

**OECD Reviews of Vocational
Education and Training**

A Learning for Jobs Review of Hungary

Viktória Kis, Maria Luisa Ferreira, Simon Field and Thomas Zwick



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and Thomas Zwick



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Summary: strengths, challenges and recommendations

This review of vocational education and training (VET) in Hungary is part of “Learning for Jobs”, an OECD programme of analytical work and individual country reviews designed to help countries make their VET systems more responsive to labour market needs. It presents the main challenges faced by the Hungarian VET system and proposes an interconnected package of five policy recommendations. These are presented in terms of the challenge, the recommendation, supporting arguments and suggestions for implementation.

Strengths of the Hungarian VET system

- Since the end of communism in 1989, Hungary has made significant efforts to restructure its VET system so as to face the challenges of the market economy. It has implemented major reforms to improve the ability of VET to meet labour market needs.
- The training levy provides a significant and reliable source of funds for VET and played a particularly crucial role during the transition years.
- The Hungarian VET system can rely on a strong national qualifications framework.
- The number of 15-to-19- year-olds is set to decline sharply; this presents both an opportunity and a challenge for the Hungarian VET system.
- Policy makers’ strong commitment to reform shows Hungary’s will to act in order to address the challenges faced by VET.
- In the medium term, Hungary’s GDP per capita is expected to converge to the EU average (ECB, 2008), and its economy is expected to grow by around 4% (Havlik and Holzner, 2008), even though the current economic context is difficult owing to pressures on public finances and a low growth rate.

Challenges

- The current VET system is strongly school-based with relatively few links to the labour market.
- The Hungarian school system’s early tracking and multiple selection mechanisms potentially raise problems of both efficiency and equity.
- The data available are insufficient in several important respects, such as the labour market outcomes of different VET programmes, the various funding sources of VET and the use of funds from the training levy.

- Many trainers are approaching retirement and there are few young trainers.
- VET has relatively low status and many students are oriented to VET because of poor academic performance.
- Hungary's employment rate is low by international standards. Compared to other European countries, the economic inactivity rate of young people is particularly high.

Recommendations

1. We recommend standardisation of the transition to all types of secondary school after the 9th grade, rather than the 8th grade, as is common at present. To reflect the transition in the curriculum of vocational training schools, we also recommend starting practical training in the 10th grade rather than in the 11th grade as at present. These two elements are linked and should be implemented as a package.
2. Information on the labour market outcomes of VET should be collected and published on a school and programme basis. In order to collect relevant data, we recommend piloting a survey of students leaving VET programmes.
3. Adequately prepared advisers should provide systematic career guidance in all elementary schools on the range of secondary level programmes available and their respective outcomes. Students in vocational training and vocational secondary schools should receive comprehensive, impartial and reliable information on all the occupations available to them.
4. All VET programmes should provide a substantial amount of practical training in the workplace or in an environment closely related to a workplace.
5. The government should regularly publish information about the rules of the levy in a form comprehensible to employers. It should also collect and publish data about the total sum collected through the levy, its allocation to different functions and their respective outcomes. This would provide an essential basis for reviewing the operations of the levy.

Chapter 1

Introduction

This chapter describes the OECD policy review of VET and the review in Hungary, summarises the main features of the Hungarian VET system in upper secondary schools and assesses its strengths and challenges.

1.1 The OECD policy review of Hungary

This is one of a series of reviews of vocational education and training (VET) in OECD countries (see Box 1.1). The terms of reference can be found in Annex A1.

Box 1.1 Learning for jobs: the OECD policy study of vocational education and training

This study seeks to help countries increase the responsiveness of VET systems to labour market requirements. It aims to improve the evidence base, identify a set of policy options, and develop tools to appraise VET policy initiatives.

A programme of analytical work draws on evidence from all OECD countries. It includes an international questionnaire on VET systems, reviews of previous OECD studies and the academic literature on topics such as costs and benefits of VET, indicators to assess the quality of VET provision and analysis of labour market outcomes based on statistical data from labour force surveys and PISA (the OECD's Programme on International Student Assessment).

Country policy reviews that provide country-specific policy recommendations will be carried out for Sweden, the United Kingdom (England and Wales), Hungary, Australia, Norway, Mexico, Korea and Switzerland between the end of 2007 and the end of 2008.

The results of both the analytical work and the country reviews will feed into the initial comparative report which will be available on the OECD website in 2009.

A second phase of this work, with further country reviews in Austria, Belgium (Flanders), the Czech Republic, Germany, Ireland and the United States (South Carolina and Texas), will take place in 2009 and 2010. The final comparative report, drawing together all the conclusions of the study will be published in 2010.

The website for the activity is www.oecd.org/edu/learningforjobs.

The review of Hungary follows a standard methodology. At the outset, the Hungarian authorities were invited to complete a detailed questionnaire. Equipped with the questionnaire responses and other background information, two members of the OECD Secretariat went to Hungary on 22-25 January 2008 for an initial fact-finding visit to assemble information about the characteristics of VET and, within the terms of reference, to identify the main policy challenges. This initial research provided the basis for a return visit. The same team, joined by two international experts (see Annex A2 for biographical details) conducted further interviews in different parts of Hungary on 10-14 March 2008 (see Annex A3 for the programme of visits) in order to develop policy recommendations. This review presents the recommendations along with the supporting analysis and data.

This review deals with a deliberately limited set of issues. These were first defined by the terms of reference agreed upon with the Hungarian authorities, and, within the terms of reference, limited to issues on which the OECD reviewers could draw on international experience or could otherwise usefully add value to the domestic policy debate.

The focus of this review is on upper secondary and post-secondary VET (ISCED 3 and 4, but excluding VET programmes requiring only completed 8 grades). The bulk of publicly funded VET in Hungary is concentrated at these levels, which enrol 78% of all students in initial (full-time and school-based) VET (OECD, 2008). There are also programmes for those who do not complete lower secondary education and programmes requiring completed lower secondary education. VET is also expanding at the tertiary

level. Recommendations 1, 3 and 4 apply only to secondary and post-secondary VET, while recommendations 2 and 5 apply to the entire VET system.

1.2 The structure of the report

This chapter places the Hungarian review in the context of the OECD policy review of VET, outlines the structure of the report, describes the main features of the Hungarian upper secondary VET system, and examines its strengths and challenges. Chapter 2 offers policy recommendations.

Each policy recommendation is set out as:

- *The challenge* – the problem that gives rise to the recommendation.
- *The recommendation* – the text of the recommendation.
- *The supporting arguments* – the evidence that supports the recommendation.
- *Implementation* – suggested means of implementing the recommendation, for example with an initial pilot, which is then evaluated taking account of the need to engage key stakeholder groups.

1.3 A snapshot of secondary school VET in Hungary

Types of secondary education

Typically, at the end of elementary school (which combines primary and lower secondary education and enrolls students up to age 14) students are directed to one of three types of upper secondary education: one academic track and two vocational tracks (see Annex B).

Gymnasiums (*gimnázium*) offer four years of general education (though some institutions include earlier grades and offer six or eight years) and prepare students for the *maturata*, the secondary school leaving certificate required for entry into tertiary education.

Vocational secondary schools (*szakközépiskola*) provide four years of general education¹ (referred to as “general grades”) and also prepare students for the *maturata*. Unlike gymnasiums, these schools combine general education with some specific subjects, referred to as “pre-vocational education” and “career orientation”. Students obtain the *maturata*, rather than a vocational qualification, at the end of the four years. At that point many students enrol in a post-secondary VET programme (one to three years), often at the same institution, to obtain a vocational qualification, although they may also seek entry to tertiary education.

Vocational training schools (*szakiskola*) provide two years of general education, combined with some “pre-vocational education” and “career orientation”, followed by two or three years of vocational education and training. Students do not obtain the

1. Recently, an increasing number of vocational secondary schools have been offering an extra grade involving foreign language preparation, extending the length of the programme to five years.

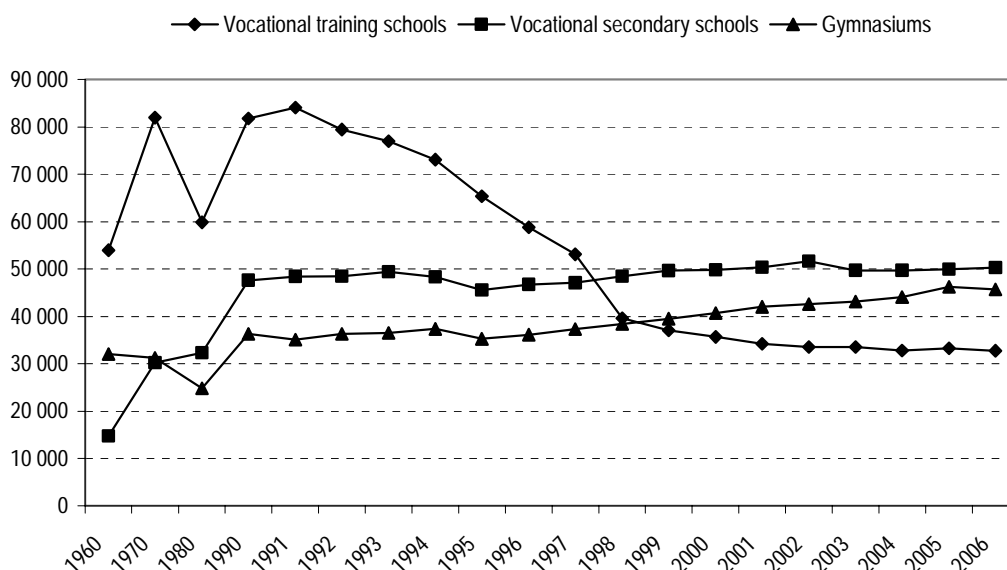
maturata but a vocational qualification at the end of a successfully completed programme.

When applying to a vocational training or vocational secondary school, students choose an occupational group² (e.g. construction, care). During the initial general grades (9th and 10th grades in vocational training schools, 9th to 12th grades in vocational secondary schools) they take “pre-vocational subjects” and career orientation classes in their chosen field. After the general grades, students choose an occupation in the occupational group (e.g. construction may offer a choice between bricklayer and painter). This stage may also involve some internal selection and tracking based on the student’s educational attainment at the school (Liskó, 2003).

Over the past 15 years, demand for vocational training schools, both from the labour market and among students, has declined while it has increased for upper secondary schools delivering the *maturata* (Imre and Györgyi, 2007) (see Figure 1.1).

Figure 1.1. Number of 9th grade students

Upper secondary programmes, full-time education



Source: Hungarian Ministry of Education (2007), *Statistical Yearbook of Education 2006/2007*, Ministry of Education, Budapest.

Provision of practical training

Traditionally, VET in Hungary was industry-based, with most practical training provided on the job. However, in the years following the fall of communism and the

2. “An occupational group involves vocational qualifications based on the same technological processes and activities but differing according to the division of labour and the level of technical development, therefore they have a part in common in their training programme.” (Köpeczi Bócz and Bükki, 2006b, p. 15). For the list of occupational groups in the National Vocational Qualifications Register see Table C.9 in Annex C.

ensuing closure of many state-owned companies, more than half of the on-the-job training capacity disappeared. Schools then set up workshops to provide practical training. Current education policies encourage all stakeholders to organise practical training so that a first phase focused on basic skills is provided in a school-based workshop; it is then followed in later grades by training at a workplace to develop specialised skills (Hungarian Ministry of Labour and Social Affairs, 2008).

If practical training is provided at a workplace, it can take place in the form either of an apprenticeship contract or of a co-operation agreement. Apprenticeship contracts are concluded between a student and a firm, under the supervision of a representative of the relevant local chamber of economy. Apprentices receive an emolument, which amounts to at least 20% of the minimum wage in the first year and is increased subsequently depending on their performance.

Co-operation agreements are concluded between a school and a firm. This form of practical training is only possible if the practical training takes place in a public institution (*költségvetési szerv*), in a training workshop operated by several firms (*üzemközi tanműhely*), or if the organiser of the practical training is the school and only the continuous practical training takes place at the firm. Students may only be trained under a co-operation agreement if they spend less than 50% of their practical training time at the firm.

Administration and financing

The Hungarian education system is highly decentralised. “School maintainers” are in charge of various tasks, such as allocation of funding, approval of pedagogical programmes and evaluation. A majority (56%) of full-time upper secondary students are enrolled in schools maintained by municipalities, 25% are in schools maintained by the county or Budapest, 7% by a church, 7% by a foundation, and 3% by a central budgetary body (Hungarian Ministry of Education, 2007).

Recent developments in the administration of VET include the creation of regional integrated VET centres (*Térségi Integrált Szakképző Központ*), or TISZKs, which bring together several VET institutions in order to better co-ordinate VET provision and improve efficiency. The co-ordination of VET provision at the regional level is also expected to be enhanced by changes in the composition and the expanded role of regional development and training committees (*Regionális Képzési és Fejlesztési Bizottság*). These committees will decide on the training provided by TISZKs (programmes provided and number of students in each programme) with a view to improving responsiveness to labour market needs.

