

**Central and Eastern Europe**

EXECUTIVE  
SUMMARY

**Key indicators on  
vocational education and training**

**2002**



European Training Foundation



**European Training Foundation**

Villa Gualino, Viale Settimio Severo, 65, I-10133 Torino  
Tel: (39) 011 630 22 22 / Fax: (39) 011 630 22 00 / email: [info@etf.eu.int](mailto:info@etf.eu.int)  
Web: <http://www.etf.eu.int>

This report is published in the framework of the ETF Key Indicators Project conducted in 2001. It presents a selection of the indicators collected through the network of the National Observatories.

Contents: Mircea Badescu and Alison Kennedy (European Training Foundation)

Data processing: Stanka Petkovska (Ministry of Education and Science, Former Yugoslav Republic of Macedonia)

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[www.etf.eu.int/cee/statistics](http://www.etf.eu.int/cee/statistics)

# Foreword

This publication is the outcome of the Key Indicators project conducted and financed by the European Training Foundation in 2001. The statistics and indicators have been collected, checked and validated through the network of the National Observatories.

This report is the executive summary of the ETF publication '*Key Indicators on vocational education and training, 2002*' which will be published later this year.

## Reader's guide

### *Coverage of the statistics*

The indicators presented in this report are collected by the European Training Foundation on a regular basis through the National Observatory network. In some cases they are supplemented by data collected by Eurostat and OECD. If not otherwise indicated data refer to the entire national education system regardless of the ownership or sponsorship of the educational institutions concerned and regardless of educational delivery mechanisms. Although a lack of data still limits the scope of the indicators presented all the partner countries are taking steps to improve the process of data collection and analysis.

### *ISCED levels of education*

ISCED (International Standard Classification of Education) is the internationally-agreed system used for classifying and presenting statistics on education. The present classification approved by UNESCO in 1997 (also known as ISCED97) covers primarily two cross-classification variables: levels and fields of education and training. ISCED97 distinguishes among six levels of education: pre-primary, primary, lower secondary, upper secondary, post-secondary non-tertiary, and tertiary education.

### *Data sources*

If not otherwise indicated, the data sources are the National Statistical Offices/Institutes, and the statistical units of different Ministries (i.e. education, labour and finance). Labour market indicators have been selected from the national Labour Force Surveys.

## ***Symbols for missing data***

*a* - data not applicable because the category does not apply

*m* - data not available

*n* - nil or negligible

*x* - data included in another category/ column of the table

## ***Central and Eastern European participants in the 2001 ETF Key Indicators Project***

Albania (AL), Bosnia and Herzegovina (BA), Bulgaria (BG), Croatia (HR), Czech Republic (CZ), Estonia (EE), Hungary (HU), Latvia (LV), Lithuania (LT), Former Yugoslav Republic of Macedonia (MK), Montenegro (MG), Poland (PL), Romania (RO), Slovak Republic (SK), Slovenia (SI)

# Introduction

The transition economies of Central and Eastern Europe have already undergone substantial changes and vocational education and training is part of this process. In the last decade, changing labour market and economic and social conditions in the Central and Eastern European countries (CEECs) have resulted in a clear demand for more and better education and training. Different skills are now in demand as many economic sectors are in the process of change. Vocational education and training is becoming more and more important for an increasing proportion of jobs as greater weight is placed on individual knowledge and skills.

This publication provides a basic analysis of data collected through the European Training Foundation's *Key Indicators* project. Access to and participation in vocational education and training as well as spending patterns on such programmes are reviewed in Part 1. As the process of enlargement will substantially modify the characteristics of the EU labour market, Part 2 looks at the main aspects of national labour markets. As a step towards improving the quality of the data collection process, some issues related to measurement are also covered in this publication.

The indicators presented in this report are collected by the European Training Foundation on a regular basis through the National Observatory network.<sup>1</sup>

All the partner countries are taking steps to improve the process of data collection and analysis. There is an increasing need for refined indicators, which reflect and monitor recent trends in vocational education and training. The Foundation will continue to support the partner countries in the field of data collection, to assist them in identifying and filling data gaps and to make better use of the international comparative analysis for informing the debate on vocational education and training.

*Access to and participation in vocational education and training as well as spending patterns on such programmes and the main aspects of national labour markets are presented. Some issues related to measurement are also covered in this publication.*

*The data collected through the National Observatory network were supplemented by those collected by Eurostat and OECD as...*

*... there is an increasing need for refined indicators which reflect and monitor recent trends in VET.*

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<sup>1</sup> The National Observatories are a network of observatories for analysis of labour markets and training reform in the partner countries.



