of the home institution, EU member and candidate countries, 2001/2002

	Total Population	Outward		Inward		Total	
		Head counts	Per cent of total population	Head counts	Per cent of total population	Head counts	Per cent of total population
Austria	8 032 000	3024	0,038	2483	0,031	5507	0,069
Belgium	10 300 000	4521	0,044	3895	0,038	8416	0,082
Denmark	5 300 000	1752	0,033	2555	0,048	4307	0,081
Finland	5 200 000	3291	0,063	3755	0,072	7046	0,136
France	59 600 000	18149	0,030	17807	0,030	35956	0,060
Germany	82 300 000	16626	0,020	15503	0,019	32129	0,039
Greece	10 900 000	1974	0,018	3231	0,030	5205	0,048
Ireland	3 900 000	1707	0,044	3231	0,083	4938	0,127
Italy	57 500 000	13950	0,024	9864	0,017	23814	0,041
Luxembourg	400 000	104	0,026	22	0,006	126	0,032
Netherlands	16 000 000	4244	0,027	6141	0,038	10385	0,065
Portugal	10 000 000	2825	0,028	2883	0,029	5708	0,057
Spain	40 900 000	17403	0,043	18826	0,046	36229	0,089
Sweden	8 900 000	2633	0,030	4898	0,055	7531	0,085
United Kingdom	58 900 000	8415	0,014	17619	0,030	26034	0,044
EU3 average	16 666 667	7467	0,050	8604	0,067	16071	0,117
EU15 average	25 966 667	6708	0,032	7514	0,038	14222	0,070
EU+CC average	19 291 667	4641	0,027	4817	0,027	9458	0,054
CC9 average	8 166 667	1196	0,017	323	0,009	1519	0,026
Cyprus	800 000	72	0,009	37	0,005	109	0,014
Czech Republic	10 300 000	2533	0,025	732	0,007	3265	0,032
Hungary	10 000 000	1736	0,017	769	0,008	2505	0,025
Latvia	2 400 000	209	0,009	91	0,004	300	0,013
Lithuania	3 500 000	823	0,024	91	0,003	914	0,026
Malta	400 000	129	0,032	173	0,043	302	0,076
Poland	38 700 000	4323	0,011	792	0,002	5115	0,013
Slovak Republic	5 400 000	578	0,011	111	0,002	689	0,013
Slovenia	2 000 000	364	0,018	108	0,005	472	0,024

Source: European Commission, 2003.
Notes:
EU3 average for each direction of mobility is computed using the three EU countries with the highest mobility as measured by head counts per total population.
EU3 countries: Finland, Ireland, Spain.

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Table 2.3.10B Total number of inward and outward mobility through the Erasmus student exchange program, head counts per country, EU member and candidate countries, 2001/2002

Country of home institution	Host country																																
	BE	DK	DE	EL	ES	FR	IE	IT	LU	NL	AT	PT	FI	SE	UK	IS	LI	NO	BG	CZ	EE	CY	LV	LT	HU	MT	PL	RO	SI	SK	Total
EU18	3168	2075	11818	1034	17834	15590	3103	8763	16	5478	1997	2405	2945	4323	16736	132	3	1100	51	732	115	37	48	91	769	173	792	275	108	111	101822
BE		103	356	79	1053	771	115	404	0	422	95	169	181	156	409	3	0	42	8	28	10	4	7	6	34	2	44	14	4	2	4521
BE fr		47	142	27	470	212	62	192	0	177	39	44	58	58	200	0	0	14	0	14	2	4	0	2	8	0	11	9	0	1	1793
BE nl		56	214	52	583	559	53	212	0	245	56	125	123	98	209	3	0	28	8	14	8	0	7	4	26	2	33	5	4	1	2728
DK	65		282	22	251	283	43	90	0	121	75	13	17	20	386	9	0	30	0	10	2	3	0	2	6	12	7	2	1	0	1752
DE	285	268		133	3291	3243	738	1360	1	818	263	231	684	1154	3229	28	0	299	6	139	14	4	10	24	139	28	193	21	11	12	16626
EL	127	34	294		293	341	30	213	1	122	70	59	63	70	155	0	0	22	5	32	1	2	0	0	21	0	14	3	1	1	1974
ES	870	472	2438	157		3046	427	3130	0	1115	260	821	426	589	3154	18	0	135	7	84	11	1	2	11	66	6	80	30	9	38	17403
FR	315	348	2779	166	3893		1019	1242	14	806	248	228	478	829	5052	15	0	171	7	107	12	11	3	6	135	24	137	77	12	14	18149
IE	67	18	363	8	270	553		90	0	80	42	11	33	57	68	0	0	7	0	14	2	1	0	1	6	2	6	0	8	0	1707
IT	586	279	1811	163	4340	2325	198		0	505	309	551	298	383	1605	18	0	115	9	50	14	5	1	21	122	47	98	64	17	16	13950
LU	2	1	29	0	10	32	2	8		1	5	3	2	5	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104
NL	215	121	417	42	752	560	105	213	0		108	89	245	377	729	7	0	120	2	35	4	0	4	2	37	19	26	11	4	0	4244
AT	76	80	257	32	492	474	121	362	0	191		52	140	225	371	15	2	57	1	24	3	1	0	4	15	8	13	2	5	1	3024
PT	158	46	303	51	619	373	28	498	0	148	38		70	60	209	1	0	26	2	44	2	2	2	4	27	0	62	31	13	8	2825
FI	122	26	559	71	325	347	115	156	0	326	181	32		89	609	8	0	14	1	62	30	2	5	10	120	9	47	10	4	11	3291
SE	58	11	469	28	299	465	89	121	0	228	131	23	15		585	2	1	8	0	30	3	0	4	0	20	7	19	6	10	1	2633
UK	188	178	1312	69	1732	2633	39	814	0	468	142	101	278	270		8	0	54	2	73	7	1	10	0	21	9	46	4	9	7	8475
IS	5	33	19	0	19	11	2	17	0	9	7	2	5	8	10																147
LI	0	2	0	0	1	1	0	2	0	5	0	0	1	3	2																17
NO	29	55	130	13	194	128	32	43	0	112	23	20	9	28	154																970
BG	46	4	191	70	24	121	4	33	0	12	18	18	9	3	52																605
CY	4	0	1	27	8	17	0	2	0	0	0	0	7	2	4																72
CZ	93	56	739	49	196	334	29	118	2	128	143	114	155	103	274																2533
EE	5	13	41	5	8	31	3	12	0	15	15	3	89	23	11																274
HU	94	43	460	37	120	223	7	189	0	121	94	34	152	50	112																1736
LT	43	95	207	8	40	44	10	51	0	23	24	40	110	109	19																823
LV	14	10	82	1	5	9	3	2	0	10	4	4	22	28	15																209
MT	7	6	10	0	1	10	5	49	0	10	2	2	3	3	21																129
PL	230	197	1393	96	319	624	50	304	0	243	73	152	188	192	262																4323
RO	127	38	297	61	187	694	13	253	0	60	28	78	18	34	76																1964
SI	22	14	89	6	28	40	3	46	0	15	42	15	12	18	14																364
SK	42	4	175	19	56	70	1	42	4	26	43	18	45	10	23																578
CC12	727	480	3685	379	992	2217	128	1101	6	663	486	478	810	575	883																13610
Total	3895	2555	15503	1413	18826	17807	3231	9864	22	6141	2483	2883	3755	4898	17619	132	3	1100	51	732	115	37	48	91	769	173	792	275	108	111	115432

Source: European Commission, 2003.

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Table 2.4.1
Distribution of skill scores[1] at 5th, 25th, 50th, 75th, and 95th percentiles on a scale from 0 to 500, tertiary and upper secondary completers aged 25-34, EU member and candidate countries

		Percentiles				
		5th	25th	50th	75th	95th
Belgium (Flemish)	Lower than upper secondary	170	249	276	301	330
	Upper secondary	200	263	293	315	342
	Tertiary	282	304	326	344	368
Denmark	Lower than upper secondary	214	243	284	301	320
	Upper secondary	256	284	302	319	349
	Tertiary	273	302	320	337	358
Finland	Lower than upper secondary	149	246	281	303	318
	Upper secondary	242	284	309	333	364
	Tertiary	280	313	328	347	368
Germany	Lower than upper secondary	209	256	281	307	344
	Upper secondary	226	280	304	334	360
	Tertiary	257	299	331	356	379
Ireland	Lower than upper secondary	141	207	250	282	322
	Upper secondary	225	261	287	315	346
	Tertiary	231	277	302	321	378
Italy	Lower than upper secondary	135	197	238	271	300
	Upper secondary	224	254	280	305	338
	Tertiary	222	281	300	321	357
Netherlands	Lower than upper secondary	161	240	276	295	329
	Upper secondary	257	289	307	325	354
	Tertiary	275	306	325	344	362
Portugal	Less than upper secondary	106	181	224	260	302
	Upper secondary	247	274	287	302	321
	Tertiary	254	289	302	323	342
Sweden	Lower than upper secondary	123	241	275	318	373
	Upper secondary	248	288	314	340	373
	Tertiary	277	321	343	366	399
United Kingdom	Lower than upper secondary	127	224	262	298	339
	Upper secondary	194	258	299	325	355
	Tertiary	230	293	319	344	372
EU3 average	Lower than upper secondary	160	248	279	309	345
	Upper secondary	239	284	309	336	366
	Tertiary	272	311	334	356	382
EU10 average	Lower than upper secondary	153	228	265	294	328
	Upper secondary	232	274	298	321	350
	Tertiary	258	299	320	340	368
EU+CC average	Lower than upper secondary	150	220	256	285	320
	Upper secondary	223	268	293	315	346
	Tertiary	254	294	316	338	365
CC4 average	Lower than upper secondary	140	198	235	265	302
	Upper secondary	200	253	279	300	337
	Tertiary	242	284	308	330	358
Czech Republic	Lower than upper secondary	210	249	278	301	336
	Upper secondary	243	288	311	333	362
	Tertiary	282	317	331	351	379
Hungary	Lower than upper secondary	136	193	229	259	280
	Upper secondary	199	245	269	293	328
	Tertiary	233	287	311	330	354

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Table 2.4.1 (cont'd)

		Percentiles				
		5th	25th	50th	75th	95th
Poland	Lower than upper secondary	105	183	224	258	298
	Upper secondary	174	245	270	288	336
	Tertiary	215	255	289	322	351
Slovenia	Lower than upper secondary	109	165	212	242	293
	Upper secondary	184	233	265	286	323
	Tertiary	238	279	299	320	347

Source: OECD IALS 1994-1998 Database, 2000.

Notes:

EU3 averages for each level of education are computed using the three EU countries with the highest median score within the level of education.

EU3 countries for lower than upper secondary: Denmark, Finland, Germany.

EU3 countries for upper secondary: Sweden, Finland, Netherlands.

EU3 countries for tertiary: Sweden, Germany, Finland.

1. Skill scores are computed as the average of the prose, document and quantitative literacy skill scores as defined in the IALS.