The main sources of funding of school-based VET in Hungary are:

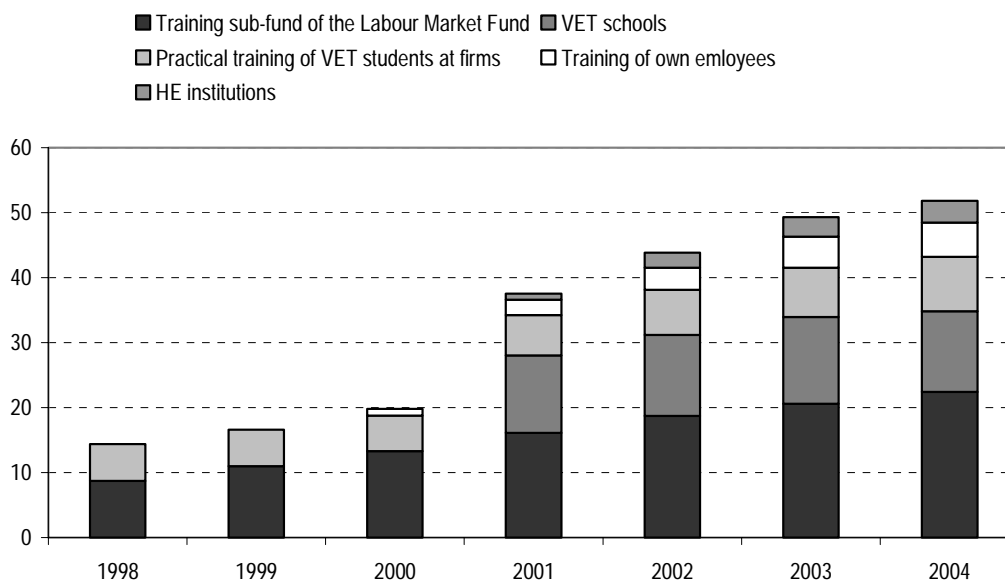
- *Central budget:* Per capita funding from the central government budget (*normatíva*) is allocated to school maintainers and transferred indirectly to schools. Per capita payments vary. In upper secondary education they are higher for vocational tracks and higher for the grades in which practical training is provided. However, per capita funding is not earmarked: school maintainers, which may be responsible for more than one institution, are free to allocate the funds among the institutions as they wish.
- *School maintainer:* School maintainers (see above) may provide additional support to schools from their own resources.

- *Payroll levy*: Employers are required to pay a compulsory “VET contribution” (*szakképzési hozzájárulás*) which amounts to 1.5% of their payroll (see further details below). This levy accounts for almost one-third of total national expenditure on school-based VET (Hungarian Ministry of Labour and Social Affairs, 2008).

Enterprises can allocate their contribution to the training levy in different ways. They may opt to provide practical training for VET students and set the costs against up to 100% of their contribution; they may offer direct support to VET institutions for development purposes (up to 70% for secondary institutions and 35% for tertiary institutions³); they may provide training for their own employees (up to 33% or 60% for small and medium-sized enterprises); or they may transfer their contribution (up to 100%) to the Labour Market Fund. Figure 1.2 illustrates the evolution of the training levy and its allocation.

Figure 1.2. Allocation of the training levy

HUF billions; EUR 1 = HUF 250



Note: The figure indicates how firms have allocated their compulsory contribution to the training levy. The training sub-fund of the Labour Market Fund may subsequently be recycled and spent for a variety of purposes, including training of students in initial or continuing VET.

Source: Hungarian Ministry of Employment and Labour in T. Köpeczi Bócz, and E. Bükki (2006a), *A szakképzés Magyarországon* (Vocational Education and Training in Hungary), CEDEFOP, Tessaloniki, p. 65.

3. As of September 2008 eligibility to development funds from the training levy will be restricted to schools that are members of a TISZK.

1.4 Strengths and challenges of the Hungarian VET system

The Hungarian VET system has many strengths but also faces major challenges.

Strengths

- Since the end of communism in 1989, Hungary has made significant efforts to restructure its VET system so as to face the challenges of the market economy. It has implemented major reforms to improve the ability of VET to meet labour market needs, such as the creation of a National Vocational Qualifications Register in 1993, the extension of general education in vocational secondary schools and the conversion of apprenticeship schools (*szakmunkásképző iskola*) into vocational training schools (*szakiskola*) in 1998, and the introduction of higher-level VET (*felsőfokú szakképzés*) in the same year (Köpeczi Bócz and Bükki, 2006b).
- The training levy, introduced in the early 1970s, provides a significant and reliable source of funds for VET. It played a particularly crucial role during the transition years as other funding sources collapsed or became uncertain.
- The Hungarian VET system can now rely on a strong national qualifications framework, the recently reformed National Vocational Qualifications Register (*Országos Képzési Jegyzék*), which was constructed with the engagement of employers, is consistent throughout the country, and defines competence-based examination requirements for each qualification.
- The number of 15-to-19-year-olds is set to decline sharply; this presents an opportunity, as well as challenge, for the Hungarian VET system (see Figures C.5 and C.6 in Annex C).
- Policy makers' strong commitment to reform shows Hungary's will to act in order to address the challenges faced by VET. This is illustrated by numerous recent initiatives under the Vocational School Development Programme (*Szakiskolai Fejlesztési Program*) and the Human Resources Development Operational Programme of the National Development Plan.
- In the medium term, Hungary's GDP per capita is expected to converge to the EU average (ECB, 2008) and its economy is expected to grow at around 4% (Havlik and Holzner, 2008), although the current economic context is difficult: real GDP growth slowed to 1.3% in 2007 (Eurostat, 2008) and Hungary is under pressure to improve public finances.

Challenges

- The current VET system is strongly school-based, with few links to the labour market. Much VET takes place at schools, and employers have little influence on the mix and number of places.
- The Hungarian school system's early tracking and multiple selection mechanisms potentially raise problems of both efficiency and equity.
- The available data are insufficient in several important respects, such as the labour market outcomes of different VET programmes, the funding sources of

VET, and the use of funds from the training levy. Many employers find the rules governing the training levy obscure.

- Many trainers are approaching retirement and there are few young trainers (see Figure C.6 in Annex C).
- VET has relatively low status, and many students enter VET as a result of poor academic performance rather than by choice.
- In 2006 the labour force participation rate was 62% (one of the lowest among OECD countries) and the unemployment rate was 7.1% (OECD, 2007b). The economic inactivity rate of young people (five years after leaving school) in Hungary is one of the highest in Europe (see Figure C.1 in Annex C). This points to weaknesses in VET and in the transition from school to work.

Chapter 2

Policy recommendations

This chapter sets out five recommendations designed to improve the responsiveness of the Hungarian VET system to labour market needs. These include a recommendation to postpone the age of tracking; to provide better information on the labour market outcomes of VET programmes; to improve the quality of career guidance offered to elementary and secondary students; to expand practical training in the workplace in vocational schools and to provide better information on the training levy.

2.1 Postpone the age of tracking

The challenge

Currently in Hungary, young people enter an academic track or one of two VET tracks: an upper track leading to the *maturata* and a lower VET track leading to a qualification without the *maturata*. This typically occurs at around the age of 14, at the entrance to 9th grade, and relatively early by international standards (see Table 2.1).

Table 2.1. Earliest age at which VET programmes can start

Age	14	15	15-16	16
Country	Austria Belgium Hungary Turkey	Czech Republic Japan Mexico	Australia Ireland Switzerland	Denmark Finland Norway Poland Sweden United Kingdom United States Canada

Note: The earliest age at which it is possible to start a VET programme may be different from the age of tracking (*i.e.* students may be tracked earlier, but the vocational or pre-vocational programme starts at the age indicated), from the age when practical training starts or from the typical starting age of VET programmes (*i.e.* there may be a programme available for 16-year-olds, although most students start VET later).

Source: OECD (1999), *Classifying Educational Programmes. Manual for ISCED-97 Implementation in OECD Countries*, OECD, Paris; OECD (2008) *The OECD International Survey of VET Systems: First Results and Technical Report*, forthcoming.

Early tracking forces many students to make a career choice early in life. Many choose among the three tracks, while weak grades force others into vocational tracks. Students in either of the vocational tracks choose an occupational group (*szakmacsoport*) at the end of the 8th grade. Although the choice of occupational group does not definitively determine the subsequent choice of qualification, it strongly influences it. Subsequent changes in career preference or inappropriate orientation in the selection process may result in high costs for both the individual and the school system.

The tracking is often mirrored in streams in elementary schools: students who are expected to go into the different tracks are streamed into separate groups. This means that some adverse effects of tracking (see below) may affect students even before they are formally separated into different tracks. Early tracking also often removes 15-year-olds from their local elementary school to a larger but more distant secondary school, thereby increasing their travel time.

These disadvantages might be acceptable if tracking yielded three separate well-designed programmes to meet the needs of the three groups. However, the curricula are in fact similar, at least during the first two years of upper secondary education. In particular, practical training is not introduced until the 11th grade in vocational training schools (*szakiskola*), and the 13th grade in vocational secondary schools (*szakközépiskola*). While most school heads regard the extension of general education to the 10th grade as a positive step, many teachers see as a disadvantage of the current

curricular structure of vocational training schools the fact that it does not give students who perform poorly a chance to be successful in more practical subjects (Liskó, 2002b). Many employers and VET teachers reported to the visiting OECD team that in the 9th and 10th grade of vocational training schools students “only learn to do nothing”.

Recommendation 1

We recommend standardisation of the transition to all types of secondary school after the 9th grade, rather than the 8th grade as is common at present. To reflect the transition in the curriculum of vocational training schools we recommend starting practical training in the 10th grade, rather than in the 11th grade as at present. These two elements are linked and should be implemented as a package.

Supporting arguments

This recommendation is supported by four main arguments. First, it would improve the logic of tracking if practical training were introduced as soon as students entered secondary school. Second, it would help students to strengthen their basic skills before starting VET. Third, it would reduce the risks and costs of career changes. Finally, postponing tracking by one year would help limit the adverse equity effects of early tracking.

Improving the logic of tracking

The rationale for separating students into academic and vocational tracks is that the curricula are differentiated to meet the educational needs of different students. For example, practical training is often seen as a powerful way to encourage disaffected students to remain in school. However, in the current Hungarian system, students in the vocational track do not receive practical training until the 11th grade in vocational training schools and the 13th grade in vocational secondary schools. Introducing practical training once students are in the vocational training track (10th grade) would make tracking more meaningful and allow students to benefit from the potential advantages of participation in practical training.

Ensuring strong and comprehensive basic skills

An alternative approach to improving the logic of tracking would be to maintain the current age of tracking and start practical training in the 9th grade. However, a number of arguments suggest that this may not lead to better employment prospects.

Various studies point to the importance of generic, transferable skills and the risks of including too much specific content in the curriculum. Kézdi (2006), in a study on returns to VET in Hungary, shows that specific skills acquired in vocational training schools do not help people to develop new skills later on and that only skills that improve one’s ability to acquire new skills are valuable in the long run. In a study on the Czech Republic, which has an educational system similar to Hungary’s, Munich (2004) argues that the past advantages of vocational schools (*i.e.* preparing students for specific jobs) are becoming disadvantages. It is argued that demand for specific skills is volatile and that advances in technology and the expansion of the services sector require, above all, the ability to adapt to new situations. In Norway, for example, 68% of employees have very high or quite high learning requirements on the job (Nyen, Hagen and Skule, 2004).

A study from the United States (Autor, Levy and Murnane, 2003) suggests that technological change (in particular computerisation) has made problem solving and complex communication skills much more important in the labour market. An increasing number of jobs, including blue-collar jobs, require the ability to solve problems that cannot be solved by applying rules. Complex communication skills, *i.e.* “the ability not only to elicit and transmit information but also [to] convey a particular interpretation of information to others” (p.82), are also increasingly needed. It is argued that schools must raise achievements in mathematics, reading and science because these basic skills are necessary for developing problem-solving and complex communication skills (Levy and Murnane, 2004). More generally, learning – both in initial VET and in lifelong learning – is difficult without sound basic skills. Köllő (2006) argues that “most of the marketable competencies grow out of some *basic skills* closely tied to literacy” (p.9, emphasis in original). Many stakeholders reported to the visiting team that the basic literacy and numeracy skills of vocational training students are poor (see Table 2.2). The extension of general education up to at least the 10th grade in 1998 was expected to help students further develop these skills. However, elementary school teachers may be in a better position to develop literacy and numeracy skills, which are part of their core competencies, than teachers in vocational training schools.

Table 2.2. PISA performance outcomes in Hungary

National programme	Vocational training school	Vocational secondary school	Gymnasium
Mean performance on mathematics scale	421 (level 2)	493 (level 3)	551 (level 4)
(SE)	3.60	3.36	4.94
Mean performance on reading scale	399 (level 1)	492 (level 3)	543 (level 3)
(SE)	5.23	4.21	5.30
Mean performance on science scale	431 (level 2)	507 (level 3)	561 (level 4)
(SE)	3.99	3.52	4.57

Note: There are five proficiency levels in reading and six in science and mathematics. The OECD average performance score was set at 500 when PISA was constructed with a standard deviation of 100.

S.E. - Standard error

Source: PISA 2006 database.

Reducing the risk and costs of career changes

Postponing tracking would give students more time to decide on their career, increase the chances that their decisions would be well-founded, and therefore reduce the costs associated with career changes (see also Section 2.3). Because it is difficult to identify students’ academic potential and fields of interest at an early age, they may be directed to an unsuitable track and/or occupational group as a result of the selection process.

A survey of 12th grade students in Hungary (Liskó, 2004) suggests that those with relatively clear career plans tend to have made their decisions later and have had more time to gather information and seek advice. Vocational training students, who had to make important career decisions at the age of 14 and 16 had the least clear ideas about their future career (see Table 2.3).

Table 2.3. 12th grade students with relatively clear career plans

School type	% of students with relatively clear career plans
Gymnasium (6 or 8 grade)	91.1
Gymnasium (4 grade)	87.5
Vocational secondary school	80.1
Vocational training school	72.0

Source: Liskó, I. (2004), *Perspectives after Secondary School*, Hungarian Institute for Higher Educational Research, Budapest.

Later tracking would also improve career flexibility by making it easier for graduates of vocational training schools to obtain the *maturata* later on. A survey of 12th grade students reports that 43% of vocational training graduates plan to obtain the *maturata* (Liskó, 2004). This currently takes three years, which means that students who attend the vocational training track and then decide to obtain the *maturata* complete their secondary education at age 21 at the earliest. This imposes high costs on both students and the educational system. If tracking was standardised at the end of the 9th grade, the 9th grade curriculum would be the same for all students. This would shorten the time for later acquiring the *maturata* and would reduce the costs to the school system and to the individual (in terms of lost output and earnings while in education).