# Part 1

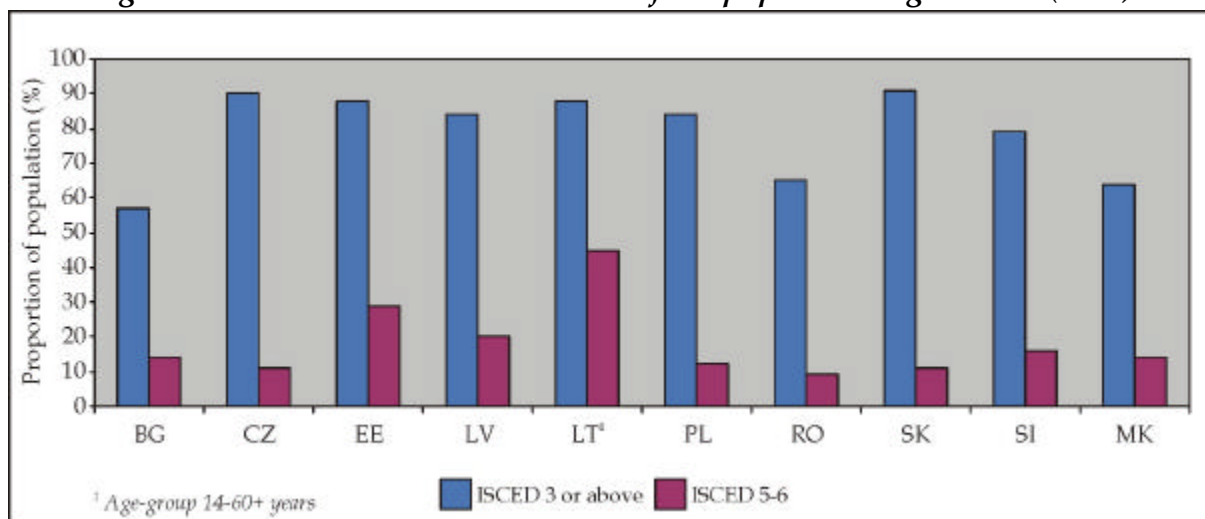
All CEECs are undergoing a process of economic and societal reform in which a greater emphasis is now put on education and training. An increasing value is therefore given to human capital. Part 1 looks at participation in secondary education and levels of educational attainment in the adult population. It also presents basic information on the allocation of financial resources to education in CEECs.

*This part looks at participation in secondary education.*

Growing diversity in educational provision has been one of the policy responses to increasingly variable demands for skills. One important aspect of managing the development of education systems is to ensure that all sections of the population benefit and that disparities are reduced. Changes in participation rates and attainment levels of the population provide a picture of how countries have responded to increasing demands for education and training. Today, in almost all CEECs, an increasing number of young people are studying until the age of 20 to acquire either a general or a vocational qualification at upper secondary level. Participation rates remain high in CEECs for 16 year olds but start to tail off after the end of compulsory education.

*In almost all CEECs, an increasing number of young people are studying until the age of 20.*

**Figure 1.1 Educational attainment of the population aged 15-64 (2000)**

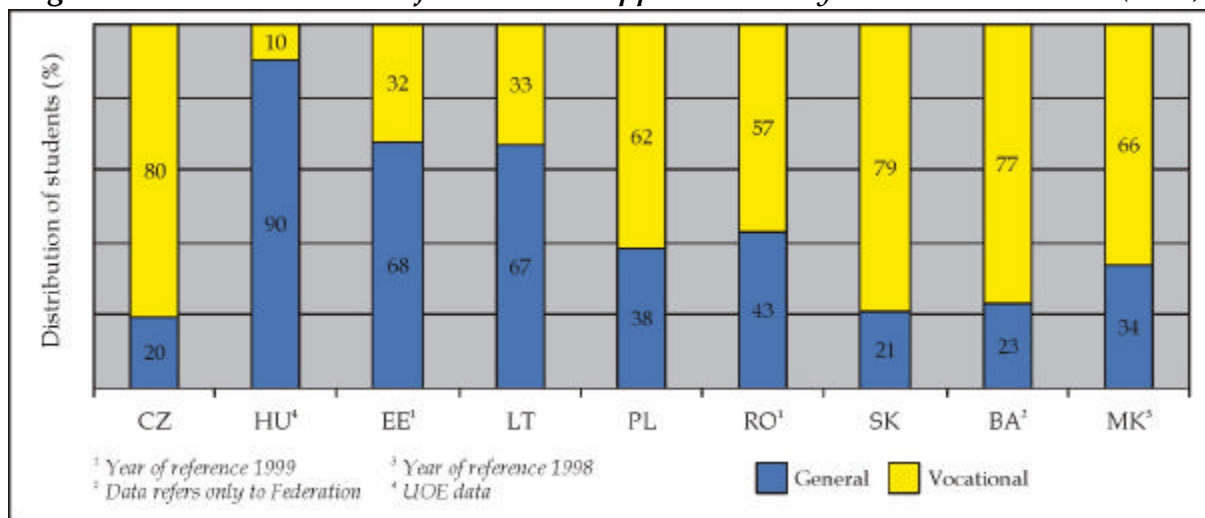


Source: ETF Key Indicators database

The distribution between general and vocational students has been stable since 1995 for countries like Slovak Republic, Poland or Romania in which more than 60% of the students are enrolled in vocational programmes. In many CEECs, in the last few years there has been a marked shift away from lower level vocational programmes towards programmes in secondary vocational and grammar schools leading to matura-type qualifications.