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Table 2.4.2
Distribution of skill scores[1] at 5th, 25th, 50th, 75th, and 95th percentiles on a scale from 0 to 500, populations aged 16 to 24 who are not in education, EU member and candidate countries

		Percentiles				
		5th	25th	50th	75th	95th
Belgium (Flemish)	Students including work programs	237	280	304	328	366
	Employed	231	275	297	319	342
	Others including non-employed	177	251	279	305	351
Denmark	Students including work programs	246	278	303	326	349
	Employed	209	271	294	323	346
	Others including non-employed	225	258	284	309	328
Finland	Students including work programs	257	291	317	338	367
	Employed	248	283	303	325	361
	Others including non-employed	221	271	304	327	358
Germany	Students including work programs	231	285	307	325	359
	Employed	235	264	293	317	343
	Others including non-employed	202	248	283	310	340
Ireland	Students including work programs	225	265	297	322	351
	Employed	178	237	274	305	333
	Others including non-employed	149	230	260	281	326
Italy	Students including work programs	215	259	289	311	341
	Employed	154	232	275	303	333
	Others including non-employed	149	215	244	278	314
Netherlands	Students including work programs	216	282	309	327	359
	Employed	220	284	303	321	351
	Others including non-employed	146	243	285	294	338
Portugal	Students including work programs	220	260	279	302	349
	Employed	160	208	243	276	316
	Non-employed	157	210	235	284	333
Sweden	Students including work programs	245	289	319	342	375
	Employed	235	284	311	338	376
	Others including non-employed	239	280	317	340	367
United Kingdom	Students including work programs	198	268	297	319	352
	Employed	184	247	285	314	351
	Others including non-employed	136	198	243	281	342
EU3 average	Students including work programs	239	287	315	336	367
	Employed	234	284	306	328	363
	Others including non-employed	202	265	302	320	354
EU10 average	Students including work programs	229	276	302	324	357
	Employed	205	259	288	314	345
	Others including non-employed	180	240	273	301	340
EU+CC average	Students including work programs	223	271	297	320	353
	Employed	197	252	281	308	341
	Others including non-employed	172	234	268	296	336
CC4 average	Students including work programs	207	258	285	309	345
	Employed	175	235	265	292	329
	Others including non-employed	152	217	255	285	326
Czech Republic	Students including work programs	234	282	306	326	359
	Employed	215	270	286	311	349
	Others including non-employed	225	260	283	303	331
Hungary	Students including work programs	216	260	285	312	350
	Employed	209	243	269	301	332
	Others including non-employed	155	214	258	285	332

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Table 2.4.2 (cont'd)

		Percentiles				
		5th	25th	50th	75th	95th
Poland	Students including work programs	170	235	269	296	332
	Employed	129	212	257	281	324
	Others including non-employed	117	187	231	271	325
Slovenia	Students including work programs	207	257	282	304	340
	Employed	149	216	249	275	311
	Others including non-employed	112	206	250	279	315

Source: OECD IALS 1994-1998 Database, 2000.

Notes:

EU3 averages for each situation are computed using the three EU countries with the highest median score within the situation.

EU3 countries for all situations: Sweden, Finland, Netherlands.

1. Skill scores are computed as the average of the prose, document and quantitative literacy skill scores as defined in the IALS.

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Table 2.4.3
Distribution of skill scores at 5th, 25th, 50th, 75th, and 95th percentiles on the reading scale ranging from 0 to 800, student populations aged 15, EU member and candidate countries, 2000

	Percentiles				
	5th	25th	50th	75th	95th
Austria	344	448	517	572	642
Belgium	309	439	524	587	653
Denmark	328	435	506	565	636
Finland	393	495	554	606	671
France	347	446	511	569	641
Germany	285	419	494	561	645
Greece	306	410	481	542	617
Ireland	363	471	534	591	664
Italy	335	430	493	550	622
Luxembourg	271	378	448	513	587
Netherlands	377	478	541	596	655
Portugal	305	405	476	542	614
Spain	349	437	499	552	613
Sweden	358	458	524	581	651
United Kingdom	355	460	527	593	677
EU3 average	378	481	543	598	663
EU15 average	335	441	509	568	639
EU+CC average	330	435	503	563	636
CC4 average	310	415	483	546	623
Czech Republic	323	435	499	556	634
Hungary	325	416	486	548	619
Latvia	286	392	462	530	613
Poland	307	416	487	551	626

Source: OECD PISA 2000 Database, 2001.
Notes:
EU3 averages are computed using the three EU countries with the highest median score.
EU3 countries: Finland, Netherlands, Ireland.

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Table 2.4.4
Percentage of 15 year-olds performing at Level 1 or below on the PISA reading literacy scale, EU member and candidate countries, 2000

	Level 1 or below
Austria	14
Belgium	19
Denmark	17
Finland	6
France	15
Germany	22
Greece	24
Ireland	11
Italy	18
Luxembourg	35
Netherlands	9
Portugal	26
Spain	16
Sweden	12
United Kingdom	13
EU3 average	9
EU15 average	17
EU+CC average	18
CC5 average	23
Bulgaria	40
Czech Republic	17
Hungary	23
Latvia	29
Poland	23

Source: OECD PISA 2000 Database, 2001.
Notes:
EU3 averages are computed using the three EU countries with the lowest percentage of students at level 1 or below.
EU3 countries: Finland, Netherlands, Ireland.

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Table 2.5.1
GDP per capita (PPP USD), the percentage who have completed tertiary education, and the percentage who attained IALS literacy Level 4/5 among populations aged 25 to 64, EU member and candidate countries

	Economic performance[a] (GDP per capita, PPP USD, 2001)	Tertiary completion[b, 1] (%)	IALS literacy Level 4/5 skill attainment[c] (%)
Austria	26 730	14	-
Belgium	25 520	27	15
Denmark	29 000	26	17
Finland	24 430	32	19
France	23 990	23	-
Germany	25 350	23	17
Greece	17 440	18	-
Ireland	32 410	36	10
Italy	24 670	10	4
Netherlands	27 190	24	16
Portugal	18 150	9	2
Spain	20 150	24	-
Sweden	24 180	32	35
United Kingdom	24 160	26	17
EU3 average	27 083	30	24
EU14 average	22 801	23	16
EU+CC average	20 253	21	14
CC4 average	13 120	12	7
Czech Republic	14 720	11	17
Hungary	12 340	14	4
Poland	9 450	12	3
Slovak Republic	11 960	11	-
Slovenia	17 130	-	3

Sources:
a. UNDP, 2003: 237.
b. OECD, 2002a: 48.
c. OECD IALS 1994-1998 Database, 2000.
Notes:
EU3 averages are computed using the three EU countries with the highest tertiary completion rate and the highest percentage attaining IALS Level 4/5.
EU3 countries for tertiary completion rate: Ireland, Finland, Sweden.
EU3 countries for IALS Level 4/5: Sweden, Finland, United Kingdom.
- Data not available.
1. Includes tertiary type-A and B. Year of reference 2001, except for Austria, Belgium and the Netherlands: 2000.

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Table 2.5.2
Competitiveness ranking, the percentage who have completed tertiary education, and the percentage who attained IALS literacy Level 4/5 among populations aged 25 to 64, EU member and candidate countries

	Growth competitiveness ranking 2002[a]	Tertiary completion[b, 1] (%)	IALS literacy Level 4/5 skill attainment[c] (%)
Austria	18	14	-
Belgium	25	27	15
Denmark	10	26	17
Finland	2	32	19
France	30	23	-
Germany	14	23	17
Greece	38	18	-
Ireland	24	36	10
Italy	39	10	4
Netherlands	15	24	16
Portugal	23	9	2
Spain	22	24	-
Sweden	5	32	35
United Kingdom	11	26	17
EU3 average	6	30	24
EU14 average	20	23	16
EU+CC average	25	21	14
CC4 average	42	12	7
Czech Republic	40	11	17
Hungary	29	14	4
Poland	51	12	3
Slovak Republic	49	11	-
Slovenia	28	-	3

Sources:
a. World Economic Forum, 2003: xv.
b. OECD, 2002a: 48.
c. OECD IALS 1994-1998 Database, 2000.
Notes:
EU3 averages are computed using the three EU countries with the highest tertiary completion rate and the highest percentage attaining IALS Level 4/5.
EU3 countries for tertiary completion rate: Ireland, Finland, Sweden.
EU3 countries for IALS Level 4/5: Sweden, Finland, United Kingdom.
- Data not available.
1. Includes tertiary type-A and B. Year of reference 2001, except for Austria, Belgium and the Netherlands: 2000.

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Table 2.5.3
Labour force participation rates by level of educational attainment, populations aged 25 to 64, EU member and candidate countries, 2000

	Less than upper secondary education	Upper secondary education	Tertiary education
Austria	57,4	76,9	88,1
Belgium	56,0	79,3	87,7
Denmark	66,7	84,2	90,8
Finland	65,2	82,2	88,6
France	66,2	82,2	87,5
Germany	58,6	76,3	86,9
Greece	60,2	72,7	87,1
Ireland	60,7	75,7	86,9
Italy	53,2	76,6	86,5
Netherlands	61,8	81,8	88,1
Portugal	75,8	86,7	92,9
Spain	62,4	80,9	87,9
Sweden	73,9	86,2	89,4
United Kingdom	58,9	82,8	89,8
EU3 average	72,1	85,7	91,0
EU14 average	62,6	80,3	88,4
EU+CC average	59,9	80,1	88,3
CC4 average	50,2	79,3	87,7
Czech Republic	58,1	81,0	89,0
Hungary	40,1	76,3	83,6
Poland	53,9	77,3	88,3
Slovak Republic	48,5	82,4	89,7

Source: OECD, 2002b: 316.
Notes:
EU3 averages are computed using the three EU countries with the highest percentage of those who have attained less than upper secondary education and are participating in the labour force.
EU3 countries: Italy, Belgium, Austria.
- Data not available.

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Table 2.5.4
Human development index ranking, the percentage who have completed tertiary education, and the percentage who attained IALS literacy Level 4/5 among populations aged 25 to 64, EU member and candidate countries

	Human development index ranking[a]	Tertiary completion[b, 1] (%)	IALS literacy Level 4/5 skill attainment[c] (%)
Austria	16	14	-
Belgium	6	27	15
Denmark	11	26	17
Finland	14	32	19
France	17	23	-
Germany	18	23	17
Greece	24	18	-
Ireland	12	36	10
Italy	21	10	4
Netherlands	5	24	16
Portugal	23	9	2
Spain	19	24	-
Sweden	3	32	35
United Kingdom	13	26	17
EU3 average	5	30	24
EU14 average	14	23	16
EU+CC average	20	21	14
CC4 average	35	12	7
Czech Republic	32	11	17
Hungary	38	14	4
Poland	35	12	3
Slovak Republic	39	11	-
Slovenia	29	-	3

Sources:
a. UNDP, 2003: 237.
b. OECD, 2002a: 48.
c. OECD IALS 1994-1998 Database, 2000.
Notes:
EU3 averages are computed using the three EU countries with the highest tertiary completion rate and the highest percentage attaining IALS Level 4/5.
EU3 countries for tertiary completion rate: Ireland, Finland, Sweden.
EU3 countries for IALS Level 4/5: Sweden, Finland, United Kingdom.
- Data not available.
1. Includes tertiary type-A and B. Year of reference 2001, except for Austria, Belgium and the Netherlands: 2000.