The adverse equity effects of early tracking

Most empirical studies of OECD countries report no positive impact of early tracking on average performance, but early tracking does appear to increase the impact of socio-economic background on performance (Ammermueller, 2005; Schutz, West and Woessmann, 2007; Hanushek and Woessmann, 2006). Analysis of PISA 2006 data confirms these findings and suggests that early tracking reinforces socio-economic inequalities in learning opportunities (OECD, 2007a). Meghir and Palme (2005) report that in Sweden the move towards comprehensive schooling during the 1940s increased both the educational levels and the earnings of much of the population and particularly benefited students with higher ability and unskilled fathers. Evidence from Switzerland shows that early tracking affects educational mobility and increases the relative advantage of children of better educated parents (Bauer and Riphahn, 2006). In Poland, the postponement of tracking alongside other changes has been associated with significant improvements in both performance and equity (see Box 2.1).

Box 2.1 The reform of the schooling structure in Poland

Poland reformed its schooling structure between PISA 2000 and 2003. It delayed the separation of students into different tracks by one year and made other changes. There was, unsurprisingly, a large decrease in the between-school variance between PISA 2000 and 2003 for science – a result that researchers associated with the fact that the 15-year-olds assessed were no longer separated into different tracks.

A mere redistribution of the performance variance among schools or genuine improvement in learning outcomes?

Poland showed a large rise in average reading performance both between PISA 2000 and PISA 2003 and between PISA 2003 and PISA 2006. In the initial period, most of that increase occurred at the lower end of the performance distribution: it appears that students in the vocational track benefited most from the reform, as the overall proportion of poor performers in the student population (those who scored at Level 1 or below) dropped from 23.3% in PISA 2003 and to 16.1% in PISA 2006.

Is the more integrated school system disadvantageous for better performers?

The results from PISA lend no support to this hypothesis. The proportion of students at the highest two performance levels increased from 25% in PISA 2000 to 29% in PISA 2003 and to 35% in PISA 2006. The results were very similar for mathematics.

Source: OECD (2007a), *PISA 2006 Science Competencies for Tomorrow's World*, OECD, Paris.

An additional year in elementary school may help reduce 9th grade dropouts, because the quality of care may be better than in secondary schools. Liskó (2003) reports that many students who dropped out of secondary education found that their secondary school teachers less caring and more indifferent than their elementary schoolteachers and felt that they could rely on them less for help in solving their problems.

Tracking after the 8th grade also means that the quality of the 9th grade teachers in the three tracks may differ, since teachers of generic subjects are likely to prefer institutions with higher status.

A previous OECD review of equity in education in Hungary (Hoffman *et al.*, 2005) proposed upgrading vocational training schools by integrating them into ordinary long-cycle and general education. It argued that there is little evidence that placing low-performing students in vocational training schools helps to improve their performance. In addition, the number of students in this track is decreasing and dropout rates are high (although recent data are not available, dropout rates in vocational training schools were above 35% in 1998). Postponing the age of tracking by one year may therefore be viewed as a step towards merging the two vocational tracks, as recommended by the earlier report, since all 9th grade students would share the same curriculum. It would avoid segregating poor performers as of the 9th grade and might help reduce dropout at this stage.

To reap the full benefits of later tracking, schools should be encouraged to avoid streaming students according to assumptions (which may be erroneous) about their likely secondary school destinations. Decisions relating to the type of secondary school should be taken in the final year of elementary school and not before.

Implementation

Postponement of tracking plus earlier introduction of practical training would be a good compromise among stakeholders with divergent interests. On the one hand, it may gain the support of employers, who would like VET to start earlier. On the other, it may also gain the support of the educational sector, which would like to extend the duration of general education and provide students with better basic skills before the start of VET.

Standardisation of the transition from lower secondary to upper secondary education after the 9th grade should be systematic rather than optional: all elementary schools should provide a 9th grade and upper secondary institutions should provide three-year programmes (10th to 12th grade) rather than four-year programmes. Making this an option would be of little value or even detrimental: the best performing 8th graders in elementary schools would be likely to opt for transition after the 8th grade and the 9th grades offered by elementary schools would likely be perceived as of lower quality than those offered by secondary institutions. Further differentiation of a school system that is already highly differentiated by international standards should be avoided.

Demographic trends should favour implementation of this reform: because the number of students enrolled in elementary schools is decreasing (see Figures C.5 and C.6 in Annex C), this will help create sufficient capacity in elementary schools to accommodate 9th grade students.

The reform of the schooling structure may also help address the issue of teacher shortages in some schools. Interviews during the review visit suggested that, although there is a generally sufficient supply of teachers, some vocational schools – particularly small, rural institutions – struggle to recruit teachers of general academic subjects. Providing the 9th grade in elementary schools, in addition to the current creation of regional integrated VET centre's (*Térségi Integrált Szakképző Központ*), or TISZKs, would help resolve this problem.

Adjusting the teaching workforce to the suggested structure would not imply major challenges. The postponement of tracking would only affect the distribution of teachers at lower and upper secondary level. Teachers currently teaching 9th grade students in secondary institutions would be qualified to teach the same grade at lower secondary institutions (*általános iskola felső tagozata*). The income of teachers would not be affected, since their salaries depend on their qualification, regardless of the type of institution in which they teach.

This reform is likely to be supported by elementary schools, although it may be unpopular among secondary institutions because of the negative implications for their staff numbers and finances.

The curricula of lower and upper secondary education would need to be adjusted to fit the reformed structure. While the adjustment would imply some initial investment, it would be fully justified by the benefits of later tracking.

2.2 Provide better information on labour market outcomes

The challenge

Currently, very few regular or nationwide data are available on outcomes for those who take VET courses,⁴ either in vocational training schools (*szakiskola*) or following the *maturata* in a vocational secondary school (*szakközépiskola*). Relevant outcomes include whether the students complete the courses or drop out, when they complete, whether they obtain a job, and whether the jobs obtained use the skills they have learned.

This means that students have very little information on labour market outcomes on which to base informed career choices. They may choose occupations that are not in demand on the labour market, while there may be shortages in others. This affects the efficiency of the labour market (Grubb, 2004). For a description of the mismatch between VET provision and labour market needs in Hungary, see Kézdi (2007).

Currently, schools and school maintainers have few incentives to close down programmes that are popular among students even though their labour market outcomes are poor. Manifestly, a programme's attractiveness cannot be influenced by labour market outcomes if these are not known. Supply considerations, such as room and teacher capacity, therefore take precedence over labour market needs. The establishment of Regional Development and Training Committees (*Regionális Fejlesztési és Képzési Bizottságok*) – which will involve employers and play a crucial role in the allocation of VET development funds – is expected to help address this issue, but if these committees are to act effectively they will need solid data.

Recommendation 2

Information on the labour market outcomes of VET should be collected and published on a school and programme basis. In order to collect relevant data, we recommend piloting a survey of students leaving VET programmes.

Supporting arguments

This recommendation is put forward for two reasons. First, good information on programme content and on earlier graduates' labour market outcomes are necessary to support informed career choices. Second, systematic collection of data on labour market outcomes would help public authorities and individual training providers plan the provision of VET in terms of overall capacity and content.

Improving the information base for students' choices

At the end of elementary school, students may choose among several institutions and programmes (although some students' choices are constrained by their academic results). Students considering VET programmes need good information on the outcomes of different options in order to compare them and make informed choices. Data on labour market outcomes of recent VET graduates at school and programme level would allow

4. Available data sets include labour force surveys by the National Employment Office, data on the number of VET graduates and regional labour force statistics.

students to compare options and would help guide them to VET institutions and programmes with the best labour market outcomes (see also Section 2.3 on career guidance).

Helping plan the provision of VET

Better data on programme outcomes would facilitate public decisions about the provision of VET. Since these data would indicate which VET graduates are in demand in the labour market, they would help school maintainers and schools plan the provision of VET. Information on labour market outcomes and the availability of work placements (discussed in Section 2.4) would help to adjust the provision of VET to labour market needs.

Implementation

Some exploratory pilot projects are currently under way to improve the data. They include the use of individual student ID numbers to follow students during their studies. These individual ID numbers, introduced in 2004, make it possible to follow students from primary to tertiary education. In principle, they should allow for a sophisticated and accurate assessment of dropout rates and of moves from one school to another. One option under consideration would be to link these numbers to labour market data, although this might prove difficult, owing to Hungary's strict privacy laws.

It has also been suggested that schools and students should be responsible for furnishing information about outcomes to the relevant authorities. However, schools may lack the technical skills to administer such surveys and their dropouts would be hard to reach and survey, so that the effectiveness of their methods would affect the results. In addition, variations in the definitions and methods used by schools would make reliable comparisons among schools very difficult. Moreover, completion rates and labour market outcomes have implications for schools, since they may influence the number of applications they receive and may also affect some funding sources. Such a system would give schools an incentive to choose the methods most favourable to them when reporting the results. Therefore, it may be difficult to make such an approach rigorous and credible.

Another option would be to conduct a survey of school leavers a few months later in order to identify labour market outcomes and gather information on the perceived quality of programmes followed. There is much international experience with leavers' surveys, typically in higher education (*e.g.* Australia, the United Kingdom) but also increasingly from schools (*e.g.* Ireland, Northern Ireland, the Netherlands, Scotland). A Hungarian survey of VET school leavers could draw on this experience. The implementation of such a survey requires a carefully conducted pilot followed by technical evaluation before a large-scale implementation.

Box 2.2 The School Leavers' Survey in Ireland

Ireland's annual School Leavers Survey is based on a national stratified (by programme) random sample of school leavers, who are contacted approximately one year to 18 months after leaving school. Face-to-face interviews, used in this survey since its beginning in 1980, have become more difficult as a result of declining response rates and high costs (McCoy, Kelly and Watson, 2007). The 2007 School Leavers Survey therefore used a multi-mode approach.

In the 2007 School Leavers Survey, the sample was randomly selected from a school leaver population database (managed by the Irish Department of Education and Science). The selected individuals were requested to complete an online questionnaire and could also ask for a paper copy. Participants were offered an incentive to complete the questionnaire: their names would be entered in a draw to win one of eleven prizes. After a few weeks, those who had not completed the questionnaire received reminder postcards and paper copies of the questionnaire a few weeks later. Those who were particularly difficult to reach (*e.g.* early school leavers) were followed up first by telephone and then face to face (ESRI, personal communication, 11 April 2008).

The fieldwork is carried out by trained interviewers who contact and interview the selected school leavers throughout the country. Given the variation in response rates between leavers from different programmes, the results were re-weighted taking account of the sampling fractions to obtain unbiased estimates (McCoy, Kelly and Watson, 2007).

2.3 Improve career guidance

The challenge

As noted above, students are typically 14 years old when they choose among tracks and within vocational tracks an occupational group. Interviews during the review visit suggest that many of these students do not know what they want to do later on. While postponing tracking would delay their decision, the quality of career guidance would remain a key issue.

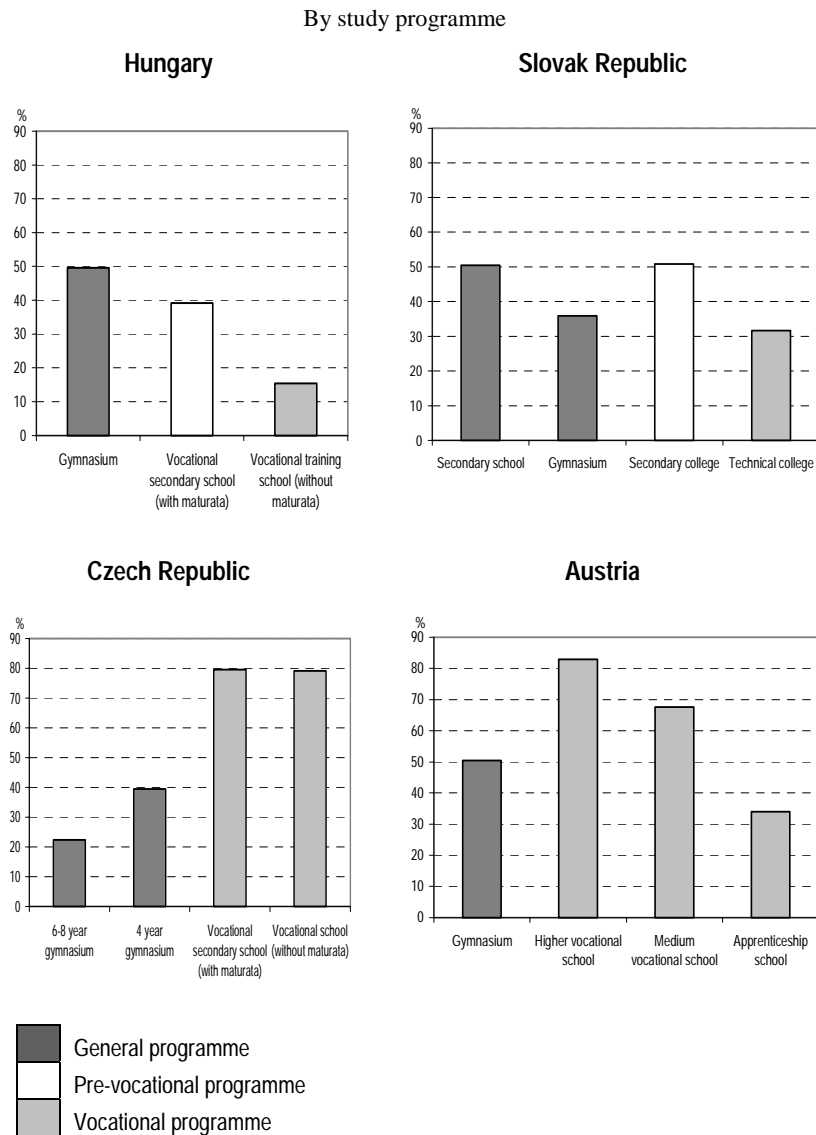
We are uncertain whether the current legal framework for career guidance is able to provide effective advice to the elementary school students who must make this important decision. According to the National Curriculum (*Nemzeti Alaptanterv*) it is possible to dedicate one hour a week to career guidance from the 7th grade. This may be complemented by group tutorials⁵ (*osztályfőnöki órák*) as of the 5th grade. However, these are simply options. According to Imre and Györgyi (2007), elementary schools provide rather poor career guidance during the transition period after the 8th grade. Interviews conducted during the review visit – with 8th grade students, VET students and teachers – indicate that the availability and quality of counselling varies greatly among schools. In particular, students from disadvantaged backgrounds seemed to have limited access to counselling. Students often have little information on the qualifications available and the relevant labour market outcomes and tend to choose occupations which they have heard about informally (*e.g.* because it is the job of someone in their family).