*In the last few years the distribution of students in many CEECs between general and vocational education has been stable ...*

**Figure 1.2a** *Distribution of students in upper secondary education ISCED 3 (2000)*



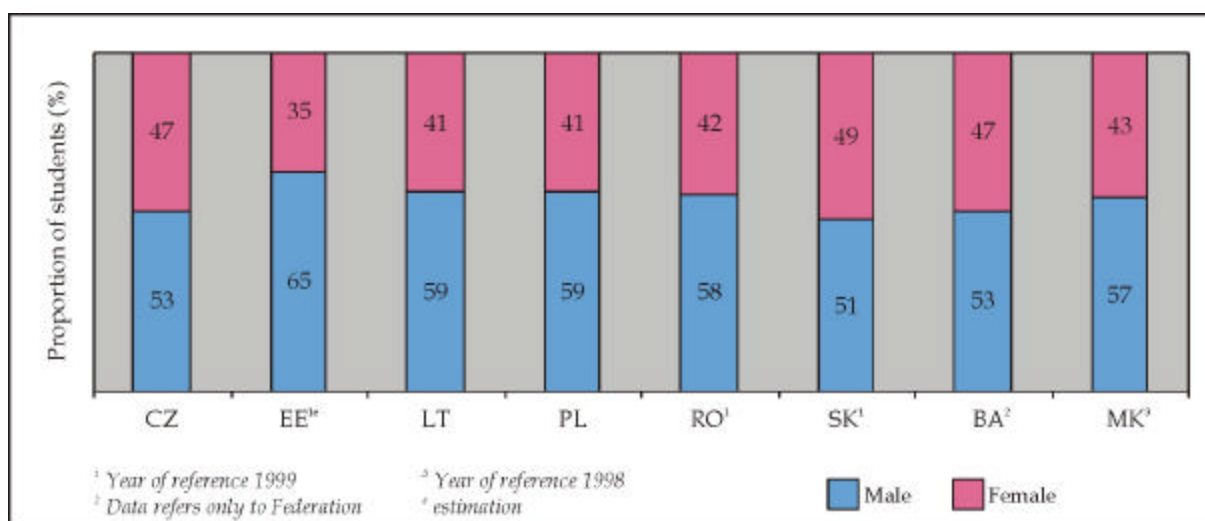
Source: ETF Key Indicators database

*... and there has been an important shift towards programmes leading to mature-type qualifications but...*

*... differences are still likely to exist between the enrolment patterns.*

In many CEECs, despite increases in overall participation and attainment levels, it cannot always be assumed that all groups are benefiting equally or that historical gaps present during the former political regimes are closing sufficiently rapidly. Although the gaps seem to have been reduced in some countries they still exist in others. ETF data also show that differences are still likely to exist in some countries between the enrolment patterns of males and females in vocational education and training.

**Figure 1.2b** *Distribution of students (ISCED 3) in vocational education by gender (2000)*



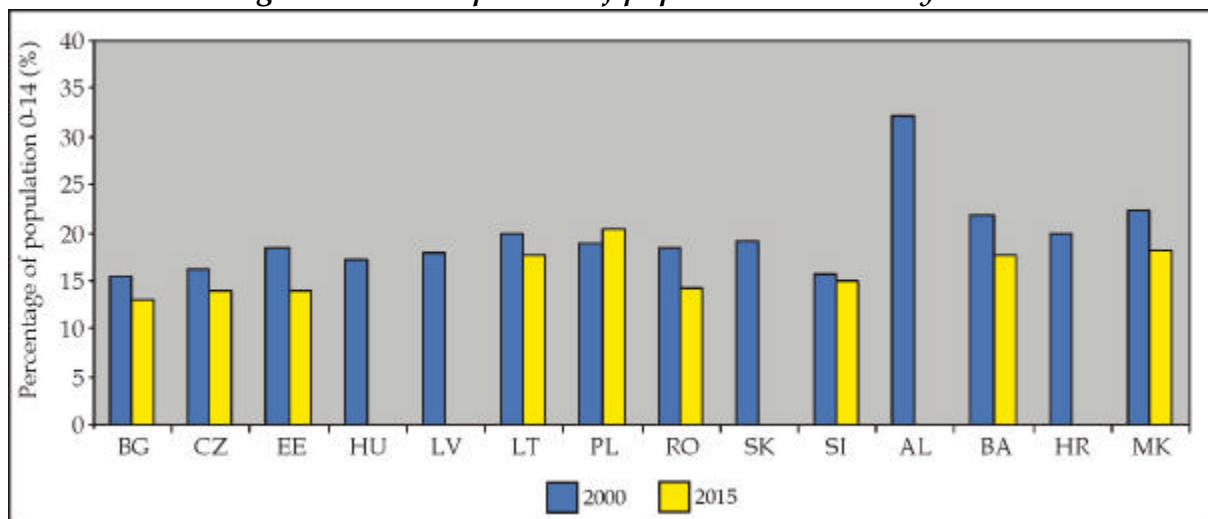
Source: ETF Key Indicators database



Although many CEECs have a young age structure, in almost all countries there has been a decrease in the child population as a result of rapidly declining birth rates. The next few years will offer a window of opportunity for many CEECs to implement policy and practice reforms in education as reduced cohort ease the demand for school places and allow access and quality issues to be addressed more easily.