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Table 2.5.5
The average level of trust in other people, the percentage who have completed tertiary education, and the percentage who attained IALS literacy Level 4/5 among populations aged 25 to 64, EU member and candidate countries

	Trust[a] (%)	Tertiary completion[b, 1] (%)	IALS literacy Level 4/5 skill attainment[c] (%)
Austria	32	14	-
Belgium	32	27	15
Denmark	58	26	17
Finland	56	32	19
France	26	23	-
Germany	32*	23	17
Greece	-	18	-
Ireland	45	36	10
Italy	32	10	4
Netherlands	51	24	16
Portugal	20	9	2
Spain	33	24	-
Sweden	62	32	35
United Kingdom	46**	26	17
EU3 average	59	30	24
EU14 average	41	23	16
EU+CC average	36	21	14
CC4 average	25	12	7
Czech Republic	31	11	17
Hungary	25	14	4
Poland	26	12	3
Slovak Republic	22	11	-
Slovenia	17	-	3

Sources:
a. World Values Surveys, 1981-1990-1995.
b. OECD, 2002a: 48.
c. OECD IALS 1994-1998 Database, 2000.
Notes:
EU3 averages are computed using the three EU countries with the highest tertiary completion rate and the highest percentage attaining IALS Level 4/5.
EU3 countries for tertiary completion rate: Ireland, Finland, Sweden.
EU3 countries for IALS Level 4/5: Sweden, Finland, United Kingdom.
- Data not available.
* Average of East (26.4) and West (37.3) Germany.
** Average of Britain (44.9) and Northern Ireland (47.7).
1. Includes tertiary type-A and B. Year of reference 2001, except for Austria, Belgium and the Netherlands: 2000.

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Table 3.1.1
Public and private expenditures on tertiary and all levels of education as a percentage of GDP (PPP in USD), EU averages and non-EU countries, 1999

	Tertiary			All levels of education		
	Public[1]	Private[2]	Total	Public[1]	Private[2]	Total
Argentina[3]	0,8	0,4	1,1	4,5	1,3	5,8
Australia*	0,8	0,7	1,5	4,5	1,4	5,8
Brazil[3, 4]	1,1	-	-	5,1	-	-
Canada[10 *]	1,6	1,0	2,5	5,3	1,3	6,6
Chile	0,6	1,6	2,2	4,1	3,1	7,2
China	0,5	0,4	0,8	2,0	1,6	3,7
India[4,5]	0,6	n	0,6	3,2	0,1	3,3
Indonesia[3, 6, 7, 8]	0,2	0,2	0,4	0,8	0,4	1,2
Jamaica	1,2	0,5	1,7	6,3	3,6	9,9
Japan[5 *]	0,5	0,6	1,0	3,5	1,1	4,7
Jordan[6]	1,0	0,9	1,9	5,0	1,0	6,0
Korea*	0,5	1,9	2,4	4,1	2,7	6,8
Malaysia[3]	1,2	0,1	1,3	5,0	-	-
Mexico	0,8	0,3	1,1	4,4	0,8	5,2
New Zealand	0,9	-	-	5,9	-	-
Norway	1,4	0,1	1,5	6,5	0,1	6,6
Paraguay	0,8	0,7	1,5	4,8	3,7	8,5
Peru[3, 9]	0,7	0,6	1,2	3,3	1,3	4,6
Philippines[4]	0,7	-	-	4,2	1,7	5,9
Russian Federation[3, 7]	-	-	-	3,0	-	-
Switzerland	1,2	n	1,2	5,4	0,5	5,9
Thailand[3, 7]	0,9	0,2	1,1	4,5	0,3	4,7
Tunisia[3, 7]	1,5	-	-	6,8	-	-
Turkey[3 *]	1,0	0,0	1,0	3,9	0,0	3,9
United States[10 *]	1,1	1,2	2,3	4,9	1,6	6,5
Uruguay[3, 6]	0,6	-	-	2,9	-	-
Zimbabwe[3, 5]	1,0	-	-	6,9	-	-
EU3 average	1,49	0,08	1,57	6,30	0,25	6,55
EU14 average	1,14	0,15	1,26	5,07	0,43	5,50
EU+CC average	1,06	0,15	1,19	4,95	0,43	5,36
CC4 average	0,79	0,16	0,95	4,54	0,44	4,91
EU14 total	0,93	0,16	1,10	4,75	0,65	5,44
CC+EU total	0,91	0,16	1,08	4,76	0,59	5,39
CC4 total	0,80	0,18	0,98	4,80	0,49	5,11

Source: OECD/UNESCO, 2002: 183.
Notes:
Average for EU3 is computed using the three EU countries with the highest expenditure on all levels of education.
EU3 countries: Denmark, Sweden, Austria.
- Data not available.
* See Annex 3 of EAG (2002) for additional notes (www.oecd.org/els/education/eag2002).
n Magnitude is either negligible or zero.
1. Includes public subsidies to households attributable for educational institutions. Includes direct expenditure on educational institutions from international sources.
2. Values are net of public subsidies attributable for educational institutions.
3. Public subsidies to households are included in private expenditure and not in public expenditure.
4. Year of reference 1998.

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(contd')

5. Post-secondary non-tertiary is included in both upper secondary and tertiary education.
6. Direct expenditure on educational institutions from international sources exceeds 1.5% of all public expenditure for: primary and secondary levels in Uruguay; tertiary level in Indonesia, Jordan, Uruguay, Ireland, Slovak Republic and Sweden; and all levels of education combined in Indonesia, Jordan and Uruguay.
7. Year of reference 2000.
8. Following the inauguration of decentralization in 2000, expenditure for some district offices have not been reported. It is estimated by the Indonesian authorities that the real expenditure is probably 15% higher than the figures reported in the WEI indicators.
9. Columns 1 to 3 exclude post-secondary non-tertiary education.
10. Post-secondary non-tertiary is included in tertiary education.

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Table 3.1.2
Total expenditures on primary, secondary and tertiary institutions per student relative to GDP per capita (PPP in USD), EU averages and non-EU countries, 1999

	Primary	All secondary	All tertiary education
Argentina	13	19	46
Australia*	19	27	46
Brazil[1, 5]	14	16	195
Canada*	x(5)	23	57
Chile	20	22	80
China	10	23	161
India[5]	12	17	-
Indonesia[6]	3	9	41
Israel	21	26	56
Japan*	21	24	41
Jordan[1]	20	20	130
Malaysia[1]	12	22	96
Mexico	13	18	57
Norway[1]	20	26	43
Peru	10	13	31
Philippines[1, 5]	14	15	42
South Korea*	21	25	39
Switzerland[1, 3 *]	23	34	63
Tunisia[1, 6]	16	29	79
Turkey[1]	-	-	73
United States[4 *]	20	24	57
Zimbabwe[1]	19	28	-
EU3 average	25	31	51
EU14 average	19	26	38
EU+CC average	18	25	40
CC4 average	18	21	46
EU14 total	18	27	37
EU+CC total	18	26	39
CC4 total	19	20	45

Source: OECD/UNESCO, 2002: 182.
Notes:
EU3 averages for each level of education are computed using the three EU countries with the highest expenditure per student
relative to GDP within the level of education.
EU3 countries for primary education: Austria, Denmark, Sweden.
EU3 countries for secondary education: Austria, France, Portugal.
EU3 countries for all tertiary education: Sweden, Austria, Netherlands.
* See Annex 3 of EAG (2002) for additional notes (www.oecd.org/els/education/eag2002).
- Data not available.
x indicates that data are included in another column. The column reference is shown in brackets after "x". e.g. x(2) means that data are included in column 2.
a Data not applicable because the category does not apply.
1. Only public institutions are included.
2. Year of reference 1998.
3. Year of reference 2000.
4. Following the inauguration of decentralization in 2000, expenditure for some district offices have not been reported. It is estimated by the Indonesian authorities that the real expenditure is probably 15% higher than the figures reported in the WEI indicators.
5. Public and government-dependent private institutions only are included.
6. Column 9 refers only to tertiary, type A education.
7. Public and independent private institutions only are included.

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Table 3.2.1
Average teachers' salaries at starting, top of scale and after 15 years of experience and the ratio of salaries after 15 years of experience to GDP per capita (PPP in USD), by level of education in public institutions, EU averages and non-EU countries, 2002

		Ratio	Salary (USD)		
			Top of scale	Starting	After 15 years experience
Argentina	Primary	1,0	14897	9027	12545
	Lower secondary	1,7	25742	14623	21188
	Upper secondary[1]	1,7	25742	14623	21188
Australia	Primary	1,4	38300	26887	38297
	Lower secondary	1,4	38314	26946	38312
	Upper secondary[1]	1,4	38314	26946	38312
Brazil	Primary	1,5	11309	7420	10176
	Lower secondary	2,4	18723	14820	16240
	Upper secondary[1]	2,4	19776	15500	16121
Chile	Primary	1,4	16122	10716	12038
	Lower secondary	1,4	16122	10716	12038
	Upper secondary[1]	1,5	16883	10716	12582
China	Primary	0,9	3595	2835	2952
	Lower secondary	0,9	3595	2835	2952
	Upper secondary[1]	0,9	3595	2835	2952
Egypt	Primary	1,6	-	2269	5065
	Lower secondary	1,6	-	2269	5065
	Upper secondary[1]	1,6	-	2269	5065
Iceland	Primary	0,8	25738	20222	22202
	Lower secondary	0,8	25738	20222	22202
	Upper secondary[1]	1,0	31394	21071	26162
India[5]	Primary	7,2	16375	10678	15236
	Lower secondary	9,2	21074	12992	19373
	Upper secondary[1]	11,0	24914	15798	23205
Indonesia	Primary	0,8	4093	1357	2148
	Lower secondary	0,8	4093	1357	2148
	Upper secondary[1]	0,9	4093	1412	2586
Japan	Primary	1,6	54663	22670	42820
	Lower secondary	1,6	54663	22670	42820
	Upper secondary[1]	1,6	56307	22670	42845
Jordan	Primary	2,7	26475	7838	10200
	Lower secondary	2,7	26475	7838	10200
	Upper secondary[1]	2,7	26475	7838	10200
Korea	Primary	2,5	69818	26300	43952
	Lower secondary	2,5	69666	26148	43800
	Upper secondary[1]	2,5	69666	26148	43800
Malaysia	Primary	1,3	14623	6158	10225
	Lower secondary	2,4	25775	11784	18632
	Upper secondary[1]	2,4	25775	11784	18632
Mexico	Primary	1,6	24536	11235	14824
	Lower secondary	2,1	30859	14383	18760
	Upper secondary[1]	-	-	-	-
New Zealand	Primary	1,7	33653	17354	33653
	Lower secondary	1,7	33653	17354	33653
	Upper secondary[1]	1,7	33653	17354	33653
Norway	Primary	0,9	29051	23752	26831
	Lower secondary	0,9	29051	23752	26831
	Upper secondary[1]	0,9	29051	23752	26831
Peru_	Primary	1,2	5523	5523	5523
	Lower secondary	1,2	5462	5462	5462
	Upper secondary[1]	1,2	5462	5462	5462