As compared to other countries in the region with broadly comparable school systems, relatively few 15-year-olds in Hungary cite the availability of specific

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5. In Hungarian schools students are divided into groups of 20-30 students with a tutor assigned to the group. Weekly group tutorials are dedicated to discussing administrative or other school-related issues but not academic topics.

programmes as one of the reasons for attending their school (see Figure 2.1). This percentage is particularly small among students in the two vocational tracks, even though they have already chosen an occupational group.

Figure 2.1. Percentage of students who attend their school because it offers specific study programmes



Source: OECD PISA 2003 database.

Weak career guidance in secondary education

VET students choose a target occupation at the end of the 10th grade in vocational training schools or at the end of the 12th grade in vocational secondary schools. In vocational training schools, career orientation (*pályorientáció*) has been a compulsory subject since 2006, while vocational secondary schools may provide vocational orientation (*szakmai orientáció*) during the general grades. Some institutions involve advisers from local labour offices (*munkaügyi központ*) in such activities (Köpeczi Bócz and Bükki, 2006b).

However Liskó (2002c) reports that during career orientation classes, students received information only on the occupations offered by their particular school in almost half of the schools, while less than a quarter of the schools provided information on all occupations. Vocational schools have incentives to direct their students towards programmes offered at their own institution even if this is not in the students' interest. Such pressures are particularly marked in systems that link school funding to student recruitment (OECD, 2004). The pressures may be greater in the face of demographic decline in student numbers. Both factors apply in Hungary.

Many vocational students are dissatisfied with their initial choice of occupation. Liskó (2004) reports that 36% of vocational training students and 26% of vocational secondary students in their final grade would choose a different occupation if they could start again. Almost one-third of vocational training school students in the 12th grade do not know what they would like to do in the future, and only 16% would like to work as skilled workers (*szakmunkás*) (see Table 2.4). While unwillingness to work as a skilled worker may reflect the characteristics of the modern labour force, the mismatch between students' training and their plans suggests that wrong choices may sometimes have been made at the end of elementary school. Alternatively, some students' choices may have been constrained by academic results and/or because they entered a local school, which offered few options.

Table 2.4. Career plans of 12th grade students by type of school, 2003

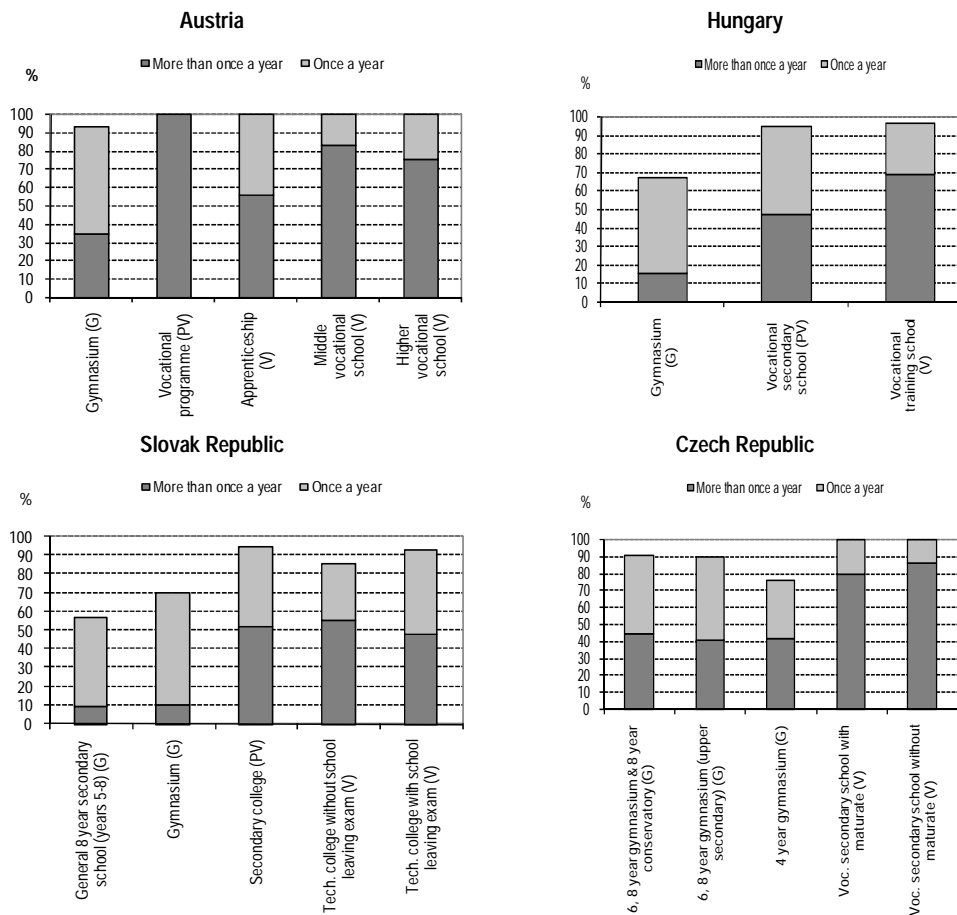
School type	Career plans					
	Does not know	Manager	Intellectual worker	Entrepreneur	White-collar worker	Skilled worker
Gymnasium (6 or 8 grades)	11.9	23.3	53.5	6.4	4.5	0.5
Gymnasium (4 grades)	14.2	20.1	49.0	11.4	5.1	0.2
Vocational secondary school	21.1	17.0	22.2	21.7	15.8	2.1
Vocational training school	33.4	9.1	3.9	29.3	8.2	16.1

Source: Liskó, I. (2004), *Perspectives after Secondary School*, Hungarian Institute for Higher Educational Research, Budapest.

According to PISA 2006 data, 15-year-old students in Hungary have rather limited contact with business and industry representatives. In particular, compared to other countries in the region with broadly comparable school systems, relatively few Hungarian school students have the opportunity to meet business representatives more than once a year (see Figure 2.2).

Figure 2.2. Business involvement in schools

Percentage of 15-year-olds in schools whose principal reported that students had the opportunity to participate in job fairs, lectures (at school) by business or industry representatives and visits to local businesses and industries as part of their normal schooling (2006)



G: general programme

PV: pre-vocational programme

V: vocational programme

Source: PISA 2006 database.

Lack of adequately prepared advisers

Career advice is limited by the small proportion of elementary and secondary school teachers qualified as “career advising teachers” or “career orientation consultants”. These qualifications are obtained in postgraduate education and such subjects are not included in standard teacher training (Kaszás, 2006). Liskó (2002c) explored the quality of career advice in secondary schools and found that 68% of the teachers responsible for career guidance considered their work mediocre owing to the lack of pedagogical tools and lack of preparation of teachers.

Recommendation 3

Adequately prepared advisers should provide systematic career guidance at all elementary schools on the range of secondary level programmes available and their labour market outcomes. Students in vocational training and vocational secondary schools should receive comprehensive, impartial and reliable information on all the career options available to them.

Supporting arguments

Two main arguments support this recommendation. First, good counselling would limit the costs of inappropriate choices. Second, to be effective, career guidance must be comprehensive and impartial.

Limiting the costs of poor choices

Career information should be freely available to all for reasons of both efficiency and equity (OECD, 2004). As discussed in Section 2.1, career changes due to inappropriate initial decisions have high costs both for the individual and for the school system. Insufficient information at the critical moment may undermine motivation and cause student to drop out. In Finland, for example, lack of interest in the field of study is noted as a factor in decisions to leave school early (Grubb *et al.*, 2005). Ensuring access to good information on the range of programmes available and their labour market outcomes is fundamental to avoid the costs of wrong initial choices and allow students to make informed decisions (see also Section 2.2).

Ensuring comprehensive and impartial career guidance

Ensuring that all students have access to good information on the outcomes of VET programmes (see Section 2.2) when they make decisions is central to improving the responsiveness of VET to labour market needs. Students often rely on informal information sources, such as family and friends, to obtain educational, occupational and labour market information. While such sources have many strengths, they may lack reliability and impartiality or confine choices to the known and familiar rather than opening up new horizons. This is why formal sources of career information are particularly important (OECD, 2004).

It is particularly challenging to ensure comprehensive and impartial career guidance when advisers (in the current school system) have incentives to guide students towards certain programmes. A career counselling service that is fully independent of individual schools and visits all schools and students would be helpful.

Implementation

A key issue is to ensure that all students – including disadvantaged students, students with low academic performance and those who do not actively seek information – should receive good career guidance. Under the current legal framework for career guidance, there are various laws and decrees but no systematic set of rules concerning the obligations of schools. Career guidance of high quality should be made obligatory in all elementary schools. A framework for career guidance already exists in secondary education, but the quality and extent of the counselling provided should be improved. To

this end, career advisors should obtain good and up-to-date information about the occupations available and receive targeted training on how to provide counselling to students.

Currently, pedagogical services (*pedagógiai szakszolgálatok*) operating under the supervision of municipal or county authorities offer career information and advice to primary and secondary students. Employment information and counselling centres (*Foglalkozási Információs Tanácsadó bázisok*), which operate under labour offices (Köpeczi Bócz and Bükki, 2006b), could also play an active role by reaching out to schools. A compulsory framework which obliges schools and such independent, external institutions to co-operate might be helpful (see Box 2.3).

Box 2.3 Joint career advice by schools and employment offices in Germany

In Germany, a co-operation treaty between the Federal Employment Office and the Permanent Conference of the Education Ministers of the German States¹ sets out the joint obligation of schools and employment offices to provide impartial, up-to-date and professional career advice.

Joint career counselling starts at least two years before the end of any school programme. It takes into account the individual interests and skills of students and future labour market needs. Counselling takes place in schools during class hours or during special events on the premises of local employment offices, either on an individual basis or in groups.

Schools are expected to provide students with basic information on the functioning of the economy and the labour market, on different occupations and on the principles of career choice. They also co-operate with local employers to offer students insights into the world of work and arrange contacts for practical training.

Employment offices inform students about the requirements of different occupations and provide students with up-to-date information on the state of the labour market, on apprenticeship and higher education opportunities, as well as possibilities of direct labour market entry after school.

Schools and local employment offices co-operate in various ways. They form local and regional networks involving various stakeholders, such as employers and higher education institutions. Schools are involved in developing the information provided by employment offices and joint training courses are held for teachers and employment office staff. Schools and employment offices also harmonise their planned measures and projects every year.

1. German states are autonomous in terms of their education policy. The Permanent Conference is a co-ordination body between the states (*Länder*), which meets regularly and sets rules that apply to all states.

Source: Rahmenvereinbarung über die Zusammenarbeit von Schule und Berufsberatung zwischen der Kultusministerkonferenz und der Bundesagentur für Arbeit (2004) (Framework for co-operation of schools and career guidance services concluded between the Standing Conference of the Ministers for Education and Cultural Affairs of the Länder and the Federal Employment Agency) www.arbeitsagentur.de/zentraler-Content/A03-Berufsberatung/A031-Berufseinsteiger/Publikation/pdf/Rahmenbedingungen-Schule-Berufsberatung.pdf

Helpful supporting material should be available to students and teachers. National brochures should describe the different occupational groups, their various occupational possibilities, and their labour market outcomes, thereby providing students with impartial and comprehensive information. In addition, regional publications could provide

information on the programmes offered by different institutions, as well as regional labour market outcomes and projections.

Clearly good careers guidance is costly, but the costs of poor career choices are much greater. School systems can help avoid these costs by postponing the decisions that must be made.

2.4 Expand practical training in the workplace

The challenge

The limitations of school-based VET

In Hungary, as in other countries, school-based VET faces many challenges. Schools often provide only a weak simulation of real work environments, equipment in training workshops can easily become obsolete, and trainers may be unfamiliar with the latest technologies and techniques.

A recent survey of employers (Andréne, 2006) reports dissatisfaction with the quality of practical training at training workshops and a wish for more up-to-date theoretical education and increased work-based practical training. Employers would also like to see an improvement in the generic skills of VET graduates, such as problem-solving and communication skills and the ability to use ICTs and foreign languages.

Many VET schools in Hungary struggle to recruit and retain trainers with appropriate skills: today, many trainers are close to retirement and there are few young trainers. Because their wages are low, some trainers also work part-time at their occupation and thus dedicate less time to teaching (Liskó, 2002b), although this is also an opportunity to ensure that their knowledge is up-to-date. Interviews with researchers and visits to some schools indicated that some trainers who were willing to work at schools had been made redundant (often during the transition period) and have been out of the labour market for years, so that their knowledge of current practices and needs may be limited.

According to the government, it is the intention of the recently introduced regional integrated VET centres (described in Section 1.3) to address this challenge by creating a training environment similar to a workplace. While these centres may provide a training environment with up-to-date equipment, they are unlikely to offer some major advantages of workplaces (e.g. benefits of contact between students and employers; better development of soft skills) and do not resolve some major weaknesses of training workshops (e.g. the difficulty of recruiting good quality trainers).

Relatively little training in the workplace

According to PISA 2006 data, relatively few Hungarian 15-year-olds are in schools in which more than half of the students participate in training with local businesses, even compared to countries in which 15-year-olds are in comprehensive education (see Figure C.2 in Annex C). The time spent by Hungarian VET students in work placement is also relatively low by international standards (see Table C.4 in Annex C for data on vocational training and vocational secondary schools between 9th and 12th grade, and Table C.5 for post-secondary programmes in vocational secondary schools and tertiary VET programmes).