*There will be a window of opportunity for many CEECs to implement reforms in education.*

**Figure 1.3** Proportion of population under 15 years

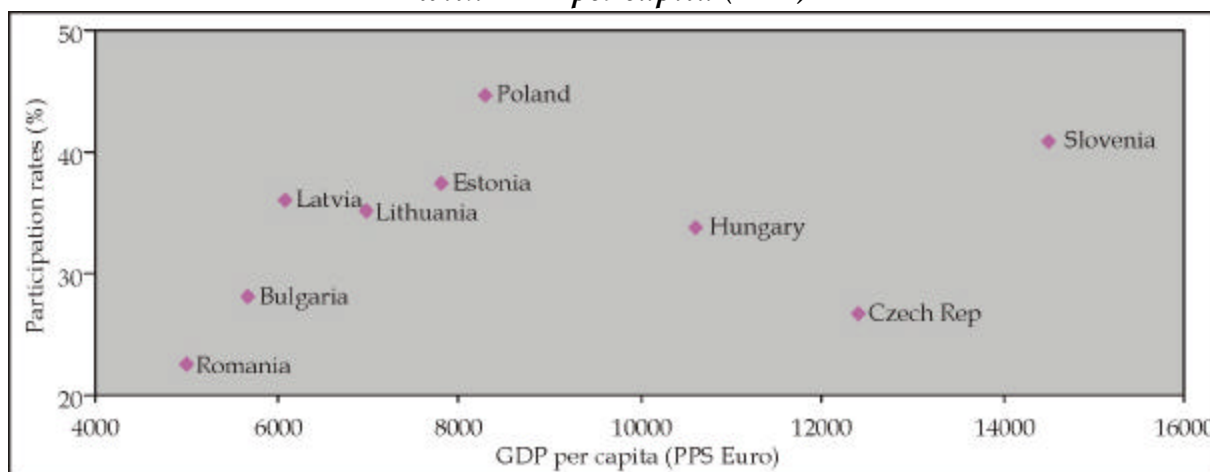


Source: ETF Key Indicators database

A very important issue for most CEECs is the allocation of resources for education and training. When governments decide on their education budgets they must make choices between different educational priorities and their associated costs. If education costs are to be judged accurately, the data on finance, teachers and students need to be considered in combination rather than in isolation. Within limited education budgets, governments must make difficult decisions on how to invest their resources. The relationship between the GDP per capita and participation rates is shown below.

*Data on finance, teachers and students need to be considered in combination rather than in isolation.*

**Figure 1.4** Participation in education and training (18-24 year olds) compared with GDP per capita (1999)



Source: Eurostat

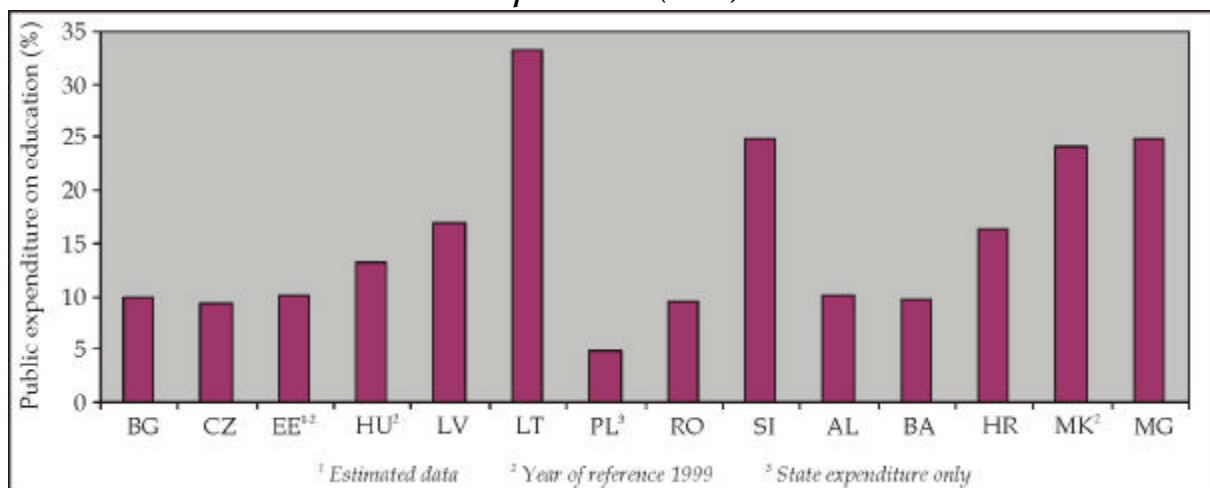
*The relationship between the participation rates in education and GDP per capita is more varied between CEECs*

*CEECs allocate between 4% and 7% of GDP to education and ...*

The issue of resource allocation for education needs to be seen in a broader context. CEECs unable to match increases in participation especially at the post-secondary levels with increases in resources will be faced with difficult choices as to how to adjust the educational services provided so as to meet the demands of a larger student population.