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Table 3.2.1 (cont'd)

		Ratio	Salary (USD)		
			Top of scale	Starting	After 15 years experience
Philippines	Primary	3,1	12374	10409	11491
	Lower secondary	3,1	12374	10409	11491
	Upper secondary[1]	3,1	12374	10409	11491
Russian Federation	Primary	0,5	3735	3735	3735
	Lower secondary	0,5	3735	3735	3735
	Upper secondary[1]	0,5	3735	3735	3735
Switzerland	Primary	1,5	54308	34808	45728
	Lower secondary	1,8	63534	41048	54763
	Upper secondary[1]	2,2	73946	49123	65041
Thailand	Primary	2,4	26977	5756	14145
	Lower secondary	2,4	26977	5756	14145
	Upper secondary[1]	2,4	26977	5756	14145
Tunisia[3]	Primary	2,6	15149	13186	14505
	Lower secondary	3,3	19340	16965	18549
	Upper secondary[1]	4,0	23177	20540	22270
Turkey	Primary	2,1	15760	12410	14094
	Lower secondary	a	a	a	a
	Upper secondary[1]	1,9	14704	11354	13038
United States	Primary	1,1	48782	27631	40072
	Lower secondary	1,1	47908	27643	40072
	Upper secondary[1]	1,1	48037	27751	40181
Zimbabwe	Primary	17,4	50011	35725	50011
	Lower secondary	17,4	50011	35725	50011
	Upper secondary[1]	17,4	50011	35725	50011
EU3 average	Primary	1,5	42 584	24 719	31 258
	Lower secondary	1,6	38 555	27 441	32 278
	Upper secondary[1]	1,8	50 811	31 729	42 235
EU14 average	Primary	1,3	37 133	22 796	30 182
	Lower secondary	1,3	40 154	23 706	32 152
	Upper secondary[1]	1,5	44 186	24 904	35 142
EU+CC average	Primary	1,2	34 195	20 993	27 829
	Lower secondary	1,3	37 044	21 901	29 715
	Upper secondary[1]	1,4	40 931	23 121	32 616
CC2 average	Primary	0,7	12 165	6 565	8 999
	Lower secondary	0,7	12 165	6 565	8 999
	Upper secondary[1]	0,8	14 892	7 973	11 139
EU14 total	Primary	1,3	37605	24247	30515
	Lower secondary	1,4	40635	26206	32507
	Upper secondary[1]	1,5	44094	27349	34918
EU+CC total	Primary	1,3	36117	23239	29289
	Lower secondary	1,3	38970	25086	31167
	Upper secondary[1]	1,4	42387	26245	33562
CC2 total	Primary	0,7	12170	6572	9004
	Lower secondary	0,7	12170	6572	9004
	Upper secondary[1]	0,8	14896	7981	11142

Source: OECD, 2002a: 339.

Notes:

EU3 averages for each level of education are computed using the three EU countries with the highest ratio to GDP per capita salary after 15 years experience.

EU3 countries for primary: England, Germany, Greece.

EU3 countries for lower secondary: Spain, Germany, England.

EU3 countries for upper secondary: Germany, Netherlands, Spain.

- Data not available.

a Data not applicable because the category does not apply.

1. General upper secondary programmes.

2. Year of reference 1999.

3. Including additional bonuses.

4. Salaries for a position of 20 hours per week. Most teachers hold two positions.

5. Salaries in National Capital Territory of Delhi. Teachers' salaries vary from state to state.

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Table 3.2.2
Pupil teacher ratios in primary, lower and upper secondary education, EU averages and non-EU countries, 2000

	Primary	Lower secondary	Upper secondary
Argentina[1, 2]	22,7	13,2	9,0
Australia[4]	17,3	-	-
Brazil[2]	26,6	34,2	38,7
Canada	18,1	18,1	19,5
Chile[2]	34,0	33,4	28,5
Egypt	23,0	22,0	12,8
Iceland	x	12,7	9,7
Indonesia[3]	27,1	19,6	17,8
Japan	20,9	16,8	14,0
Jordan[1]	x	21,2	16,9
Malaysia[2]	21,3	x	x
Mexico	27,2	34,8	26,5
New Zealand	20,6	19,9	13,1
Norway	12,4	9,9	9,7
Peru[2]	26,8	x	x
Philippines[2]	34,7	40,5	21,2
Russian Federation[3]	17,3	-	-
South Korea	32,1	21,5	20,9
Tunisia[1]	23,3	24,9	17,4
Turkey	30,5	-	14,0
United States	21,2	17,6	12,5
Zimbabwe	37,0	x	x
EU3 average	11,3	9,9	9,5
EU12 average	15,7	12,0	12,0
EU+CC average	15,9	12,1	12,9
CC12 average	16,2	12,2	13,6
EU12 total	16,5	12,2	11,2
EU+CC total	15,2	12,3	12,0
CC12 total	11,5	12,6	14,1

Source: European Commission/EURYDICE/Eurostat, 2002: 14; OECD/UNESCO, 2002: 203.
Notes:
EU3 averages for each level of education are computed using the three EU countries with the lowest pupil teacher ratio within the level of education.
EU3 countries for primary: Denmark, Italy, Sweden.
EU3 countries for lower secondary: Denmark, Italy, Luxembourg.
EU3 countries for upper secondary: Denmark, Spain, Belgium.
- Data not available.
x Data included in another category or column of the table.
* See Annex 3 in EAG (2002) for additional notes (www.oecd.org/els/education/eag2002).
1. Only public institutions are included.
2. Year of reference 1999.
3. Year of reference 2001.
4. Includes only general programmes at lower and upper secondary education.

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Table 3.2.3
Ratio of 15-year-old students to computers in all schools, by quartiles, EU averages and non-EU countries, 2000

	All schools		
	25th percentiles	Median	75th percentiles
Australia	4	5	7
Brazil	15	26	39
Iceland	7	10	13
Japan	7	12	18
Mexico	12	23	59
New Zealand	5	6	8
Norway	4	6	9
Russian Federation	6	10	14
South Korea	4	9	13
Switzerland	6	9	16
United States	4	5	7
EU3 average	6	8	13
EU15 average	9	15	27
EU+CC average	9	14	27
CC12 average	7	14	25
EU15 total	10	15	24
EU+CC total	9	14	26
CC12 total	8	21	36

Source: OECD, 2002a: 302.
Notes:
EU3 averages are computed using the three EU countries with the lowest median ratio of students per computer within all schools.
EU3 countries: Austria, Denmark, Finland.

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Table 3.3.1
Percentage of populations aged 25 to 64 who have attained at least upper secondary or tertiary education, by gender, EU averages and non-EU countries, 2001

		At least upper secondary education	At least tertiary education (Type A, B and advanced research programmes)
Australia	Males	66	27
	Females	52	31
Canada	Males	81	39
	Females	82	44
Iceland	Males	64	24
	Females	49	25
Japan	Males	83	36
	Females	83	32
Mexico	Males	22	18
	Females	22	12
New Zealand	Males	77	26
	Females	74	32
Norway[1]	Males	86	28
	Females	84	29
South Korea	Males	76	30
	Females	59	18
Switzerland	Males	90	35
	Females	85	16
Turkey	Males	28	10
	Females	19	7
United States	Males	87	37
	Females	88	37
EU3 average	Males	84	31
	Females	80	35
EU15 average	Males	62	23
	Females	59	22
EU+CC average	Males	65	21
	Females	61	20
CC4 average	Males	74	12
	Females	70	12
EU15 total	Males	64	23
	Females	59	20
EU+CC total	Males	63	21
	Females	59	19
CC4 total	Males	57	12
	Females	61	13

Source: OECD, 2002a: 55.
Notes:
EU3 averages for each gender and level of education are computed using the three EU countries with the highest percentage that attained within the level of education.
EU3 countries for the category 'At least upper secondary education' (Males): Germany, Denmark, Austria.
EU3 countries for the category 'At least upper secondary education' (Females): Sweden, Denmark, Germany.
EU3 countries for the category 'At least tertiary education' (Males): Ireland, Sweden, Finland.
EU3 countries for the category 'At least tertiary education' (Females): Ireland, Finland, Sweden.
1. Year of reference 2000.

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Table 3.3.2
Percentage of the labour force populations aged 25 to 64 who have attained tertiary education, by destination type, EU averages and non-EU countries, 2001

	Tertiary-type A and advanced research programmes	Tertiary-type B
Australia	22	11
Canada	22	23
Iceland	20	6
Japan	22	14
Mexico	17	2
New Zealand	15	16
Norway[1]	28	3
South Korea	19	7
Switzerland	17	11
Turkey	12	x(8)
United States	31	10
EU3 average	22	22
EU15 average	15	12
EU+CC average	15	11
CC4 average	14	1
EU15 total	16	11
EU+CC total	16	10
CC4 total	14	1

Source: OECD, 2002a: 54.
Notes:
Average for EU3 is computed using the three EU countries with the highest percentage that attained tertiary of any type.
EU3 countries: Ireland, Finland, Sweden.
- Data not available.
a Data not applicable because the category does not apply.
n Magnitude is either negligible or zero.
x Data included in another category or column of the table (e.g. x(2) means that data included in column 2 of the table).
1. Corresponds to the final stage of secondary education preparing students for entry into the labour market.

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Table 3.3.3
Sum of graduation rates by single year of age multiplied by 100 by type and length of programme, EU averages and non-EU countries, 2000

	Tertiary-type B programmes (first-time graduation)	Tertiary-type A programmes				Advanced research programmes	All tertiary programmes
		All programmes (first graduation)	Medium first-degree programmes (3 to < 5 years)	Long first-degree programmes (5 to 6 years)	Very long first-degree programmes (> 6 years)		
Argentina[2]	10,6	-	-	7,2	a	0,2	-
Australia	1,0	36,2	29,1	7,1	n	1,3	38,5
Brazil[2]	x	10,1	10,1	x	x	0,7	10,8
Canada	16,4	29,7	27,2	1,4	1,1	0,8	46,9
Chile[2]	9,1	21,6	9,3	11,1	1,2	0,8	31,5
China	6,4	3,3	3,3	n	a	n	9,7
Iceland	5,7	34,5	31,6	2,9	n	n	40,2
Indonesia[3]	9,4	6,6	3,4	1,4	1,8	0,2	16,2
Japan[1]	28,8	30,9	30,9	x	a	0,7	60,4
Jordan	8,4	18,7	14,6	4,1	a	0,1	27,2
Malaysia[2]	17,3	10,5	10,4	0,1	a	n	27,8
Mexico	0,6	13,7	13,7	x	x	-	-
New Zealand	16,4	39,1	31,8	6,6	0,7	0,8	56,3
Norway	6,4	36,3	29,4	3,7	3,2	1,0	43,7
Philippines[2,4]	a	25,5	25,5	x	x	x	25,5
Russian Federation[3]	26,0	26,9	2,3	24,6	a	1,5	54,4
South Korea[1]	30,8	28,1	27,5	0,6	a	0,7	59,6
Switzerland[1]	20,6	21,8	8,8	12,0	1,0	2,6	45,0
Thailand	24,7	13,9	13,9	x	n	1,7	40,3
Tunisia	2,3	7,0	7,0	a	a	-	-
Turkey	4,5	9,3	9,3	x	a	0,2	14,0
United States[1]	8,3	33,2	33,2	a	a	1,3	42,8
Zimbabwe	2,1	-	-	a	a	-	-
EU3 average	15,7	37,3	28,2	8,8	0,5	1,5	54,4
EU13 average	11,7	26,1	19,7	9,3	0,5	1,2	39,1
EU+CC average	9,3	25,8	17,9	10,1	0,5	1,1	36,2
CC4 average	2,1	24,9	12,6	12,4	-	0,6	27,5
EU13 total	10,4	26,2	17,3	9,6	0,5	1,2	38,2
EU+CC total	9,1	26,6	17,2	10,1	0,5	1,2	37,2
CC4 total	1,6	29,3	16,2	13,1	-	0,6	24,9

Source: OECD/UNESCO, 2002: 201.