A relatively small number of hours is spent in practical training in the VET grades of vocational secondary schools. Interviews with various stakeholders during the review visit suggest that the VET programmes offered by vocational secondary schools are often perceived as more theory-based and requiring fewer practical skills. A number of employers and schools reported to the visiting team that many employers are reluctant to hire apprentices for periods of only a few weeks or for a small portion of the week over a longer period.

However, work-based training has been increasing. The number of apprenticeship contracts (*tanulószerződés*) increased from 6 616 in 1998 to 39 000 in 2007 (Hungarian Ministry of Labour and Social Affairs, 2008) (see also Figure C.9 in Annex C). This increase mainly concerns apprenticeships linked to vocational training schools; apprenticeship training remains weak in post-secondary VET programmes (*érettségire épülő képzések*) (see Table 2.5). Apprenticeships are mainly used for basic occupations that are relatively easy to teach so that apprentices quickly become productive. In 2005/06, for example, ten occupations (food and household retailer, cook, waiter, hairdresser, painter/wallpaperer, carpenter, car body repairer, bricklayer, garment retailer, electrician) accounted for over half of the students in apprenticeship training (Köpeczi Bócz and Bükki, 2006b).

Table 2.5. Full-time VET students participating in practical training organised outside the school

Type of school	2001/02			2004/05		
	Co-operation agreement	Apprenticeship contract	Total	Co-operation agreement	Apprenticeship contract	Total
Vocational training school	31 282	8 682	39 964	23 870	16 272	40 142
Special vocational training school	784	487	1 271	587	719	1 306
Vocational secondary school	13 109	1 521	14 630	13 820	2 754	16 574
Total	45 175	10 690	55 865	38 277	19 745	58 022

Source: Szakképzési Tanévnyitó (2005) in T. Köpeczi Bócz and E. Bükki (2006b) *Initial Vocational Education and Training (VET) in Hungary*, CEDEFOP, Tessaloniki.

Recommendation 4

All VET programmes should provide a substantial amount of practical training in the workplace or in an environment that effectively simulates a workplace.

Supporting arguments

As set out in the OECD Policy Review of VET in Sweden OECD Policy Review of VET in Sweden (Kuczera *et al.*, 2008) there are several arguments for expanding work-based practical training:

- In most cases, it is more cost-effective than school-based practical training, since it relies on expensive, up-to-date equipment that is available in the workplace, the people with the skills to use the equipment, and the powerful learning environment of an actual workplace.
- The challenge of recruiting trainers with adequate skills and up-to-date knowledge faced by many Hungarian VET schools could be alleviated by the expansion of workplace-based training.
- In many contexts, apprentices undertake productive work and thus add to economic output. This is possible, but much less common, in school-based practical training.
- Employers can obtain information about potential recruits and find it easier to recruit employees with adequate skills and learn about how well they perform on the job (Clark, 2001; Leuven, 2005).
- Work placements give students crucial information about the kind of work involved and allow them to make contact with potential employers.
- Soft skills (*e.g.* relations with clients, teamwork) are often better learned on the job, as it is difficult to simulate situations requiring such skills.
- Most professional skills are developed more efficiently in the workplace than through efforts to transfer theoretical knowledge, learned at school, into practice (Woerkom, Nijhof and Nieuwenhuis, 2002; Aarkrog, 2005).

In some cases, however, training workshops can be more cost-effective.

- Work-based training may involve high risks and costs, *e.g.* when it involves dangerous equipment or expensive equipment which may be damaged by trainees, and technically efficient simulation may be possible. For example, training train drivers in simulated cabs is more cost-effective than on-the-job training, with real trains (and associated line closures).
- It is often more effective to teach basic practical skills off the job (*e.g.* practising painting on walls in a training workshop). Students can then hone their skills in the workplace.
- Work-based training may sometimes be too narrowly focused on firm-specific skills which are difficult to transfer to other employers.
- Off-the-job training sites may operate at a slower pace and provide students with time to refine their skills or to develop skills that would be hard to learn in a rapid-paced work environment (Robertson *et al.*, 2000).

Implementation

Several of the following arguments are adapted from the principles of successful apprenticeship training set out in the OECD Policy Review of VET in Sweden (Kuczera *et al.*, 2008).

Engaging employers

Many countries face shortages of work placements in firms, and specific incentives may be needed to encourage employers to offer work-based training. Evidence from Austria, Switzerland and Germany shows that work-based training is typically offered in occupations and contexts in which the students fully compensate for the costs of training through their productive contribution during the apprenticeship period (Beicht, Walden and Herget, 2004; Wolter, Muehlemann and Schweri, 2006; Mohrenweiser and Zwick, 2008). Training opportunities are also often offered in occupations which do not allow apprentices to switch employers easily after completing their training or for which expensive and specific tools or machines force schools into co-operation. These incentives tend to limit apprenticeships to manual trades. Emphasis should therefore be put on occupations that involve the more advanced qualifications taught in vocational secondary schools. Training for these occupations entails compulsory work-based training in many other countries. Increasing the time devoted to practical training in post-secondary VET programmes would make it easier to engage employers.

The Hungarian training levy allows employers to take on apprentices and set their expenses against their contribution to the training levy. However, given the administrative burden of the levy, some employers – especially small firms – are reluctant to take on apprentices and find it easier to contribute in other ways. Over 90% of apprenticeship contracts are offered by enterprises under Hungarian ownership (Köpeczi Bócz and Bükki, 2006b), most of which are larger companies. Small Hungarian firms and branches of foreign firms offer relatively little workplace-based training. Simplifying the rules governing the training levy and reducing the administrative burden would help expand apprenticeships (see also Section 2.5).

As a further incentive, when apprentices' costs exceed the levy contribution, firms may claim reimbursement of some of the additional costs. Interviews with employers suggested that firms cannot claim these costs if some expenditure on the training of their own employees is also involved. In other words the possibility of claiming more than the 1.5% payroll levy does not create a major incentive to take on apprentices if firms also want to train their own employees. Revising the relevant regulations would help make full use of the training levy as a tool to expand apprenticeships.

To encourage employers to take on apprentices, one option would be to establish specialised organisations that facilitate the recruitment and allocation of apprentices, and free employers from the administrative burden involved (see Box 2.4).

Box 2.4 Group training organisations in Australia

Group training organisations (GTOs) are not-for-profit organisations supported by Australian state and territory governments, with some charges to host employers. The role of GTOs is to employ apprentices and hire them out to host employers. They sometimes focus on a particular industry or a particular region.

The tasks performed by GTOs include:

- Selecting apprentices to suit the needs of employers.
- Arranging and monitoring training both on and off the job.
- Taking care of the administrative duties involved.
- Ensuring that apprentices receive a broad range of training experience (if necessary, apprentices are rotated from business to business).

For research papers on GTOs see www.ncver.edu.au/publications/bytheme.html.

Source: www.training.com.au

Transforming the relationship between schools and employers

The expansion of workplace-based training would change the relationship between employers and schools. The reduction of practical training in school-based workshops may initially cause some disruption to the schools, but this may be minimised by the fact that many trainers in VET schools will soon retire. A reduction of workshop-based training might therefore help solve the challenge of recruiting and retaining trainers with adequate skills.

Interviews with employers suggest that there may sometimes be unhealthy competition for students between schools and employers. Recent reforms changed the rules on per capita funding in order to encourage schools to support apprenticeships (Köpeczi Bócz and Bükki, 2006b). Nevertheless, for some schools – particularly those that have invested in well-equipped training workshops – apprenticeships may still be a source of financial disadvantages. Schools are now entitled to only 20% of the normal per capita support if the student receives practical training in a workplace, while they receive a higher share (from 140% in the first VET grade to 60% in the final VET grade) if practical training is provided in the training workshop (Köpeczi Bócz and Bükki, 2006b). Some schools may therefore be reluctant to release their students for apprenticeship training. Incentives should be created to encourage schools and employers to co-operate rather than compete, for example by establishing special awards for schools that co-operate closely with companies.

Schools and employers will need informational and organisational support to develop the necessary partnerships. The new TISZKs and regional VET committees (*Regionális Szakképzési és Fejlesztési Bizottságok*) are well placed to provide support for this process because they allow stakeholders to meet regularly.

The expansion of work-based practical training does not imply abandoning school-based practical training. In fact there is not always a clear-cut division between the two. In Australia for example, co-operation between schools and employers sometimes

leads to flexible arrangements: firms may release employees on a rotating basis to teach at schools and teachers from schools may go to firms to assess the competencies of apprentices. Some Australian schools also seek to develop the “employability skills” of their students by making the training workshop environment similar to that of a workplace, for example by requiring students to swipe an identity card when they arrive and leave.

In Hungary, in some occupations and in some regions, it may be difficult to obtain enough work placements to accommodate all VET students. In such cases it may make sense to invite employers in the relevant sector to consider collectively whether and how they wish the programme to continue and, if necessary, plan alternative forms of practical training.

Ensuring workplace-based training of high quality

While the workplace offers many advantages as a learning environment, there is a potential risk that firms may focus on apprentices’ productive work rather than on helping them to learn (Cornford and Gunn, 1998; Kilpatrick, Hamilton and Falk, 2001). While the productive contribution of apprentices is an important incentive for employers to provide apprenticeship places, it needs to be balanced by measures to ensure that the placement provides training of good quality.

Research from Australia suggests that the size of the firm affects the apprentice’s learning experience. In contrast to large firms, training in SMEs tends to be informal, firm-specific, undertaken on the job and related to day-to-day operations (Seagraves and Osborne, 1997). In small and micro enterprises training is often unplanned and spontaneous (Vallence, 1997) and such firms are unlikely to have dedicated training staff (Hawke, 1998). This issue merits particular attention in Hungary, which has many SMEs, mainly domestically owned and with lower levels of productivity and technology (Brown, Earle and Telegdy, 2004; Békés, Kleinert and Toubal, 2006). Greater involvement of foreign firms in work-based initial training would improve the acquisition of technology related skills.

A study of five European countries (Germany, Austria, Denmark, Ireland and the United Kingdom) concluded that successful implementation of apprenticeship training requires a strong institutional component – a combination of public regulation and social partnership – to guarantee the quality of work-based training and to prevent employers from free-riding or offering too little training in certain occupations (Ryan, 2000). The same study identifies important kinds of relevant support, such as the legal framework of apprenticeship, the existence of a national body to advise the responsible authority (for example Ireland’s National Apprenticeship Advisory Committee or the *Bundesinstitut für Berufsbildung* in Germany), and the mandatory representation of workers’ and employers’ organisations in the mid-level committees that determine many aspects of VET.

Clear goals should be set and monitored to ensure that apprentices receive training of good quality. As argued in the OECD Policy Review of VET in Sweden, a successful apprenticeship system requires the involvement of the social partners in all aspects of the process and the active involvement of sectoral, professional and employers’ organisations. Apprentices’ learning should not be too firm specific, as this reduces the apprentice’s future mobility. A balance needs to be found between the short-term economic interests of firms and the long-term interests of students and the government,

which imply the need for transferable skills. Numerous studies highlight the importance of trainers' skills and approach in ensuring that apprenticeships provide students with an effective learning environment (Robertson *et al.*, 2000; Harris, Simons and Bone, 2000).

2.5 Provide better information on the training levy

The challenge

The rules governing the Hungarian training levy are complicated and difficult to understand for many stakeholders. This means that employers – particularly small employers – may find it hard to make full use of the possibilities offered by the levy. For example, owing to the complex accounting procedures for claiming expenses for apprenticeship training, some employers – again, especially small firms – may be reluctant to take on apprentices. Also, interviews with officials from the Hungarian National Institute of Vocational Education (NIVE) indicated that some employers do not make full use of the possibilities offered by the training levy because they are not aware of them.

In addition, there are insufficient data on the allocation of resources from the training levy and the respective outcomes, which makes it very hard to evaluate the usefulness of the levy. For example, there are no data on how different types of firms allocate their levy contribution, on the outcomes of the different training options offered, and on how development subsidies to individual institutions and funds directed to the Labour Market Fund are used. In particular, the economic rationale for subsidising the training of the firms' own employees through the levy may be questionable: if the skills acquired are firm-specific, there is little reason for public support. Given the large sums involved in the Hungarian training levy – HUF 51.8 billion (EUR 207 million) in 2004 (Köpeczi Bócz and Bükki, 2006a) – it is unsatisfactory not to be able to assess the efficiency of the training.

Recommendation 5

The government should regularly publish the rules of the levy in a form comprehensible to employers. It should also collect and publish data about the total sum collected through the levy, its allocation to different functions and their respective outcomes. This would provide an essential basis for reviewing the operations of the levy.

Supporting arguments

This recommendation is supported by two main arguments. First, data on the use and outcomes of the training levy are necessary to assess its effectiveness and efficiency. Second, more comprehensible rules and data would make the benefits of the levy more visible and help engage employers.

*Assessing effectiveness and efficiency***Box 2.5 The objectives and effectiveness of training levies**

Training levies may be used to pursue several overlapping policy goals, such as raising revenues for public policy initiatives; increasing training levels beyond what is provided by firms; promoting a more equitable distribution of training opportunities among employees and improving the distribution of the training effort among industry sectors (Billett and Smith, 2005). International evidence on the effectiveness of training levies for these purposes is mixed.