Public spending on education as a percentage of GDP is often seen as the commitment which governments make to the provision of education. According to ETF data, CEECs allocate a percentage of GDP for educational expenditure ranging from 7% in Estonia to less than 4% in Romania. A better measure of governments' commitment to education is the proportion of total public expenditure devoted to education. Some countries allocate a high percentage as is the case in Lithuania and Slovenia where public spending on education accounts for more than 25% of total public expenditure.

**Figure 1.5** Public expenditure on education as a percentage of total public expenditure (2000)



Source: ETF Key Indicators database

Although both indicators can offer a picture of a country's financial commitment to education, each of them takes into consideration different factors such as number of students and national wealth. Thus, even though some countries may spend less on education as a proportion of GDP, the percentage of total public expenditure devoted to education may be substantial.

*... even though some countries may spend less on education as a proportion of GDP, the percentage of total public expenditure on education may be substantial.*

Comparisons of how countries allocate financial resources between various categories of expenditure (e.g. salaries, teaching materials and equipment, etc.) can also provide some insight into variations in the organisation of an education system. As teacher salaries are the largest single component of educational expenditure (typically 70% or more of the total), the remuneration of teachers is a critical factor for policy-makers seeking to maintain both the quality of teaching and a balanced education budget.

### ***Better measures of teacher compensation***

In all CEECs teachers' salaries and allowances are the largest single components in the overall cost of providing vocational education and training. The level of teachers' compensation can affect the entry of new teachers into the profession, the motivation of teachers in their jobs and the retention of current teachers. The fact that many elements influence teacher remuneration and the teaching environment means that it is not easy to make international comparisons of teachers' salaries. One possibility, although not so far used by ETF, is to compare information on "statutory" salaries. These are the salaries, which accord with the national or official pay scales for teachers in, usually, public institutions.

*Many elements can influence teacher remuneration and the teaching environment.*

The structure of compensation packages differs from one country to another. Gross salaries are the principle element of the total remuneration received by teachers but additional benefits may include a wide variety of monetary allowances or other forms of recompense. For example, in some countries teachers may receive bonuses on top of their gross salaries, monetary incentives for working in difficult circumstances or allowances according to the teachers' family status. Salary comparisons are also affected by differences in the salary scales used by governments to pay the teachers they employ. There is usually a difference between the starting salaries of newly qualified teachers entering the profession for the first time and those who have a number of years of experience.

*It is not easy to make international comparisons of teachers' salaries.*

*Full-time equivalent (FTE) can offer a better measure of teachers' workload.*

The profile of teachers is not entirely consistent across different countries and problems associated with using head counts of teachers may arise depending on the prevalence of part-time employment amongst the teaching force. Individuals who are employed to work for fewer than the statutory working hours required of a full-time employee are usually regarded as part-time teachers. A possible solution is to compare full-time equivalent (FTE) numbers of teachers instead. In this way, teachers are counted by expressing the workload of part-time teachers as a proportion of the workload of full-time teachers. For example, a part-timer who works half the statutory hours of a full-time teacher is "equivalent" to half a full-time teacher or 0.5 FTE. There are comparatively large numbers of part-time teachers in countries like Latvia, Slovenia or Slovak Republic where they make up over 20% of the teachers in secondary education. As a common pattern, in many CEECs part-time teachers are found mainly in upper secondary and tertiary education, with the exception of Latvia where the proportion of part-time teachers is higher in primary education.

*Student-teacher ratio remains a very important indicator but ...*

Student-teacher ratios based on head counts can also often be misleading whereas when FTEs are used, a more comparable indication of the teaching conditions can be obtained. Differences in student-teacher ratios between levels of education or for different educational pathways may indicate differences in the priority given to particular levels of education but they may also reflect delays in matching the teaching force to changing student populations.

**Table 1.1 Student-teacher ratio (based on head counts) in general and vocational education (2000)**

Country	Student-teacher ratio based on head counts		
	ISCED 3	ISCED 3 general	ISCED 3 vocational
Czech Republic	14.7	12.7	13.3
Estonia	10.9	10.7	9.7
Hungary <sup>4</sup>	14.7	x	x
Latvia	8.9	x	x
Lithuania	13.7	x	x
Poland <sup>2</sup>	18.1	20.3	17.1
Romania <sup>2</sup>	14.4	15.3	13.9
Slovak Republic	14.1	13.7	14.2
Albania	18.1	19.8	12.0
Bosnia and Herzegovina <sup>3</sup>	9.2	x	x
Macedonia, FYR <sup>1</sup>	14.8	15	14.8
Montenegro	13	x	x

Source: ETF Key Indicators database

1. Year of reference 1998 - 2. Including ISCED 4 - 3. Federation only - 4. UOE

By the same token the student-teacher ratio is one of the most often misinterpreted indicators. When used to assess the teaching conditions, it does not accurately reflect class size, the variable that offers a broader image of teaching conditions and which often influences broader education financing policies. On the one hand, larger class sizes may result in lower teacher costs per student – a factor that cannot usually be ignored by education planners. However, on the other hand, the costs associated with increasing class sizes must be weighed against other policy goals such as: increasing the quality of education, competitive salaries for teachers, investment in school infrastructure, equipment and supplies.