Notes:

EU3 averages are computed using the three EU countries with the highest total average of graduation rates in all tertiary programmes.

EU3 countries: France, Finland, United Kingdom.

- Data not available.

a Data not applicable because the category does not apply.

n Magnitude is either negligible or zero.

x Data included in another category or column of the table (e.g. x(2) means data included in column 2 of the table).

* See Annex 3 in EAG (2002) for additional notes (www.oecd.org/els/education/eag2002).

1. Gross graduation rate, calculated as the ratio of graduates to total population at typical age of graduation (multiplied by 100).

2. Year of reference 1999.

3. Year of reference 2001.

4. All tertiary programs are included in first-degree level of 3-5 years in duration.

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Table 3.3.4
Number of tertiary graduates in life sciences, physical sciences, mathematics and statistics, computing and engineering, manufacturing and construction, as a percentage of all tertiary graduates, EU averages and non-EU countries, 2000

	Type of tertiary programme	Engineering, manufacturing and construction	Life sciences	Physical sciences	Mathematics and statistics	Computing	Total
		(1)	(2)	(3)	(4)	(5)	(1) to (5)
Australia	A	7,9	5,6	1,1	0,5	4,6	19,7
	B	-	-	-	-	-	0,0
Canada	A	8,2	5,9	2,1	1,4	2,8	20,4
	B	16,9	0,1	0,1	n	6,0	23,2
Iceland	A	7,1	4,9	2,1	0,5	3,3	17,8
	B	n	n	n	n	32,2	32,2
Israel	A	8,5	2,7	1,7	5,9	x(4)	18,8
	B	47,6	a	a	n	x(4)	47,6
Japan	A	21,3	4,4	x(2)	x(2)	x(2)	25,7
	B	16,9	n	x(2)	x(2)	x(2)	16,9
Mexico	A	14,0	0,8	1,5	0,4	6,3	23,0
	B	37,7	0,6	a	0,1	13,7	52,1
New Zealand	A	5,6	n	11,3	0,1	1,6	18,7
	B	3,4	n	0,3	n	3,2	6,9
Norway	A	6,8	1,2	1,4	0,3	3,3	13,1
	B	14,9	n	a	a	21,6	36,5
South Korea	A	27,4	2,1	4,4	2,1	2,4	38,4
	B	38,0	n	0,1	n	3,4	41,5
Switzerland	A	15,7	3,3	4,3	1,1	5,8	30,2
	B	12,6	n	n	n	6,8	19,3
Turkey	A	13,3	2,1	5,3	2,8	0,7	24,2
	B	37,6	a	n	a	5,4	42,9
United States	A	6,5	4,1	1,5	0,9	2,8	15,8
	B	18,6	a	a	a	6,2	24,8
EU3 average	A	21,2	6,6	5,5	2,5	5,3	41,1
	B	27,6	2,0	2,8	0,5	20,0	52,9
EU15 average	A	13,7	3,5	3,1	1,2	2,9	24,4
	B	16,2	1,3	1,6	0,4	8,0	27,5
EU+CC average	A	13,5	3,0	2,7	1,1	3,0	23,4
	B	14,3	1,3	1,6	0,9	7,8	25,9
CC4 average	A	13,2	1,3	1,3	0,7	3,3	19,8
	B	5,7	-	-	3,4	4,7	13,8
EU15 total	A	14,2	4,0	4,1	1,8	2,7	26,8
	B	16,6	1,1	0,9	0,3	5,1	24,0
EU+CC total	A	13,9	3,6	3,7	1,7	2,6	25,5
	B	15,7	1,0	0,9	0,4	4,8	22,9
CC4 total	A	12,5	1,5	1,2	0,8	2,2	18,2
	B	5,5	-	-	2,2	1,9	9,6
Austria	A	17,3	3,2	3,1	0,8	2,8	27,2
	B	33,9	n	1,4	0,3	0,6	36,2
Belgium [1]	A	12,5	6,3	2,0	0,6	1,0	22,4
	B	10,8	0,5	0,3	n	4,2	15,8
Denmark	A	8,9	4,2	4,3	1,0	1,8	20,2
	B	12,4	n	n	n	2,7	15,1

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Table 3.3.4 (cont'd)

	Type of tertiary programme	Engineering, manufacturing and construction	Life sciences	Physical sciences	Mathematics and statistics	Computing	Total
		(1)	(2)	(3)	(4)	(5)	(1) to (5)
Finland	A	24,0	1,9	2,7	1,0	2,2	31,9
	B	19,5	a	a	a	4,0	23,5
France	A	11,2	6,7	5,8	2,8	2,7	29,2
	B	25,2	1,8	2,4	0,4	3,3	33,1
Germany	A	19,0	3,0	5,8	1,9	2,8	32,5
	B	13,7	a	n	a	0,3	14,0
Greece	A	-	-	-	-	-	-
	B	-	-	-	-	-	-
Ireland	A	9,3	6,9	3,3	1,1	8,4	29,0
	B	19,6	2,7	4,5	n	17,8	44,6
Italy	A	16,0	3,0	1,8	2,8	0,9	24,5
	B	a	a	a	a	a	a
Luxembourg	A	-	-	-	-	-	-
	B	5,8	a	a	a	a	5,8
Netherlands[2]	A	10,4	1,1	1,9	0,3	1,5	15,2
	B	2,3	a	a	a	9,2	11,5
Portugal [1]	A	12,4	0,9	1,0	0,7	3,0	18,0
	B	12,4	0,9	1,0	0,7	3,0	18,0
Spain	A	12,9	2,5	3,3	1,4	2,9	23,1
	B	23,6	n	n	n	10,3	33,9
Sweden	A	20,5	2,3	2,4	0,6	3,1	29,0
	B	23,3	0,1	0,1	0,2	20,5	44,0
United Kingdom	A	9,9	6,0	5,0	1,3	4,2	26,4
	B	9,2	1,6	1,5	0,3	7,1	19,7
Czech Republic	A	15,5	2,2	2,2	1,0	7,3	28,3
	B	6,1	a	a	a	4,7	10,8
Hungary [1]	A	9,8	0,5	0,7	0,1	1,0	12,1
	B	4,2	n	n	3,4	n	7,6
Poland[3]	A	12,0	1,6	1,1	1,0	0,9	16,6
	B	a	a	a	a	a	a
Slovak Republic	A	15,4	1,0	1,2	0,6	4,1	22,3
	B	6,9	n	n	n	n	6,9

Source: OECD, 2002a: 61.
Notes:
EU3 averages for each type of programme and field of study are computed using the three EU countries with the highest number of graduates in all fields for each type of programme.
EU3 countries (Type A): Germany, Finland, France.
EU3 countries (Type B): Ireland, Sweden, Austria.
- Data not available.
a Data not applicable because the category does not apply.
n Magnitude is either negligible or zero.
x Data included in another category or column of the table (e.g. x(2) are data included in column 2 of the table).
1. Excludes tertiary-type B second degree programmes.
2. Excludes advanced research programmes.
3. Excludes tertiary-type A second degree programmes and advanced research programmes.

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Table 3.3.5
Estimated number of tertiary graduates in 2015 based on estimates of the expected changes in the relative size of 20 to 29 age cohorts, assuming constant graduation rates, EU averages and non-EU countries
Sources: OECD/UNESCO, 2002: 175, 201; United Nations, 2003 : 30.

	Number of graduates (2000)			Graduation rate	Index change of school age population (20-29) in 2015[1]	Projected size of cohort in 2015[1]	Projected number of graduates in 2015[2]
	Type B	Type A	Total				
	(1)	(2)	(3)	(4)	(5)	(6)=((3)/(4))x(5)	(7)=(4)x(6)
Argentina	71293	45811	117104	18	110	722648	128641
Brazil	x	300761	300761	10	104	3117459	313928
Canada	70733	127131	197864	46	109	467246	215557
China	992388	729102	1721490	10	99	17636335	1709164
India	456145	5968268	6424413	-	125	-	8045527
Indonesia	402297	275945	678242	16	107	4510310	722582
Japan	474079	542314	1016393	60	69	1169850	698024
Mexico	11091	287019	298110	14	103	2157265	308489
Philippines	a	352827	352827	25	132	1829285	465736
Russian Federation	579331	585157	1164488	53	93	2035635	1077553
South Korea	251842	214498	466340	59	79	625326	368286
Thailand	278098	156349	434447	39	92	1035787	399786
Turkey	58868	118882	177750	14	99	1273256	175924
United States	331159	1237875	1569034	42	120	4546671	1887161
EU13 total*	490776	1326598	1817374	41	91	4522323	1836063
Austria	7410	15132	22542	13	93	158596	21012
Belgium	36151	22526	58677	47	96	121524	56588
Denmark	17283	6735	24018	32	93	70568	22435
Finland	10293	25269	35562	54	103	67263	36462
France	137710	275316	413026	55	93	693892	384961
Germany	97696	178618	276314	28	101	1013866	279320
Ireland	9969	19407	29376	46	89	57215	26258
Italy	4301	150677	154978	17	70	640254	108621
Luxembourg	448	232	680	-	130	-	882
Netherlands	2178	69809	71987	35	99	202626	71055
Portugal	5509	51361	56870	35	69	111140	39082
Spain	46640	207578	254218	36	62	442392	158571
Sweden	4507	34097	38604	33	108	126394	41731
United Kingdom	110681	269841	380522	49	105	816592	401376
Czech Republic	8499	25544	34043	19	73	127700	24785
Hungary	673	46978	47651	30	74	118393	35333
Poland	5655	207791	213446	35	89	537843	189466
Slovak Republic	2124	20129	22253	24	85	80268	18868

Notes:
Graduation rate for EU total is a weighted average based on the total number of graduates from each EU country.
Index change of school age population for EU total is a weighted average based on the total number of graduates and the graduation rate from each country.
- Data not available.
x indicates that data are included in another column.
a Data not applicable because the category does not apply.
* Data not available for Greece. Luxembourg excluded from projections as the graduation rate is not available.
1. These figures are projections.
2. Assumes constant graduation rates from 2000.