- Training levies may promote employer-based training and give employers more freedom to manage their training activities (Gasskov, 2003), while allowing public authorities to influence the profile and quality of training by defining the conditions for eligibility for funds from the levy (Dar, Canagarajah and Murphy, 2003).
- However, training levies also involve a deadweight effect when they subsidise training that would have been provided anyway (Dar, Canagarajah and Murphy, 2003). In this case, they are simply a windfall for the firms concerned (Gasskov, 2003).
- Evidence also suggests that universal training levies are ineffective in ensuring an equitable distribution of training opportunities: firm size and employee characteristics shape access to training (Billett and Smith, 2005). The administrative procedures associated with claiming reimbursement or setting expenses against the levy contribution are often complicated and may discourage smaller firms from filing claims (Edwards, 1997). Large firms with well-established training programmes and administration benefit disproportionately from the levy (Gasskov, 1998).
- Empirical evidence on the French levy scheme indicates that training opportunities are skewed in favour of large firms and more highly skilled employees, while small firms and employees with lower skills are less likely to benefit (Goux and Maurin, 1997). Similarly, the Korean training levy encouraged skills development, but large companies benefitted more than SMEs, even though the system included a special incentive for SMEs (Lee, 2006).

Training levies require careful supervision. Otherwise it is hard to ensure that the training funded through the levy is of sufficient quality. Unfortunately, the supervision of training quality is sometimes carried out by tax auditors or departments that may lack the relevant expertise. Conversely, effective quality control inevitably implies substantial costs both for regulating authorities and the firms being regulated (Dar, Canagarajah and Murphy, 2003).

Given the mixed evidence on international experience with training levies (see Box 2.5), it is important to collect data on the allocation of funds to different functions and their respective outcomes in order to assess the levy's effectiveness.

Engaging employers and making benefits visible

Without data on the use and outcomes of funds from the training levy, it will remain hard to convince employers of the benefits of the levy. In order to gain support from employers and foster the development of a training culture in firms, training levies need to have transparent and identifiable outcomes (Billett and Smith, 2005).

Internationally, few firms use cost-benefit analysis when making decisions on training (Cooper and Lybrand, 1996) and they often rely on perceptions of its utility

(Davidson *et al.*, 1997). It is therefore essential to disseminate information among employers so that they can “identify the different kinds of benefits and returns that training can make to their businesses” (Billett and Smith, 2005).

Implementation

Some information regarding the use of funds under the training levy is already available at different public bodies (*e.g.* Ministry of Labour and Social Affairs, taxation authorities), while other data – *e.g.* the allocation of the levy by type of firm and the outcomes of training supported by the levy – may need to be collected. Particular attention should be paid to the dissemination of information among employers and other stakeholders in a clear and succinct form.

Clearly better data carry costs. But given the huge sums (HUF 51.8 billion in 2004, Köpeczi Bócz and Bükki, 2006a) involved in the training levy, even marginal improvements in the efficiency with which levy funds are used will fully justify investment in better data.

References

- Aarkrog, V. (2005), “Learning in the workplace and the significance of school-based education: a study of learning in a Danish vocational education and training programme”, *Lifelong Education*, Vol. 24, No. 2, pp. 137-147.
- Ammermueller, A. (2005), “Educational Opportunities and the Role of Institutions”, ZEW Discussion Papers, No. 05-44, Centre for European Economic Research, Mannheim.
- Andréné, L. (2006), *Munkaadók véleménye a szakképesítést szerzett pályakezdekről mint munkavállalókról (Résztanulmány) (Employers views on beginning employees with VET qualifications)*, National Institute for Vocational Education, Budapest.
- Autor, D.H., F. Levy and R.J. Murnane (2003), “The Skill Content of Recent Technological Change: An empirical exploration”, *Quarterly Journal of Economics*, Vol. 118, No. 4, pp. 1279-1333.
- Bauer, P. and R.T. Riphahn (2006), “Timing of school tracking as a determinant of intergenerational transmission of education”, *Economics Letters*, No. 91, pp. 90-97.
- Beicht, U., G. Walden and H. Herget (2004), *Kosten und Nutzen der betrieblichen Berufsausbildung in Deutschland*, Bertelsmann, Bielefeld.
- Békés, G., J. Kleinert and F. Toubal (2006), “Spillovers from Multinationals to Heterogeneous Domestic Firms: Evidence from Hungary”, *Discussion papers MT-DP – 2006/16*, Institute of Economics, Hungarian Academy of Sciences, Budapest.
- Billett, S. and A. Smith (2005), “Getting employers to spend more on training: Lessons from overseas”, in K. Ball (ed.), *Funding and financing vocational education and training. Research reading*, NCVER, Adelaide.
- Brown, J.D., J.S. Earle and A. Telegdy (2004). "Does Privatization Raise Productivity? Evidence from Comprehensive Panel Data on Manufacturing Firms in Hungary, Romania, Russia and Ukraine," *Staff Working Papers 04-107*, W.E. Upjohn Institute for Employment Research, Kalamazoo.
- Bundesagentur für Arbeit and Kultusminister Konferenz (2004), *Rahmenvereinbarung über die Zusammenarbeit von Schule und Berufsberatung zwischen der Kultusministerkonferenz und der Bundesagentur für Arbeit*, Mettlach-Orscholz.
- Clark, D. (2001), “Why do German Firms Subsidize Apprenticeship Training? Test of Asymmetric Information and Mobility Cost Explanations”, *Vierteljahreshefte für Wirtschaftsforschung*, No. 70, pp. 102-106.
- Cooper and Lybrand (1996), *The economic dimensions of education and training in the member states of the European Union*, www.transcend.co.uk/eyll/ideas.htm.

- Cornford, I. and D. Gunn (1998), “Work-based learning of commercial cookery apprentices in the New South Wales hospilities industry”, *Journal of Vocational Education and Training*, Vol. 50, No. 4, pp. 549-568.
- Dar, A., S. Canagarajah and P. Murphy (2003), *Training levies: Rationale and evidence from evaluations*, The World Bank, Washington.
- Davidson, J., *et al.* (1997), *Return on training investment*, Office of Technical and Further Education–ANTA, Canberra.
- Deputy State Secretariat of VET of the Ministry of Education (2005), *Szakképzési Tanérvnyitó (School year opening in VET)*, Budapest.
- ECB (European Central Bank) (2008), *Convergence report*, European Central Bank, Frankfurt.
- Edwards, C. (1997), “State Failure or Market Failure? The Ten Steps to a Levy-Grant System of Vocational Training”, in M. Godfrey (ed.), *Skills Development for International Competitiveness*, Edward Elgar, Cheltenham.
- European Union Labour Force Survey (2007), <http://epp.eurostat.ec.europa.eu>.
- Eurostat (2008), epp.eurostat.ec.europa.eu/portal/page?_pageid=1996,39140985&_dad=portal&_schema=PORTAL&screen=detailref&language=en&product=STRIND_ECOBAC&root=STRIND_ECOBAC/ecobac/eb012, accessed 30 May 2008
- Gasskov, V. (2003), “Financing enterprise training by payroll levies” in D. Dohmen and B. Cleuvers, *Finanzierung von Weiterbildung und lebenslangem Lernen*, Bertelsmann, Bielefeld.
- Gasskov, V. (1998), “Levies, leave and collective agreements incentives for enterprises and individuals to invest in training”, *Vocational Training*, No. 13, pp. 27-34.
- Goux, D. and E. Maurin (1997), *Train or Pay: Does It Reduce Inequalities to Encourage Firms to Train their Workers?*, INSEE, Paris.
- Grubb, N. (2004), “An occupation in harmony: the roles of markets and governments in career information and career guidance”, *International Journal for Educational and Vocational Guidance*, Vol. 4, No. 2-3, pp. 123-139.
- Grubb, N. *et al.* (2005), *Equity in Education Thematic Review: Finland Country Note*, OECD, Paris.
- Hanushek, E. and L. Woessmann (2006), “Does Early Tracking Affect Educational Inequality and Performance? Differences-in-Differences Evidence across Countries”, *Economic Journal*, Vol. 116, No. 510, pp. C63-C76.
- Harris, R., M. Simons and J. Bone (2000), *More than meets the eye? Rethinking the role of workplace trainer*, NCVER, Leabrook.
- Havlik, P. and M. Holzner (2008), “Weathering the Global Storm, yet Rising Costs and Labour Shortages May Dampen Domestic Growth”, *Current Analyses and Forecasts*, No. 1.
- Hawke, G. (1998), “Learning, workplaces and public policy” in J. McIntyre and M. Barrett (eds.), *VET research: influencing policy and practice*, proceedings of the first national conference of the Australian Vocational Education and Training Research Association, Sydney.

- Hoffman, N., *et al.* (2005), *Equity in Education Thematic Review: Hungary Country Note*, OECD, Paris.
- Hungarian Ministry of Education (1999), *OM Statisztikai Tájékoztató*, Ministry of Education, Budapest.
- Hungarian Ministry of Education (2003), *Statistical Yearbook of Education 2001/2002*, Ministry of Education, Budapest.
- Hungarian Ministry of Education (2004), *Statistical Yearbook of Education 2002/2003*, Ministry of Education, Budapest.
- Hungarian Ministry of Education (2006), *Statistical Yearbook of Education 2005/2006*, Ministry of Education, Budapest.
- Hungarian Ministry of Education (2007), *Statistical Yearbook of Education 2006/2007*, Ministry of Education, Budapest.
- Hungarian Ministry of Labour and Social Affairs (2008), personal communication.
- Imre, A. and Z. Györgyi (2007), “The Educational System and the Progression of Students”, in Z. Loboda, J. Lannert and G. Halász (eds.), *Education in Hungary 2006*, Hungarian Institute for Educational Research and Development, Budapest.
- Kaszás, J. (2006), *Pályaorientáció, pályaválasztási tanácsadás, karrier-tanácsadás*, Országos Közoktatási Intézet Kutatási Központ, Budapest.
- Kézdi, G. (2006), “Not Only Transition. The Reasons for Declining Returns to Vocational Education”, www.cerge-ei.cz/pdf/gdn/RRCV_15_paper_01.pdf
- Kézdi, G. (2007), *A szakképzés munkaerőpiaci értékének és struktúrájának változása Magyarországon a rendszerváltás előtt és után*, forthcoming.
- Kilpatrick, S., V. Hamilton and I. Falk (2001), *Issues of Quality Learning: Apprenticeship in rural and remote Australia*, CRLRA, Sydney.
- Köllő, J. (2006), “Workplace Literacy Requirements and Unskilled Employment in East-Central and Western Europe”, *Budapest Working Papers on the Labour Market 2006/07*, Institute of Economics, Hungarian Academy of Sciences, Budapest.
- Köpeczi Bócz, T. and E. Bükki (2006a), *A szakképzés Magyarországon (Vocational Education and Training in Hungary)*, CEDEFOP, Tessaloniki.
- Köpeczi Bócz, T. and E. Bükki (2006b) *Initial Vocational Education and Training (VET) in Hungary*, CEDEFOP, Tessaloniki.
- KSH (Központi Statisztikai Hivatal) (2008), “Foglalkoztatottság és munkanélküliség 2008. január-március”. *Gyorstájékoztató*, No. 82, KSH, Budapest .
- Kuczera, M., *et al.* (2008) *Learning for Jobs: The OECD Policy Review of Vocational Education and Training in Sweden*, OECD, forthcoming.
- Lee, K.W. (2006), “Effectiveness of Government's Occupational Skills Development Strategies for Small- and Medium-scale Enterprises: A Case Study of Korea”, *International Journal of Educational Development*, No. 26.
- Leuven, E. (2005), “The Economics of Private Sector Training: a Survey of the Literature”, *Journal of Economic Surveys*, Vol. 19, No. 1, pp. 91-111.

- Levy, F. and R.J. Murnane (2004), Education and the Changing Job Market. *Educational Leadership* .
- Liskó, I. (2002a), “A hátrányos helyzetű tanulók oktatásának minősége.” *Új Pedagógiai Szemle*, No. 2.
- Liskó, I. (2002b), *Joining General Education and Vocational Training*, Hungarian Institute for Educational Research, Budapest.
- Liskó, I. (2002c). *The Preparing of Vocational Education (A szakmai előkészítő oktatás bevezetése)*, Hungarian Institute for Educational Research, Budapest.
- Liskó, I. (2003), *Failures in secondary schools*, Hungarian Institute for Educational Research, Budapest.
- Liskó, I. (2004), *Perspectives after secondary school*, Hungarian Institute for Higher Educational Research, Budapest.
- McCoy, S., E. Kelly and D. Watson (2007), *School Leavers' Survey Report 2006*, ESRI and Department of Education and Science, Dublin.
- Meghir, C. and M. Palme (2005), “Educational Reform, Ability and Family Background”, *The American Economic Review*, Vol. 95, No. 1, pp. 414-424.
- Mohrenweiser, J. and T. Zwick (2008), *Why do Firms Train Apprentices? The Net Costs Puzzle Reconsidered*, Centre for European Economic Research, Mannheim.
- Munich, D. (2004), *Estimating the Impact of School Quality, Selection, and Supply on Student's Achievements: Evidence from the Czech Nation-wide Testing of Youth*, www.cerge-ei.cz/pdf/gdn/RRCIII_26_paper_01.pdf
- Nyen, T., A. Hagen and S. Skule (2004), *Lifelong Learning in Norwegian Working Life. Results from The Learning Conditions Monitor 2003*, FAFO, Oslo.
- OECD (1999), *Classifying Educational Programmes. Manual for ISCED-97 Implementation in OECD Countries*, OECD, Paris.
- OECD (2004), *Career Guidance and Public Policy. Bridging the Gap*, OECD, Paris.
- OECD (2007a), *PISA 2006 Science Competencies for Tomorrow's World*, OECD, Paris.
- OECD (2007b), *OECD Employment Outlook 2007*, OECD, Paris.
- OECD (2008) *The OECD International Survey of VET Systems: First Results and Technical Report*, forthcoming.
- Quintini, G., J.P. Martin and S. Martin (2007), “The Changing Nature of the School-to-Work Transition Process in OECD Countries”, *Discussion Paper Series*, IZA DP No. 2582, Bonn.
- Robertson, I., et al. (2000), “Evaluating On and Off-Job Approaches to Learning and Assessment in Apprenticeships and Traineeships.” *Post Compulsory Education and Training Conference*. Gold Coast.
- Ryan, P. (2000), “The Institutional Requirements of Apprenticeship: Evidence from Smaller EU Countries”, *International Journal of Training and Development*, Vol. 4, No. 1, pp. 42-65.