*... class size often influences broader education financing policies.*

The transition from school to work has become a main policy focus especially in relation to the reform of vocational education and training systems in most CEECs. One reason why people pursue higher levels of education is the anticipated benefits in the labour market, not only in terms of the types of job for which they will be qualified, but also in terms of the ability to find employment, remain employed and earn higher salaries. Part 2 looks at the main labour market indicators in relation to educational attainment.

## Part 2

The proposed enlargement process of the European Union will have a significant impact on the characteristics of labour markets in CEECs. One of the most important objectives within the enlargement process is to seek to monitor the labour market on a regular basis and within a common EU framework.

More comprehensive and reliable measures of labour market issues are required in order to portray the trends in the CEECs on a comparative basis. Even though national Labour Force Surveys have only been introduced within the last few years, in many Future Member States (FMS) they have already become one of the main instruments for monitoring developments in national labour markets. While all FMS have made substantial progress towards adopting the mandatory standards, concepts and definitions required by the European Labour Force Survey their full implementation is still far from complete in many countries.

*LFS have already become one of the main instruments for monitoring developments in national labour markets in many CEECs.*

Labour Force Surveys (LFS) are designed to meet a specific demand for good quality, reliable employment data across the national economy. Due to their inherent flexibility, the national Surveys can easily be harmonised in terms of content, concepts, definitions, data processing and analysis. But what sort of information can be gathered through an LFS?

*A number of statistics and indicators can be derived from the LFS.*

The central feature in all LFS is the classification of people aged 15 or over according to their labour status (i.e. employed, unemployed or inactive). A number of statistics and indicators can be derived from age and labour market status: working age population, labour force activity rates, employment and unemployment rates. In addition, a number of concepts relating to specific conditions of employment, unemployment or inactivity can be also measured (e.g. long-term or youth unemployment, duration of unemployment, the number of hours usually worked per week)

### ***The implementation of the Labour Force Surveys in FMSs***

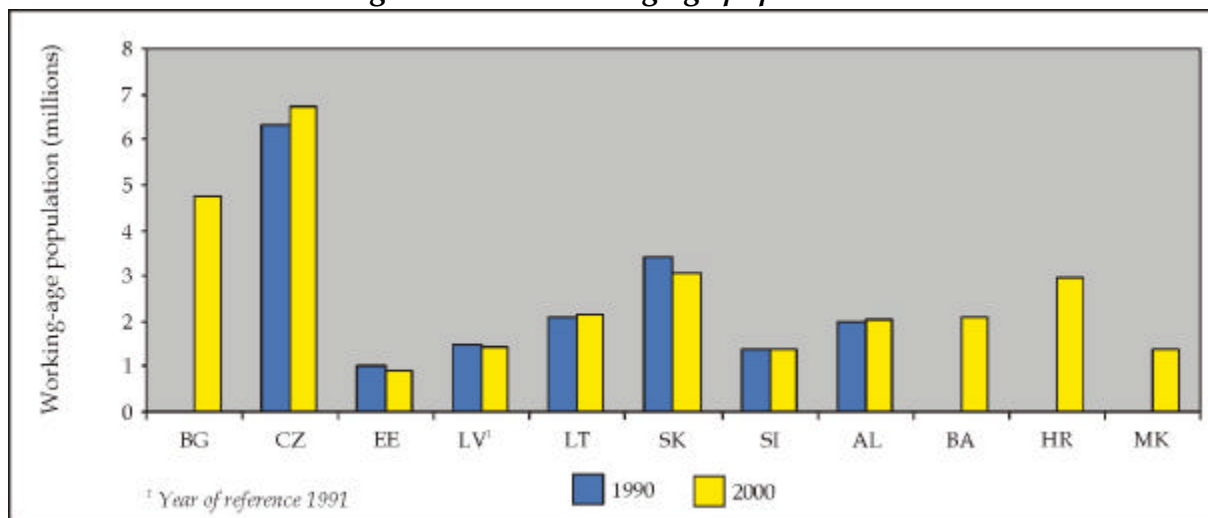
One of the problems faced by countries is the coverage of the survey. The LFS is intended to cover the whole resident population in a country regardless of age or type of household in which they live (although results are usually only produced for the population aged 15 and over living in private households). However, in several countries the persons living in collective households are counted through their private household of origin. In such cases, they often cannot be identified separately from those living in private households due to the lack of corresponding questions or response categories and hence cannot be excluded from the key results. In some countries, persons in compulsory military or community service, who should normally be excluded from the LFS results, are in fact excluded entirely from the survey.