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Table 3.3.6
Participation rates in adult education and training by gender, populations aged 45 to 64, EU averages and non-EU countries

		Age		
		25-44	45-64	25-64
Australia	Male	43	28	37
	Female	39	27	34
	Total	41	27	36
Canada	Male	43	27	37
	Female	42	26	36
	Total	43	27	36
Chile	Male	24	10	19
	Female	23	11	19
	Total	24	11	19
New Zealand	Male	55	36	48
	Female	49	39	45
	Total	52	38	46
Norway	Male	56	39	49
	Female	53	40	48
	Total	55	40	48
Switzerland	Male	50	35	44
	Female	46	31	40
	Total	48	33	42
United States	Male	47	35	42
	Female	45	39	42
	Total	46	37	42
EU3 average	Male	61	45	54
	Female	66	51	59
	Total	63	48	56
EU10 average	Male	41	28	35
	Female	41	27	35
	Total	41	27	35
EU+CC average	Male	38	25	32
	Female	37	24	31
	Total	37	24	31
CC4 average	Male	30	18	25
	Female	27	14	22
	Total	29	16	23
EU10 total	Male	36	23	30
	Female	34	20	28
	Total	35	22	29
EU+CC total	Male	34	21	28
	Female	31	19	26
	Total	33	20	27
CC4 total	Male	23	13	19
	Female	20	11	16
	Total	22	12	18

Source: OECD IALS 1994-1998 Database, 2000.

Notes:

EU3 averages for each gender and age group are computed using the three EU countries with the highest total participation rate within the age group.

EU3 countries for age group 25-44: Finland, Denmark, Sweden.

EU3 countries for age group 25-64: Finland, Denmark, Sweden.

EU3 countries for age group 45-64: Sweden, Denmark, Finland.

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Table 3.3.7
Percentage of the youth populations in education, by work status and age group, EU averages and non-EU countries, 2001

	Age group	Students in work-study programmes[1]	Other employed	Unemployed	Not in the labour force	Sub-total
Australia	15-19	7,3	29,0	6,4	36,7	79,5
	20-24	5,1	18,8	2,3	10,2	36,5
Canada	15-19	a	29,1	5,2	49,5	83,9
	20-24	a	19,0	1,5	18,7	39,1
Iceland	15-19	2,8	44,6	3,7	23,4	74,4
	20-24	6,5	28,3	1,0	14,6	50,3
Mexico	15-19	a	7,1	0,3	42,8	50,2
	20-24	a	4,7	0,2	14,1	19,1
Norway[2]	15-19	a	30,4	6,9	53,0	90,3
	20-24	a	15,8	2,6	23,4	41,7
Switzerland	15-19	32,5	10,3	3,9	38,9	85,7
	20-24	12,1	13,2	-	13,7	39,3
Turkey	15-19	a	1,4	38,5	0,3	40,3
	20-24	a	1,9	9,5	0,9	12,2
United States[2]	15-19	a	25,9	3,3	52,1	81,3
	20-24	a	20,0	1,0	11,5	32,5
EU3 average	15-19	6,4	32,6	3,6	38,6	79,1
	20-24	11,4	22,2	3,1	19,5	48,6
EU15 average	15-19	7,5	10,3	1,9	66,2	82,8
	20-24	4,1	9,3	1,4	27,3	40,8
EU+CC average	15-19	9,2	8,3	1,7	67,6	82,8
	20-24	3,7	8,1	1,6	26,8	38,6
CC9 average	15-19	16,6	1,2	0,7	72,9	82,8
	20-24	0,1	3,8	2,0	24,8	30,6
EU15 total	15-19	7,7	8,3	1,3	65,9	82,4
	20-24	5,4	7,5	1,2	26,7	40,2
EU+CC total	15-19	8,2	7,5	1,3	68,0	83,2
	20-24	5,2	7,4	1,6	26,8	39,8
CC9 total	15-19	18,3	2,5	0,8	80,2	87,9
	20-24	0,1	6,5	4,2	27,2	37,9

Source: OECD, 2002a: 259.

Notes:

EU3 averages for each age group are computed using the three EU countries with the highest proportion of students in the labour force within the age group.

EU3 countries for age group 15-19: Denmark, United Kingdom, Germany.

EU3 countries for age group 20-24: Denmark, Finland, Germany.

- Data not available.

a Data not applicable because the category does not apply.

n Magnitude is either negligible or zero.

1. Students in work-study programmes are considered to be both in education and employed, irrespective of their labour market status according to the ILO definition.

2. Year of reference 2000.

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Table 3.3.8
Number of youths aged 20 to 24 with less than upper secondary completion that are unemployed and not in education as a percentage of all 20 to 24 year-olds, EU averages and non-EU countries, 2001

	Males	Females	Total
Australia	4,0	3,2	3,6
Canada	2,7	0,9	1,8
Iceland	1,9	0,5	1,3
Mexico	1,9	1,0	1,5
Norway[1]	0,4	0,3	0,4
Turkey	7,3	1,8	4,5
United States[1]	1,5	0,8	1,1
EU3 average	1,3	0,8	1,0
EU15 average	2,8	1,9	2,4
EU+CC average	2,9	1,8	2,4
CC4 average	2,9	1,2	2,1
EU15 total	3,4	2,5	2,9
EU+CC total	3,4	2,4	2,9
CC4 total	3,3	1,6	2,4

Source: OECD, 2002a: 268.

Notes:

EU3 averages for each gender are computed using the three EU countries with the lowest total percentage of unemployed.

EU3 countries: United Kingdom, Netherlands, Austria.

Students in work-study programmes are considered to be both in education and employed, irrespective of their labour market status according to the ILO definition.

1. Year of reference 2000.

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Table 3.3.9A
Percentage of students in tertiary education who are foreign citizens, EU averages and non-EU countries, 2000

Countries of destination	Countries of origin		
	All countries	EU countries	Non-EU-countries
Australia	7,15	1,01	6,14
Canada	2,08	0,68	1,40
Iceland	3,66	2,61	1,06
Japan	1,39	0,03	1,36
New Zealand	3,34	0,35	2,98
Norway	2,51	1,70	0,82
South Korea	0,08	0,00	0,08
Switzerland	12,97	11,09	1,88
Turkey	0,31	0,16	0,15
United States	2,48	0,37	2,11
EU3 average	7,93	6,07	1,86
EU13 average	3,88	2,59	1,29
EU+CC average	3,28	2,21	1,07
CC3 average	0,64	0,54	0,10
EU13 total	4,07	2,46	1,60
EU+CC total	3,59	2,18	1,41
CC3 total	0,38	0,29	0,09
Austria	8,70	7,13	1,57
Belgium	6,87	6,04	0,83
Denmark	2,82	1,25	1,57
Finland	1,34	0,54	0,80
France	2,41	1,54	0,87
Germany	6,04	2,89	3,15
Ireland	3,98	2,26	1,72
Italy	0,70	0,58	0,12
Netherlands	1,85	1,29	0,56
Portugal	1,15	0,59	0,56
Spain	1,58	1,20	0,38
Sweden	4,84	3,34	1,50
United Kingdom	8,21	5,04	3,17
Czech Republic	1,25	1,10	0,15
Poland	0,12	0,05	0,07
Slovak Republic	0,55	0,46	0,09

Source: OECD, 2002a: 244.
Notes:
EU3 average is computed using the three EU countries with the highest total average percentage of foreign students in tertiary education.
EU3 countries: Austria, Belgium, the United Kingdom.

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Table 3.3.9B

Number of foreign students enrolled in tertiary education as a percentage of students in the country of destination, based on head counts, 2000