- Schutz, G., M. West and L. Woessmann (2007), *School Accountability, Autonomy, Choice and the Equity of Student Achievement: International Evidence from PISA 2003*, OECD, Paris.
- Seagraves, L. and M. Osborne (1997), “Participants in a work-based learning programme: Small and medium enterprises and their employees” in *Good thinking: Good practice - Research perspectives on learning and work*, 5th Annual International Conference on Post-compulsory Education and Training, Griffith University, Brisbane.
- Vallence, K. (1997), “Training one-to-one: Out of sight, out of mind”. in *Good thinking: Good practice - Research perspectives on learning and work*, 5th Annual International Conference on Post-compulsory Education and Training, Griffith University, Brisbane
- Woerkom, M., W. Nijhof and L. Nieuwenhuis (2002), “Critical reflective working behaviour: a survey research”, *Journal of European Industrial Training*, Vol. 26, No. 8, pp. 375-383.
- Wolter, S., S. Muehlemann and J. Schweri (2006), “Why some firms train apprentices and many other do not”, *German Economic Review*, Vol. 4, No. 1, pp. 249-264.

Websites:

www.training.com.au

Annex A

Details of the review visit

1. Terms of reference for Hungary

The review of VET in Hungary will examine the responsiveness of VET systems to the labour market, with a particular focus on the efficiency of VET provision. The review will concentrate on initial VET (full-time secondary and post-secondary VET, *i.e.* ISCED 3 and 4). The term “efficiency” includes both the costs and benefits of VET as well as incentives to improve efficiency.

- Funding of VET: Whether and how different funding sources for VET (*e.g.* central budget, local government budget, private sources) could be used more efficiently.
- Private sector involvement: How the efficiency of private sector contribution to VET might be improved, what incentives might encourage private sector involvement.
- Organisation of VET provision: Whether the current way of organising VET programmes could be reformed to increase efficiency.
- What other reforms might increase the efficiency of VET provision.

2. Biographical information

Maria Luisa Ferreira has worked at the European Investment Bank as a senior education economist since 1999. Previously she worked at the OECD's Directorate for Education and the World Bank on education and social protection issues. She has also held teaching positions at the Portuguese Catholic University and at the Universidade Nova de Lisbon and research positions in the United States. She graduated in economics from the Portuguese Catholic University and holds an MA and a Ph.D. from the University of Wisconsin-Madison. Maria Luisa Ferreira is of Portuguese nationality.

Simon Field is a senior analyst in the Education and Training Policy Division of OECD's Directorate for Education. Simon has a Ph.D. in philosophy and social policy from the University of Cambridge and a M.Sc. in Economics from Birkbeck College London. With the OECD since 2001, he has worked on issues including equity in education and human capital and is currently leading the activity on vocational education and training. He is from Northern Ireland.

Viktória Kis is a policy analyst in the Education and Training Policy Division of OECD's Directorate for Education. She holds a Master's degree in International Affairs from Sciences Po, Paris and an MSc in Educational Research Methodology from the University of Oxford. Prior to this project, she worked on the Thematic Review of Tertiary Education. Before joining the OECD as a consultant to the World Bank she worked on the evaluation of a school grant programme in the former Soviet Republic of Georgia. Viktória is a Hungarian and Vietnamese national.

Thomas Zwick studied economics at Regensburg University and Vanderbilt University, United States. In December 1993, he graduated from Regensburg University. He holds a PhD from Maastricht University. Thomas is Deputy Head of the Department of Labour Economics, Human Resources, and Social Policy at the Centre for European Economic Research (ZEW) in Mannheim. Since 2005 he is also a lecturer at Zurich University. His main fields of interests are microeconomic and microeconomic labour market analyses, qualification research and personnel economics. Thomas is from Germany.

3. Programme of the review visits

Fact-finding visit, 22-25 January 2008

Tuesday 22 January, Budapest

Meeting with directors and policy makers from the Ministry of Employment and Social Affairs

Meeting with representatives from the Ministry of Employment and Social Affairs and the Ministry of Education

Meeting with representatives from NIVE and the Employment and Social Office

Meeting with academic experts

Wednesday 23 January, Miskolc and Sajószentpéter

Visit to a vocational training school

Visit to a vocational training and secondary school

Visit to a TISZK

Meeting with leaders from municipal authorities

Thursday 24 January, Budapest

Meeting with officials of the National Development Agency

Meeting with employers' and employees' associations

Visit to a vocational secondary school

Friday 25 January, Budapest

Visit to a large firm's workshop where apprentice training takes places

Summary and final discussion with representatives of the Ministry of Employment and Social Affairs

Main visit, 10-14 March 2008

Monday 10 March, Budapest

Meeting with directors and policy makers from the Ministry of Employment and Social Affairs

Meeting with representatives from the Ministry of Education

Meeting with representatives from the Hungarian Chamber of Commerce and Industry

Tuesday 11 March, Kecskemét and Lajosmizse

Visit to an elementary school

Visit to a vocational training and secondary school

Visit to a firm in which apprenticeship takes place

Meeting with local employers (SMEs)

Wednesday 12 March, Budapest

Visit to a secondary school offering vocational training, vocational secondary and gymnasium tracks

Meeting with experts from NIVE

Meeting with human resource managers from large companies

Meeting with academic experts

Thursday 13 March, Budapest

Meeting with employers' and employees' associations

Meeting with the head of the Education Department at Budapest Municipality

Friday 14 March, Budapest

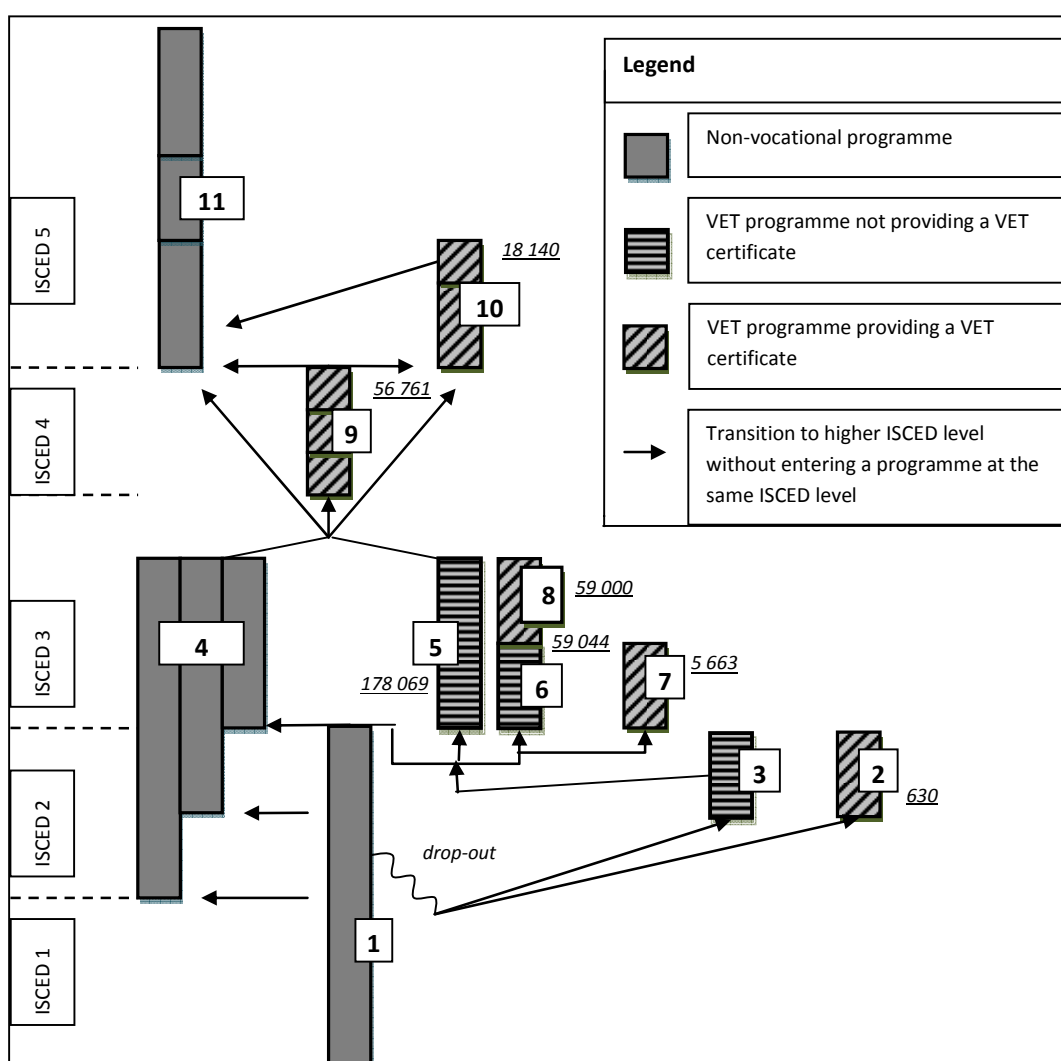
Summary and final discussion with representatives of the Ministry of Employment and Social Affairs

Summary and final discussion with representatives of the Ministry of Education

Annex B

Overview of the Hungarian education system

Figure B.1. Overview of the Hungarian education system, 2004/05



Note: The number of students enrolled in each programme (in initial VET) is indicated in italics. Data refer to 2004/05 and were provided in the International questionnaire on VET [OECD (2008) *The OECD International Survey of VET Systems: First Results and Technical Report*, forthcoming.]

Types of educational programme:

1. Elementary school (ISCED 1 and 2).
2. VET programme not requiring completed general education (ISCED 2C).
3. Second chance programme at vocational training school preparing for general school certificate (ISCED 2B).
4. 4 / 6/ 8 grades gymnasium (ISCED 2AG and 3AG).
5. Vocational secondary school (ISCED 3A).
6. General programme at vocational training school (ISCED 3C).
7. VET programme requiring completed general education (ISCED 3C).
8. VET programme requiring completed 10th grade (ISCED 3C).
9. Non-tertiary VET programme requiring completed upper secondary education or maturata (ISCED 4C).
10. Tertiary VET programme (ISCED 5B).
11. Tertiary education (ISCED 5A).

Annex C

International and national statistics

1. Hungary in international comparison

Table C.1. Performance of 15-year-olds in science, reading and mathematics

Mean score and variation in student performance on PISA science, reading and mathematics scale (2006)

	Science scale				Reading scale				Mathematics scale			
	Mean score		Standard deviation		Mean score		Standard deviation		Mean score		Standard deviation	
	Mean	S.E.	S.D.	S.E.	Mean	S.E.	S.D.	S.E.	Mean	S.E.	S.D.	S.E.
Australia	527	(2.3)	100	(1.0)	513	(2.1)	94	(1.0)	520	(2.2)	88	(1.1)
Austria	511	(3.9)	98	(2.4)	490	(4.1)	108	(3.2)	505	(3.7)	98	(2.3)
Belgium	510	(2.5)	100	(2.0)	501	(3.0)	110	(2.8)	520	(3.0)	106	(3.3)
Canada	534	(2.0)	94	(1.1)	527	(2.4)	96	(1.4)	527	(2.0)	86	(1.1)
Czech Republic	513	(3.5)	98	(2.0)	483	(4.2)	111	(2.9)	510	(3.6)	103	(2.1)
Denmark	496	(3.1)	93	(1.4)	494	(3.2)	89	(1.6)	513	(2.6)	85	(1.5)
Finland	563	(2.0)	86	(1.0)	547	(2.1)	81	(1.1)	548	(2.3)	81	(1.0)
France	495	(3.4)	102	(2.1)	488	(4.1)	104	(2.8)	496	(3.2)	96	(2.0)
Germany	516	(3.8)	100	(2.0)	495	(4.4)	112	(2.7)	504	(3.9)	99	(2.6)
Greece	473	(3.2)	92	(2.0)	460	(4.0)	103	(2.9)	459	(3.0)	92	(2.4)
Hungary	504	(2.7)	88	(1.6)	482	(3.3)	94	(2.4)	491	(2.9)	91	(2.0)
Iceland	491	(1.6)	97	(1.2)	484	(1.9)	97	(1.4)	506	(1.8)	88	(1.1)
Ireland	508	(3.2)	94	(1.5)	517	(3.5)	92	(1.9)	501	(2.8)	82	(1.5)
Israel	454	(3.7)	111	(2.0)	439	(4.6)	119	(2.8)	442	(4.3)	107	(3.3)
Italy	475	(2.0)	96	(1.3)	469	(2.4)	109	(1.8)	462	(2.3)	96	(1.7)
Japan	531	(3.4)	100	(2.0)	498	(3.6)	102	(2.4)	523	(3.3)	91	(2.1)
Korea	522	(3.4)	90	(2.4)	556	(3.8)	88	(2.7)	547	(3.8)	93	(3.1)
Luxembourg	486	(1.1)	97	(0.9)	479	(1.3)	100	(1.1)	490	(1.1)	93	(1.0)
Mexico	410	(2.7)	81	(1.5)	410	(3.1)	96	(2.3)	406	(2.9)	85	(2.2)
Netherlands	525	(2.7)	96	(1.6)	507	(2.9)	97	(2.5)	531	(2.6)	89	(2.2)
New Zealand	530	(2.7)	107	(1.4)	521	(3.0)	105	(1.6)	522	(2.4)	93	(1.2)
Norway	487	(3.1)	96	(2.0)	484	(3.2)	105	(1.9)	490	(2.6)	92	(1.4)
Poland	498	(2.3)	90	(1.1)	508	(2.8)	100	(1.5)	495	(2.4)	87	(1.2)
Portugal	474	(3.0)	89	(1.7)	472	(3.6)	99	(2.3)	466	(3.1)	91	(2.0)
Slovak Republic	488	(2.6)	93	(1.8)	466	(3.1)	105	(2.5)	492	(2.8)	95	(2.5)
Spain	488	(2.6)	91	(1.0)	461	(2.2)	89	(1.2)	480	(2.3)	89	(1.1)
Sweden	503	(2.4)	94	(1.4)	507	(3.4)	98	(1.8)	502	(2.4)	90	(1.4)
Switzerland	512	(3.2)	99	(1.7)	499	(3.1)	94	(1.8)	530	(3.2)	97	(1.6)
Turkey	424	(3.8)	83	(3.2)	447	(4.2)	93	(2.8)	424	(4.9)	93	(4.3)
United Kingdom	515	(2.3)	107	(1.5)	495	(2.3)	102	(1.7)	495	(2.1)	89	(1.3)
United States	489	(4.2)	106	(1.7)	m	m	m	m	474	(4.0)	90	(1.9)
OECD total	491	(1.2)	104	(0.6)	484	(1.0)	107	(0.7)	484	(1.2)	98	(0.7)
OECD average	500	(0.5)	95	(0.3)	492	(0.6)	99	(0.4)	498	(0.5)	92	(0.4)

Note: S.E. – standard error.