There are several problems related to the age group of respondents. For example, in countries like Bulgaria or Poland, the LFS does not cover the under 15 population while in Estonia the age limit (15) is defined as of 1 January rather than the EU standard, which should be the last day of the reference or survey week. For some countries there are inconsistencies due to the use of different age limits for the respondents. There are substantial data gaps mainly regarding data about people in education and training or the number of hours usually worked.

Demographic changes have a continuing impact on key employment statistics. The slowdown in population growth over the last years is a common trend in many CEECs except Slovakia and Slovenia. Between 1990 and 1999 only Cyprus and Malta reported a fairly substantial increase in the total population (crude rate of natural increase), while in Poland and Slovakia a slight increase was noted. Turkey has by far the largest crude rate of natural increase of all FMS. Even excluding Turkey, according to recent estimations<sup>2</sup>, the effect of enlarging the EU by 12 countries will lead to a 28% increase in the total EU population (to more than 480 million inhabitants).

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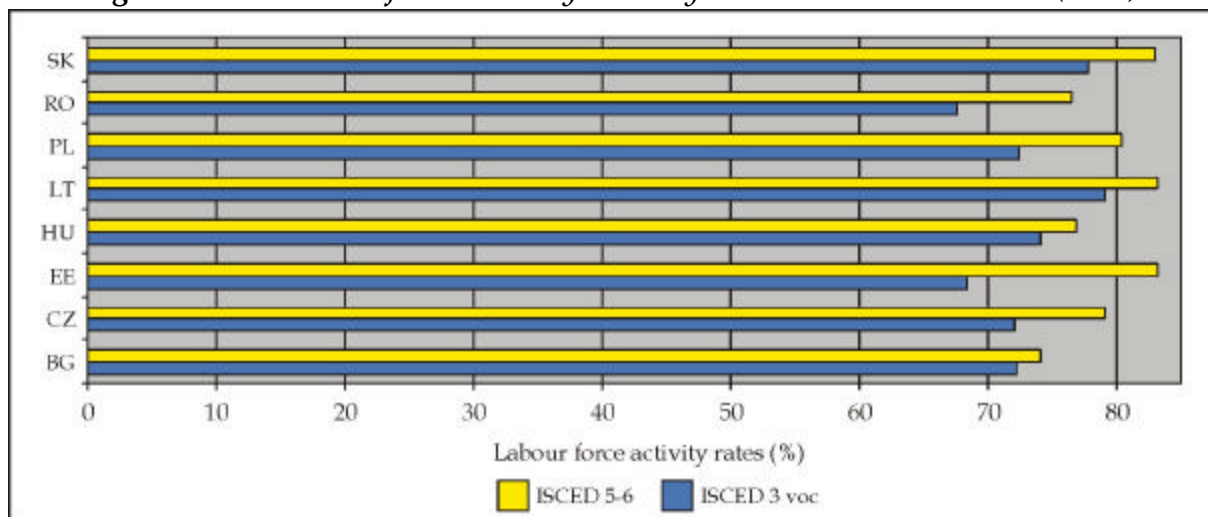
<sup>2</sup> Eurostat - Statistics in Focus (Theme 3, number 12/2001) - Demographic consequences for the EU of the accession of twelve candidate countries

**Figure 2.1 Working age population**

Source: ETF Key Indicators database

Labour force participation (or activity) rates are one of the most important labour market indicators. In almost all CEECs, activity rates have fallen in the last few years. The patterns of labour force participation are different in many CEECs. Labour force activity rates rise with increasing levels of education but they do so much more for women than for men. As a result of staying longer in school and higher participation rates in education a marked decrease in the activity rate can be observed for young people (the under 20's). In the Czech Republic, for this age group, between 1994 and 2000 the activity rate went down from 35% to 15%.

*Labour force activity rates rise with increasing levels of education.*

**Figure 2.2 Labour force activity rates by educational attainment (2000)**

Source: ETF Key Indicators database

According to ETF data, in 2000 the unemployment rate remained high in countries like Poland, Slovakia and Bulgaria, was stable in the Czech Republic and even fell in Hungary and Slovenia. Apart from these official unemployment rates, what sort of information is usually available to characterise unemployment?

### *Registered versus survey data*

The information gathered from national Labour Force Surveys ensures that analyses are based on standardised sources, providing a consistent and comparable set of data. However, there are certain limits to the use of LFS for specific regional or sectoral analyses or to monitor trends over a short period of time.