Country of origin	Country of destination																													
	AT	BE	DK	FI	FR	DE	IE	IT	NL	PT	ES	SE	UK	CZ	PL	SK	AU	CA	IS	JP	KR	NZ	NO	CH	TR	US
Austria	a	0,01	0,02	0,01	0,02	0,32	0,03	n	0,02	n	0,03	0,10	0,06	n	n	n	0,01	0,01	0,05	n	n	n	0,02	0,46	n	0,01
Belgium	0,03	a	0,01	0,01	0,10	0,05	0,04	0,01	0,28	0,02	0,07	0,05	0,12	n	n	n	0,01	0,01	0,01	n	n	n	0,01	0,17	n	0,01
Denmark	0,03	0,01	a	0,02	0,01	0,03	0,01	n	0,01	n	0,02	0,25	0,09	n	n	n	0,02	0,01	0,44	n	n	0,02	0,40	0,06	n	0,01
Finland	0,07	0,02	0,06	a	0,02	0,05	0,05	n	0,01	n	0,02	0,97	0,13	n	n	n	0,01	0,01	0,36	n	n	n	0,11	0,05	n	0,01
France	0,19	2,77	0,06	0,03	a	0,31	0,35	0,02	0,06	0,26	0,25	0,27	0,62	n	n	n	0,03	0,37	0,17	n	n	0,03	0,06	1,80	n	0,05
Germany	2,25	0,15	0,29	0,08	0,27	a	0,30	0,04	0,47	0,10	0,21	0,54	0,67	0,01	0,01	0,01	0,13	0,06	0,42	0,01	n	0,14	0,21	3,51	0,01	0,07
Greece	0,12	0,20	0,01	0,01	0,13	0,40	0,02	0,46	0,02	n	0,02	0,07	1,45	0,21	n	0,18	0,02	0,01	n	n	n	n	0,01	0,17	0,13	0,02
Ireland	0,02	0,01	0,02	0,01	0,03	0,03	a	n	0,01	n	0,02	0,03	0,71	n	n	n	0,04	0,01	n	n	n	n	0,01	0,03	n	0,01
Italy	2,70	0,92	0,04	0,03	0,20	0,36	0,08	a	0,07	0,03	0,25	0,16	0,30	n	n	n	0,02	0,02	0,21	n	n	n	0,03	2,56	n	0,02
Luxembourg	0,12	0,41	n	n	0,06	0,07	0,01	n	n	0,01	n	n	0,03	n	n	n	n	n	n	n	n	n	n	0,12	n	n
Netherlands	0,04	0,76	0,05	0,02	0,03	0,10	0,04	n	a	0,01	0,05	0,16	0,13	n	n	n	0,04	0,01	0,05	n	n	0,01	0,06	0,17	n	0,01
Portugal	0,02	0,17	0,01	0,01	0,15	0,08	0,01	n	0,02	a	0,05	0,03	0,11	n	n	n	0,01	0,01	0,02	n	n	n	0,01	0,27	n	0,01
Spain	0,15	0,40	0,04	0,02	0,19	0,27	0,14	0,01	0,10	0,10	a	0,18	0,37	n	n	n	0,01	0,01	0,16	n	n	n	0,03	0,96	n	0,03
Sweden	0,10	0,02	0,31	0,20	0,05	0,04	0,04	n	0,02	n	0,02	a	0,20	0,02	0,01	n	0,11	0,02	0,39	n	n	0,07	0,47	0,14	n	0,03
United Kingdom	0,08	0,06	0,20	0,05	0,16	0,13	1,13	0,01	0,14	0,03	0,15	0,24	a	0,09	n	n	0,52	0,10	0,18	0,01	n	0,07	0,20	0,19	0,01	0,06
Czech Republic	0,13	0,01	n	0,01	0,02	0,07	n	n	0,01	n	0,01	0,03	0,01	a	0,02	0,21	0,01	n	0,05	n	n	n	0,01	0,08	n	0,01
Hungary	0,42	0,03	0,01	0,03	0,02	0,13	n	n	0,01	n	0,01	0,06	0,02	n	n	0,02	0,01	n	n	n	n	n	0,01	0,10	n	0,01
Poland	0,31	0,07	0,11	0,02	0,09	0,43	0,01	0,02	0,03	0,01	0,02	0,19	0,03	0,05	a	0,03	0,01	0,01	0,09	n	n	n	0,05	0,20	n	0,02
Slovak Republic	0,34	0,01	n	n	0,01	0,0	n	n	n	n	n	0,01	0,01	0,70	n	a	n	n	n	n	n	n	0,01	0,06	n	n
Australia	0,01	n	0,02	0,01	0,01	0,01	0,04	n	0,01	0,01	n	0,05	0,06	n	n	n	a	0,03	0,01	0,01	n	n	0,01	0,03	n	0,02
Brazil	0,03	0,04	0,02	0,01	0,07	0,07	n	0,01	0,01	0,36	0,06	0,02	0,05	n	n	n	0,02	0,03	n	0,01	n	0,02	0,01	0,11	n	0,06
Canada	0,02	0,02	0,02	0,03	0,05	0,02	0,08	n	0,01	0,07	n	0,08	0,15	0,01	0,01	n	0,13	a	0,08	n	n	0,04	0,02	0,11	n	0,16
Chile	0,01	0,03	0,01	0,01	0,02	0,02	n	n	0,01	n	0,04	0,06	0,01	n	n	n	0,02	0,01	0,01	n	n	0,01	0,04	0,04	n	0,01
China	0,16	0,18	0,07	0,30	0,10	0,32	0,03	n	0,04	0,01	0,01	0,18	0,30	n	n	n	0,59	0,32	0,09	0,71	0,04	0,66	0,08	0,27	0,01	0,38
Egypt	0,08	0,01	n	n	0,03	0,05	0,01	n	0,01	n	n	n	0,05	n	n	0,02	0,01	0,01	n	n	n	n	0,01	0,03	0,01	n
Iceland	0,01	n	0,37	0,01	n	0,01	n	n	n	n	n	0,10	0,01	n	n	n	n	n	a	n	n	n	0,13	0,01	n	n
India	0,04	0,03	0,01	0,02	0,01	0,06	0,03	n	0,01	0,01	n	0,02	0,20	0,01	n	n	0,54	0,07	0,01	n	n	0,12	0,05	0,06	n	0,30
Indonesia	0,02	0,02	n	0,01	0,01	0,10	n	n	0,08	n	n	n	0,05	n	n	n	1,18	0,03	n	0,03	n	0,21	0,01	0,02	n	0,08
Jamaica	n	n	n	n	n	n	n	n	n	n	n	n	0,03	n	n	n	n	0,02	n	n	n	n	n	n	n	0,03
Japan	0,12	0,05	0,02	0,03	0,07	0,10	0,02	n	0,01	n	0,01	0,04	0,30	n	n	n	0,26	0,12	0,05	a	0,02	0,40	0,02	0,10	n	0,33
Jordan	0,03	n	n	n	0,01	0,05	0,01	0,01	n	n	n	0,01	0,04	0,01	n	0,02	0,01	0,01	0,01	n	n	n	n	0,01	0,03	0,01
Korea	0,12	0,01	n	0,01	0,08	0,24	n	n	n	n	0,01	0,02	0,11	0,01	n	n	0,28	0,09	n	0,46	a	0,26	n	0,04	n	0,29
Malaysia	n	n	n	n	n	0,01	0,39	n	n	n	n	0,01	0,51	n	n	n	1,52	0,06	n	0,05	n	0,69	n	0,01	n	0,06
Mexico	0,02	0,02	0,01	n	n	0,02	n	n	n	n	0,08	0,01	0,06	n	n	0,0	0,01	0,06	n	n	n	0,01	0,01	0,05	n	0,07
New Zealand	n	n	0,01	n	n	n	n	n	n	n	n	0,01	0,02	n	n	n	0,51	0,01	0,01	n	n	a	n	0,01	n	0,01
Norway	0,03	0,01	0,68	0,02	0,02	0,05	0,07	n	0,02	n	0,02	0,35	0,20	0,02	0,02	n	0,20	0,01	0,29	n	n	0,06	a	0,08	n	0,02
Paraguay	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n	n
Peru	0,03	0,02	0,01	0,01	0,02	0,04	n	0,01	n	n	0,06	0,02	0,01	n	n	n	0,01	0,01	n	n	n	n	0,01	0,10	n	0,02
Philippines	n	0,02	0,01	0,01	n	0,01	n	n	n	n	0,01	0,01	0,01	n	n	n	0,08	0,01	n	0,01	n	0,03	0,01	0,01	n	0,02
Russian Federation	0,11	0,04	0,06	0,24	0,07	0,32	0,02	0,01	0,04	n	0,01	0,13	0,05	0,04	0,02	0,02	0,02	0,02	0,10	0,01	n	0,01	0,18	0,21	0,10	0,05
Switzerland	0,10	0,03	0,02	0,01	0,05	0,10	0,01	0,04	0,01	0,01	0,01	0,05	0,07	n	n	n	0,02	0,02	0,02	n	n	0,01	0,02	a	n	0,01
Thailand	0,01	0,01	n	0,01	0,02	n	n	n	n	n	n	0,02	0,13	n	n	n	0,32	0,02	0,01	0,03	n	0,19	0,01	0,01	n	0,08
Tunisia	0,02	0,08	0,01	n	n	0,05	n	n	n	n	n	n	n	n	n	n	n	0,05	n	n	n	n	n	0,01	n	n
Turkey	0,45	0,14	0,10	0,01	0,11	1,29	n	n	0,24	n	n	0,04	0,09	n	n	n	0,02	0,01	0,01	n	n	n	0,02	0,33	a	0,07
United States	0,14	0,05	0,11	0,06	0,12	0,18	0,98	0,01	0,05	0,08	0,04	0,26	0,55	0,02	0,02	n	0,38	0,36	0,34	0,03	0,01	0,27	0,15	0,22	n	a
Uruguay	n	n	n	n	n	n	n	n	n	n	0,01	n	n	n	n	n	n	n	n	n	n	n	n	0,01	n	n
Zimbabwe	n	n	n	n	n	n	n	n	n	n	n	n	0,09	n	n	n	0,03	0,01	n	n	n	0,01	0,01	n	n	0,01
All countries	11,63	10,91	6,80	2,06	6,80	9,10	4,62	1,41	2,87	2,99	2,22	6,00	11,01	2,25	0,39	1,16	12,51	3,28	4,17	1,50	0,11	4,77	3,66	16,58	1,74	3,60

Source: OECD, 2002a: 244.

Notes:

a Data not applicable because the category does not apply; n Magnitude is either negligible or zero.

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Table 3.4.1
Distribution of skill scores[1] at 5th, 25th, 50th, 75th, and 95th percentiles on a scale from 0 to 500, tertiary and upper secondary completers aged 25-34, EU averages and non-EU countries

		Percentiles				
		5	25	50	75	95
Australia	Less than upper secondary	142	239	271	300	334
	Upper secondary	211	268	293	319	351
	Tertiary	233	287	318	341	373
Canada	Less than upper secondary	118	198	247	283	336
	Upper secondary	212	258	294	314	343
	Tertiary	254	296	322	353	395
Chile	Less than upper secondary	111	157	197	226	256
	Upper secondary	185	216	243	261	292
	Tertiary	222	253	278	299	335
New Zealand	Less than upper secondary	146	227	257	276	313
	Upper secondary	166	273	296	316	353
	Tertiary	226	286	310	335	363
Norway	Lower than upper secondary	150	241	274	297	333
	Upper secondary	217	277	302	324	351
	Tertiary	283	314	332	349	369
Switzerland	Less than upper secondary	106	150	236	285	311
	Upper secondary	220	274	295	317	339
	Tertiary	248	294	315	334	360
United States	Less than upper secondary	86	126	183	244	295
	Upper secondary	139	248	283	305	345
	Tertiary	212	281	314	338	367
EU3 average	Lower than upper secondary	160	248	279	309	345
	Upper secondary	239	284	309	336	366
	Tertiary	272	311	334	356	382
EU10 average	Lower than upper secondary	153	228	265	294	328
	Upper secondary	232	274	298	321	350
	Tertiary	258	299	320	340	368
EU+CC average	Lower than upper secondary	150	220	256	285	320
	Upper secondary	223	268	293	315	346
	Tertiary	254	294	316	338	365
CC4 average	Lower than upper secondary	140	198	235	265	302
	Upper secondary	200	253	279	300	337
	Tertiary	242	284	308	330	358
EU10 total	Less than upper secondary	135	221	260	292	334
	Upper secondary	212	264	295	320	353
	Tertiary	243	291	320	345	377
EU+CC total	Less than upper secondary	135	221	260	291	334
	Upper secondary	212	264	294	319	353
	Tertiary	243	291	319	345	376
CC4 total	Less than upper secondary	110	190	234	267	314
	Upper secondary	207	255	279	309	342
	Tertiary	237	282	313	341	383

Source: OECD IALS 1994-1998 Database, 2000.

Notes:

EU3 averages for each level of education are computed using the three EU countries with the highest median score within the level of education.

EU3 countries for lower than upper secondary: Denmark, Finland, Germany.

EU3 countries for upper secondary: Sweden, Finland, Netherlands.

EU3 countries for tertiary: Sweden, Germany, Finland.

1. Skill scores are computed as the average of prose, document and quantitative literacy skill scores as defined in the IALS.

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Table 3.4.2
Distribution of skill scores[1] at 5th, 25th, 50th, 75th, and 95th percentiles on a scale ranging from 0 to 500, populations aged 16 to 24 who are not in education, EU member and non EU countries

		Percentiles				
		5	25	50	75	95
Australia	Students including work programs	196	265	293	318	358
	Employed	218	263	290	316	350
	Others including non-employed	117	229	265	301	335
Canada	Students including work programs	223	269	309	334	352
	Employed	207	265	295	321	356
	Others including non-employed	140	188	246	296	336
Chile	Students including work programs	189	228	252	278	315
	Employed	141	201	234	261	287
	Others including non-employed	127	189	220	250	292
New Zealand	Students including work programs	190	254	297	325	368
	Employed	193	256	284	313	360
	Others including non-employed	105	194	245	280	328
Norway	Students including work programs	239	284	314	332	360
	Employed	237	280	307	330	362
	Others including non-employed	196	260	295	315	338
Switzerland	Students including work programs	246	276	307	338	363
	Employed	247	270	291	309	332
	Others including non-employed	223	268	297	312	332
United States	Students including work programs	138	229	278	298	344
	Employed	165	245	281	311	355
	Others including non-employed	96	165	246	268	344
EU3 average	Students including work programs	239	287	315	336	367
	Employed	234	284	306	328	363
	Others including non-employed	202	265	302	320	354
EU10 average	Students including work programs	229	276	302	324	357
	Employed	205	259	288	314	345
	Others including non-employed	180	240	273	301	340
EU+CC average	Students including work programs	223	271	297	320	353
	Employed	197	252	281	308	341
	Others including non-employed	172	234	268	296	336
CC4 average	Students including work programs	207	258	285	309	345
	Employed	175	235	265	292	329
	Others including non-employed	152	217	255	285	326
EU10 total	Students including work programs	212	262	293	319	352
	Employed	191	253	286	313	345
	Others including non-employed	146	220	262	297	339
EU+CC total	Students including work programs	212	263	293	319	352
	Employed	192	253	285	313	345
	Others including non-employed	146	221	262	297	338
CC4 total	Students including work programs	195	250	284	313	345
	Employed	168	245	279	306	343
	Others including non-employed	128	202	246	286	331

Source: OECD IALS 1994-1998 Database, 2000.

Notes:

EU3 averages for each situation are computed using the three EU countries with the highest median score within the situation.

EU3 countries for all situations: Sweden, Finland, Netherlands.

1. Skill scores are computed as the average of the prose, document and quantitative literacy skill scores as defined in the IALS.

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Table 3.4.3
Distribution of skill scores at 5th, 25th, 50th, 75th, and 95th percentiles on the reading scale ranging from 0 to 800, student populations aged 15, EU averages and Non-EU countries, 2000

	Percentiles				
	5	25	50	75	95
Australia	357	461	536	602	679
Brazil	262	340	394	450	534
Canada	375	474	541	600	673
Iceland	349	450	514	572	642
Japan	369	473	531	580	644
Mexico	291	361	419	480	561
New Zealand	340	462	539	606	688
Norway	325	441	515	578	652
Russian Federation	309	402	465	525	601
South Korea	406	483	532	571	621
Switzerland	319	427	503	566	646
United States	323	436	512	576	662
EU3 average	378	481	543	598	663
EU15 average	335	441	509	568	639
EU+CC average	330	435	503	563	636
CC4 average	310	415	483	546	623
EU15 total	330	439	507	569	646
EU+CC total	326	435	504	567	643
CC4 total	309	418	487	551	626

Source: OECD PISA 2000 Database, 2001.
Notes:
EU3 averages are computed using the three EU countries with the highest median score.
EU3 countries: Finland, Netherlands, Ireland.

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Table 3.4.4
Proportion of 15 year-olds performing at Level 1 or below on the PISA reading literacy scale, EU averages and non-EU countries, 2000

	Level 1 or below
Australia	13
Brazil	57
Canada	9
Iceland	14
Japan	10
Mexico	45
New Zealand	14
Norway	17
Russian Federation	27
South Korea	5
Switzerland	20
United States	17
EU3 average	9
EU15 average	17
EU+CC average	18
CC5 average	23
EU15 total	17
EU+CC total	18
CC5 total	23

Source: OECD PISA 2000 Database, 2001.
Notes:
EU3 averages are computed using the three EU countries with the lowest percentage of students at Level 1 or below.
EU3 countries: Finland, Netherlands, Ireland.

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Table 3.5.1
GDP per capita (PPP USD), the percentage who have completed tertiary education, and the percentage who attained IALS literacy Level 4/5 among populations aged 25 to 64, EU averages and non-EU countries

	Economic performance[a] (GDP per capita, PPP USD, 2001)	Tertiary completion[b, 1] (%)	IALS literacy Level 4/5 skill attainment[c] (%)
Argentina	11 320	14	-
Australia	25 370	29	18
Brazil	7 360	8	-
Canada	27 130	42	22
Chile	9 190	10	1
Iceland	29 990	25	-
Indonesia[a]	2 940	4	-
Japan	25 130	34	-
Malaysia	8 750	9	-
Mexico	8 430	15	-
New Zealand	19 160	29	14
Norway	29 620	28	23
Peru	4 570	16	-
South Korea	15 090	24	-
Switzerland	28 100	25	11
Thailand	6 400	10	-
Tunisia	6 390	6	-
Turkey	5 890	9	-
United States	34 320	37	22
EU3 average	29 533	30	24
EU14 average	22 801	23	16
EU+CC average	20 253	21	14
CC4 average	13 120	12	7
EU14 total	23 925	21	14
EU+CC total	21 944	20	12
CC4 total	11 138	12	6

Sources:
a. UNDP, 2003: 237.
b. OECD, 2002a: 48.
c. OECD IALS 1994-1998 Database, 2000.
Notes:
EU3 averages are computed using the three EU countries with the highest tertiary completion rate and the highest percentage attaining IALS Level 4/5.
EU3 countries for tertiary completion: Ireland, Finland, Sweden.
EU3 countries for IALS Level 4/5: Sweden, Finland, United Kingdom.
- Data not available.
1. Includes tertiary type-A and B. Year of reference 2001, except for Austria, Belgium, the Netherlands and Norway: 2000.

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Table 3.5.2
Competitiveness ranking, the percentage who have completed tertiary education, and the percentage who attained IALS literacy Level 4/5 among populations aged 25 to 64, EU averages and non-EU countries

	Growth competitiveness ranking[a]	Tertiary completion[b, 1] (%)	IALS literacy Level 4/5 skill attainment[c] (%)
Argentina	63	14	-
Australia	7	29	18
Brazil	46	8	-
Canada	8	42	22
Chile	20	10	1
Iceland	12	25	-
Indonesia	67	4	-
Japan	13	34	-
Malaysia	27	9	-
Mexico	45	15	-
New Zealand	16	29	14
Norway	9	28	23
Peru	54	16	-
South Korea	21	24	-
Switzerland	6	25	11
Thailand	31	10	-
Tunisia	34	6	-
Turkey	69	9	-
United States	1	37	22
EU3 average	6	30	24
EU14 average	20	23	16
EU+CC average	25	21	14
CC4 average	42	12	7
EU14 total	22	21	14
EU+CC total	26	20	12
CC4 total	45	12	6

Sources:
a. World Economic Forum, 2003: xv.
b. OECD, 2002a: 48.
c. OECD IALS 1994-1998 Database, 2000.
Notes:
EU3 averages are computed using the three EU countries with the highest tertiary completion rate and the highest percentage attaining IALS Level 4/5.
EU3 countries for tertiary completion: Ireland, Finland, Sweden.
EU3 countries for IALS Level 4/5: Sweden, Finland, United Kingdom.
- Data not available.
1. Includes tertiary-type A and B. Year of reference 2001, except for Austria, Belgium, the Netherlands and Norway: 2000.

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Table 3.5.3
Labour force participation rates by level of educational attainment, populations aged 25 to 64, EU averages and non-EU countries, 2002

	Less than upper secondary education	Upper secondary education	Tertiary education
Australia	65,8	80,3	85,9
Canada	61,1	80,8	86
Iceland	89	90,7	95,8
Japan	71,4	77,4	82,4
Mexico	64	67	84,7
New Zealand	65,8	83,2	83,8
Norway	66,8	85	91,6
South Korea	70,2	71,5	78,1
Switzerland	69	83,6	92,2
Turkey	55,2	65,2	81,5
United States	62,7	79,5	89,6
EU3 average	72,1	85,7	91
EU14 average	60,3	79,6	87,9
EU+CC average	58,1	79,5	87,8
CC4 average	50,2	79,3	87,7
EU14 total	60,5	79,6	87,9
EU+CC total	59,2	79,4	87,9
CC4 total	52,0	78,2	87,8

Source: OECD, 2002b: 316.
Notes:
EU3 averages are computed using the three EU countries with the highest percentage of those who have attained less than upper secondary education and are participating in the labour force.
EU3 countries: Italy, Belgium, Austria.
- Data not available.

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Table 3.5.4
Human development index ranking, the percentage who have completed tertiary education, and the percentage who attained IALS literacy Level 4/5 among populations aged 25 to 64, EU averages and non-EU countries

	Human Development index ranking[a]	Tertiary completion[b, 1] (%)	IALS literacy Level 4/5 skill attainment[c] (%)
Argentina	34	14	-
Australia	4	29	18
Brazil	65	8	-
Canada	8	42	22
Chile	43	10	1
Iceland	2	25	-
Indonesia[1]	112	4	-
Japan	9	34	-
Malaysia	58	9	-
Mexico	55	15	-
New Zealand	20	29	14
Norway	1	28	23
Peru	82	16	-
South Korea	30	24	-
Switzerland	10	25	11
Thailand	74	10	-
Tunisia	91	6	-
Turkey	96	9	-
United States	7	37	22
EU3 average	5	30	24
EU14 average	14	23	16
EU+CC average	20	21	14
CC4 average	35	12	7
EU14 total	17	21	14
EU+CC total	20	20	12
CC4 total	35	12	6

Sources:
a. UNDP, 2003: 237.
b. OECD, 2002a: 48.
c. OECD IALS 1994-1998 Database, 2000.
Notes:
EU3 averages are computed using the three EU countries with the highest tertiary completion rate and the highest percentage attaining IALS Level 4/5.
EU3 countries for tertiary completion rate: Ireland, Finland, Sweden.
EU3 countries for IALS Level 4/5: Sweden, Finland, United Kingdom.
- Data not available.
1. Includes tertiary-type A and B. Year of reference 2001, except for Austria, Belgium, the Netherlands and Norway: 2000.

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Table 3.5.5
The average level of trust in other people, the percentage who have completed tertiary education on, and the percentage who attained IALS literacy Level 4/5 among populations aged 25 to 64, EU averages and non-EU countries

	Trust[a] (%)	Tertiary completion[b, 1] (%)	IALS literacy Level 4/5 skill attainment[c] (%)
Argentina	23	14	-
Australia	47	29	18
Brazil	5	8	-
Canada	53	42	22
Chile	21	10	1
Iceland	46	25	-
Japan	42	34	-
Mexico	27	15	-
Norway	67	28	23
Peru	5	16	-
South Korea	32	24	-
Switzerland	43	25	11
Turkey	8	9	-
United States	47	37	22
EU3 average	59	30	24
EU14 average	41	23	16
EU+CC average	36	21	14
CC4 average	25	12	7
EU14 total	35	21	14
EU+CC total	33	20	12
CC4 total	26	12	6

Sources:
a. World Values Surveys, 1981-1990-1995.
b. OECD, 2002a: 48.
c. OECD IALS 1994-1998 Database, 2000.
Notes:
EU3 averages are computed using the three EU countries with the highest tertiary completion rate and the highest percentage
attaining IALS Level 4/5.
EU3 countries for tertiary completion rate: Ireland, Finland, Sweden.
EU3 countries for IALS Level 4/5: Sweden, Finland, United Kingdom.
- Data not available.
1. Includes tertiary-type A and B. Year of reference 2001, except for Austria, Belgium, the Netherlands and Norway: 2000.

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