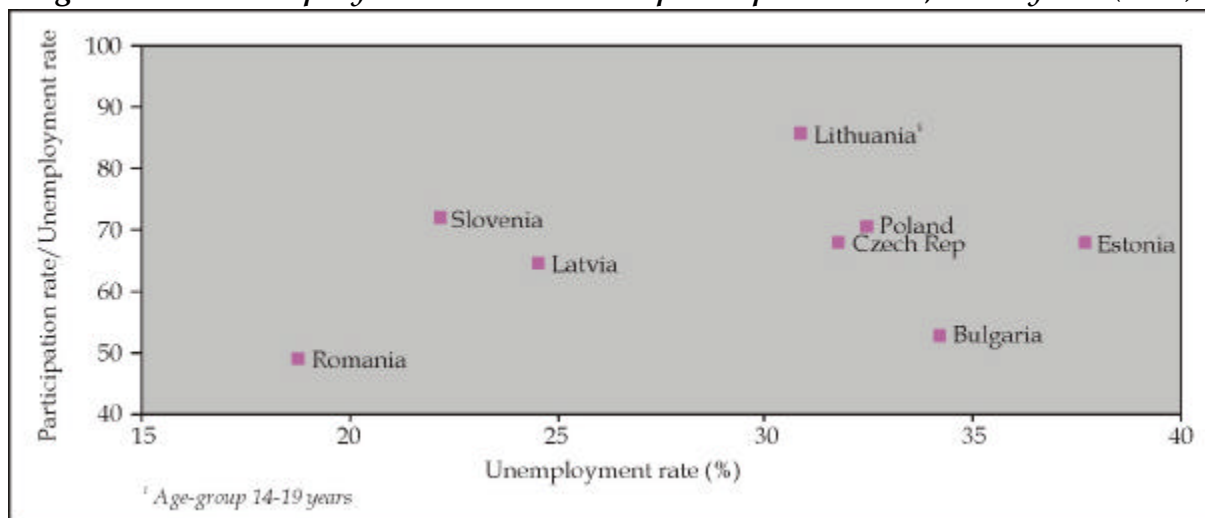
The differences in reporting practices often lead to problems with employment indicators at both national and international levels. In nearly all countries, including CEECs, information on registered unemployed persons usually held by public employment offices differs in coverage and definition from those used in LFSs.

As a result of differences between national laws governing the entitlement of job-seekers to benefits and other assistance (which normally form the basis for defining the coverage and definition of the registered unemployed) it is difficult to harmonise the two measures of the unemployed. As a result the figures for a given country can differ considerably. For example in 2000, the unemployment rate in Romania was 7.1% according to LFS data while the registered data showed a much larger rate (10.5%). While the definition applied to this indicator is the same in the Labour Force Surveys of all FMS, the figures on registered unemployment are rarely comparable between countries, depending on the different regulations used in each country.

*Data on registered unemployment are rarely comparable between countries.*

ETF unemployment data by age group tends to show differences between CEECs. The relationship between the unemployment rate and the participation rate in education can be seen in the following figure.



**Figure 2.3 Unemployment and education participation rates, 15-19 years (1999)**

Source: ETF Key Indicators database

The relationship between unemployment and participation in education and training is more varied between CEECs. For example, in countries like Romania although the participation rate in education is low, the unemployment rate for the 15-19 age group is also low. A better measure of the economic benefits of education completion is the relationship between unemployment and the level of education.

*The relationship between unemployment rates and participation rates in education is more varied between CEECs.*

The process of enlargement will modify the composition and characteristics of the EU labour market. Comparisons between the FMS and the EU are needed to illustrate how these countries are performing. But how can we deal with the information available?

### **Regional and international averages**

Often provided as a benchmark, international averages can easily be misinterpreted due to the fact that different approaches are often taken as a basis for comparison. For example, in many OECD publications two types of average are computed. The first is the **unweighted mean** of all data values for a particular group of countries for which data are gathered or estimated. Each country in the group contributes equally to the average and the purpose of this indicator is to illustrate how an indicator value for a country compares with the value of a typical or average country.

*International averages can easily be misinterpreted due to the fact that different approaches are often taken as a basis for comparison.*

The other average is the **weighted mean** of the data values of all OECD countries (i.e. for which a value can be assigned to a certain indicator, either through a direct observation process or by estimation). This indicator is often used to compare finance data (e.g. expenditure per student or as a percentage of GDP) to analyse the spending patterns in one country as against the group of countries where the latter is regarded as a single entity.

However, one problem with weighted averages is that the extreme values or extreme weights can have a substantial effect on the value of the indicator constructed for a group of countries. For example, in Romania certain labour market developments in recent years have been unique among the FMSs. A decline in urban employment accompanied by substantial job growth in agriculture has led to rather higher and more stable employment and activity rates and lower unemployment rates. If we calculate a regional average and exclude Romania, there will be a marked difference given both Romania's relatively large contribution to the total population of the FMSs and the extreme values of these indicators. Given the employment rate of Romania in 2000 (64.2%), for the remaining countries the employment and activity rates are somewhat lower (57% and 66% respectively).

*This report shows that comparative analysis could be a useful instrument for informing the debate.*

While it is difficult to assess the effectiveness of the different policy options on a common basis, the information presented in this report shows that comparative analysis could be a useful instrument for informing the debate. To advance the debate further, reliable and relevant information of good quality is needed. The provision of data, therefore, remains one of the most important objectives for the ETF *Key Indicators* project.