Source: PISA 2006 database.

Table C.2. Young adults at risk of exclusion

	20-to-24-year-olds not in education and who have not completed upper secondary education (2002) %	20-to-24-year-olds neither employed nor in education (2003) %
Australia	18.3	13.3
Austria	9.9	12.2
Belgium	15.0	17.1
Canada	10.9	13.2
Czech Republic	5.9	18.0
Denmark	11.9	8.2
Finland	10.1	16.5
France	14.5	14.4
Germany	14.2	15.6
Greece	17.8	21.4
Hungary	12.5	19.9
Iceland	30.6	6.2
Ireland	14.3	11.3
Italy	26.6	24.3
Luxembourg	19.2	8.2
Mexico		27.6
Netherlands	15.1	7.5
Norway ¹	4.6	10.6
Poland	8.4	25.5
Portugal	48.8	12.3
Slovak Republic	5.5	29.6
Spain	30.5	14.8
Sweden	8.6	11.8
Switzerland	8.4	12.7
Turkey		47.8
United Kingdom	8.0	15.3
United States ²	12.3	16.5

1. 2003

2. 2001

Source: OECD (2005) “From Education to Work”, INES-Network B, special Yalle data collection; Quintini *et al.* (2007), “The Changing Nature of the School-to-Work Transition Process in OECD Countries”, IZA DP. No. 2582, Discussion Paper, Bonn.

Table C.3. Unemployed young adults

Unemployment rates and incidence of long-term unemployment among 20-to-24-year-olds (2006)

	Unemployment rate of young adults aged 20 to 24 (%)	Unemployed young adults aged 20 to 24 as % of the total population aged 20 to 24	Ratio of the unemployment rate of young adults aged 20 to 24 to those of adults (aged 25 to 54)	Incidence of young adults aged 20 to 24 in long-term unemployment (6 months or more) (%)
Australia	7.0	5.7	1.84	27.0
Austria	7.5	5.6	1.81	33.0
Belgium	18.0	10.2	2.4	52.0
Canada	8.8	6.9	1.67	
Czech Republic	14.5	8.3	2.29	65.5
Denmark	5.3	4.2	1.61	17.0
Finland	14.8	10.2	2.43	19.4
France	22.7	12.4	2.65	46.9
Germany	13.2	9.4	1.39	61.0
Greece	23.2	12.2	2.89	71.5
Hungary	17.2	8.1	2.52	54.6
Iceland	4.9	4.0	2.54	
Ireland	7.3	5.5	1.91	48.7
Italy	19.2	9.9	3.26	67.4
Japan	7.7	5.4	1.99	
Korea	9.9	5.4	3.13	9.8
Luxembourg ¹	12.7	6.4	3.24	9.8
Mexico	5.7	3.5	2.23	3.5
Netherlands	4.9	4.0	1.36	44.1
New Zealand	6.4	4.9	2.43	18.4
Norway	6.8	5.0	2.29	20.9
Poland	29.6	16.9	2.42	59.5
Portugal	14.1	8.9	1.92	64.5
Slovak Republic	22.5	13.2	1.9	77.2
Spain	14.8	10.1	1.96	35.2
Sweden	16.6	11.8	3.13	19.3
Switzerland	7.6	6.2	2.15	
Turkey	19.7	9.9	2.35	51.6
United Kingdom	10.9	8.3	2.67	34.6
United States	8.2	6.1	2.17	14.4
OECD total	11.3	7.5	2.09	38.7

1. 2005.

Source: PISA 2006 database.

Table C.4. Time spent by upper secondary VET students in work placement

Estimated percentage of upper secondary VET students, by work placement in firms, and by time spent in work placement (as a share of the total programme length)

Country	Students in work placement with employers	Share of programme spent in work placement with employers					
		Other	75% or more	Between 50 and 75%	Between 25 and 50%	Less than 25%	Other
Australia	0	0	0	... - v
Austria	0	0	...	
Czech Republic	...		0	0	0	....
Denmark ¹	• - n.a.	0	....	0	0	• - n.a.
Finland		•	0	0	....²	
France		•	0	0	...	
Hungary³	•		0	0	0	...	.. - m
Japan		m	m	m	m	
Netherlands		0	..	...	0	
Norway		0	....	0	0	• - m
Sweden	• - m	0	0	0	....⁴	.. - m
Switzerland		•	0	0	• - v ⁵
United States	•		0	0	0	....	• - m

• 1-25%

•• 26-50%

••• 51-75%

•••• 76-100%

m: indicates a lack of information on the question

n/a: indicates that the given option does not exist in the country

v: varies depending on institutions, programmes and fields; m: missing; n.a.: response does not apply.

1. Work experience and employment status are required to enter programme B.1 (weight of 5%). Students in this programme combine their work with more theoretical VET courses, *e.g.* English for accountants.

2. At least 16% of the programme takes place in enterprises.

3. Includes data provided by the Hungarian Chamber of Commerce. Data of the Hungarian Chamber of Agriculture are missing, because it does not collect data on practical training based on agreements.

4. In 67% of upper secondary programmes practical training ranges approximately from 15 to 50% of the total programme.

5. Refers to students in school-based upper secondary VET.

Source: OECD (2008), *The OECD International Survey of VET Systems: First Results and Technical Report*, forthcoming.

Table C.5. Time spent by VET post-secondary students in work placement

Estimated percentage of post-secondary VET students, by work placement in firms, and by time spent in work placement (as a share of the total programme)

Country	Students in work placement with employers	Other	Programme length spent in work placement with employers				
			75% or more	Between 50 and 75%	Between 25 and 50%	None and less than 25%	Other
Australia	0	0	0	- m
Austria	...	• - n.a.	0	••	0	•••	
Czech Republic	...		m				
Denmark	••	••• -n.a.	0	0	•• ¹	0	•••-n.a.
Finland	...						••••-m
France	...		•	0	0	0	••••-v
Hungary²	...						••••-v
Ireland	...		0	••••	0	0	-m
Japan	...						••••-v
Norway	0	• n.a. ••••-m	0	0	0	0	••••-m
Sweden	...	0	0	0	•••	0	•••-m
Turkey	...		m				

• 1-25%

•• 26-50%

••• 51-75%

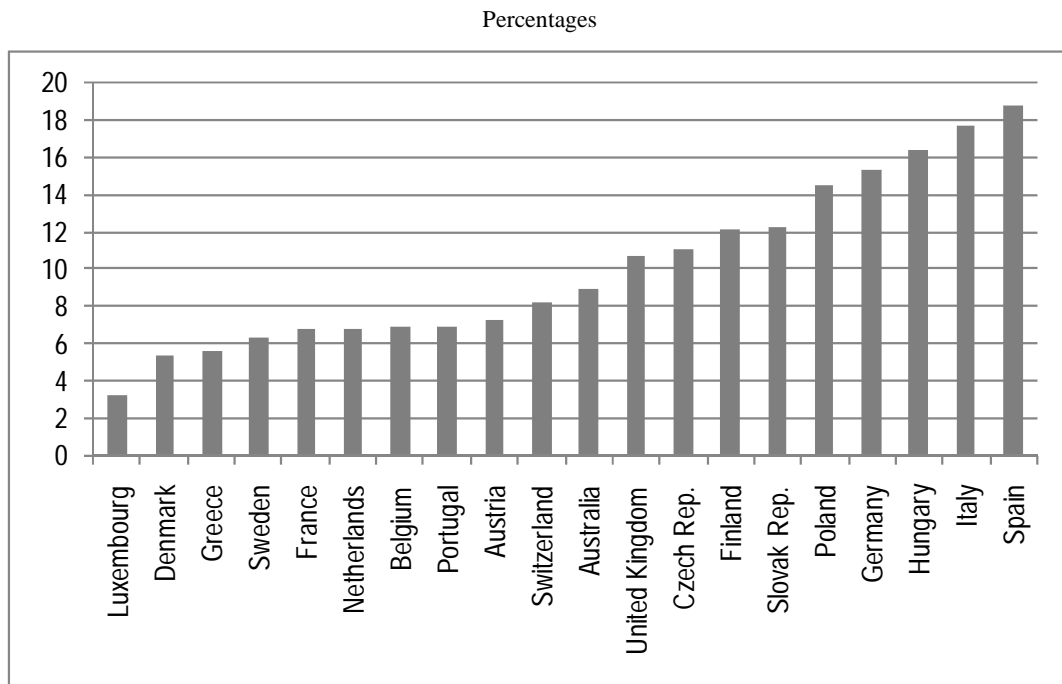
•••• 76-100%.

v: varies depending on institutions, programmes and fields; m: missing; n.a.: response does not apply.

1. Work placement with employers ranges from 12 to 50% of the programme length.

2. Includes data provided by the Hungarian Chamber of Commerce. Data of the Hungarian Chamber of Agriculture are missing, because it does not collect data on practical training based on agreements.

Source: OECD (2008), *The OECD International Survey of VET Systems: First Results and Technical Report*, forthcoming.

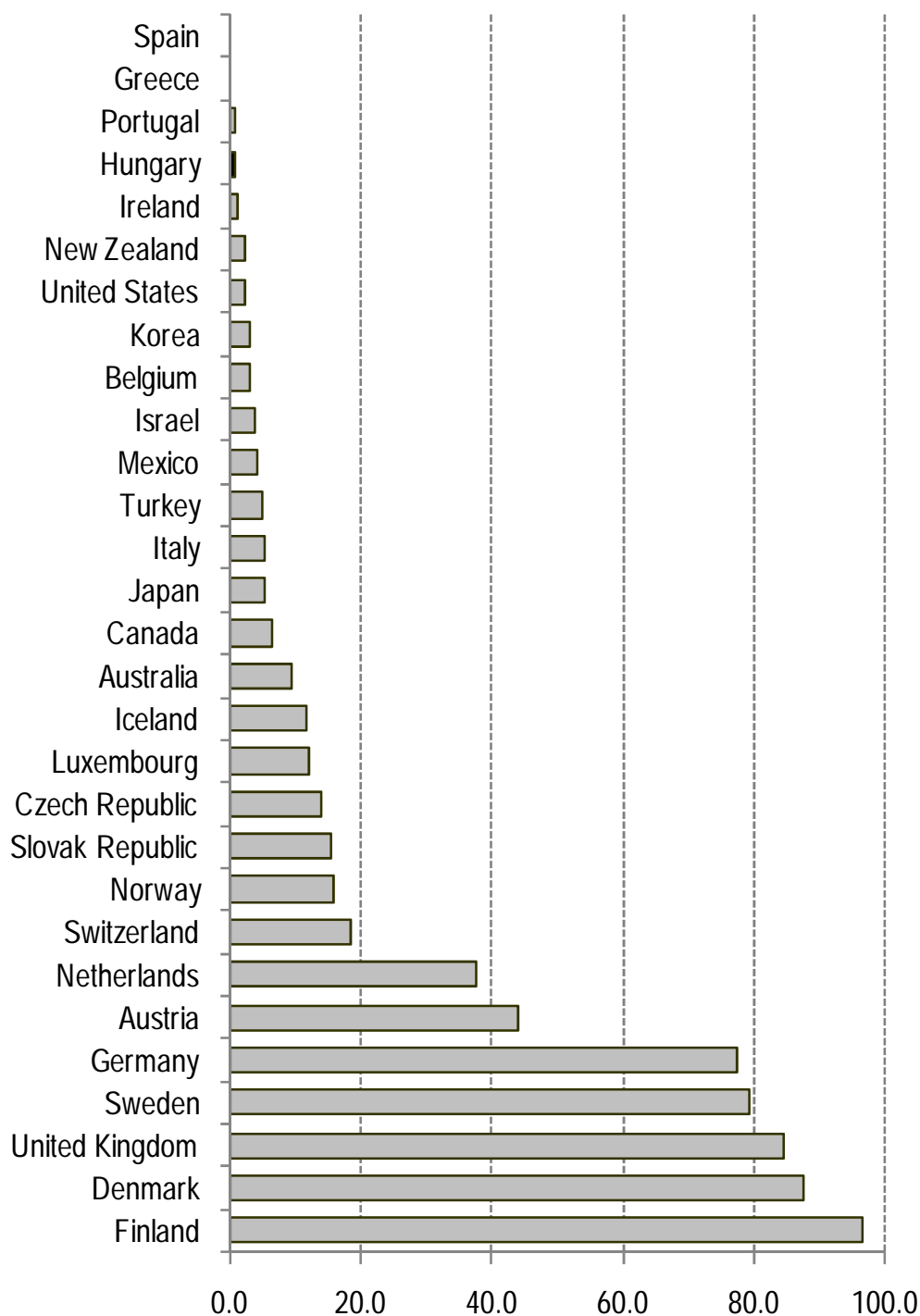
Figure C.1. Inactivity rate five years after leaving school, Europe, 2006

Respondents aged 15-29, all levels of education pooled. Data refer to persons out of the labour force and no longer in education.

Source: European Union Labour Force Survey 2007, <http://epp.eurostat.ec.europa.eu>.

Figure C.2. How many students receive some training with local businesses

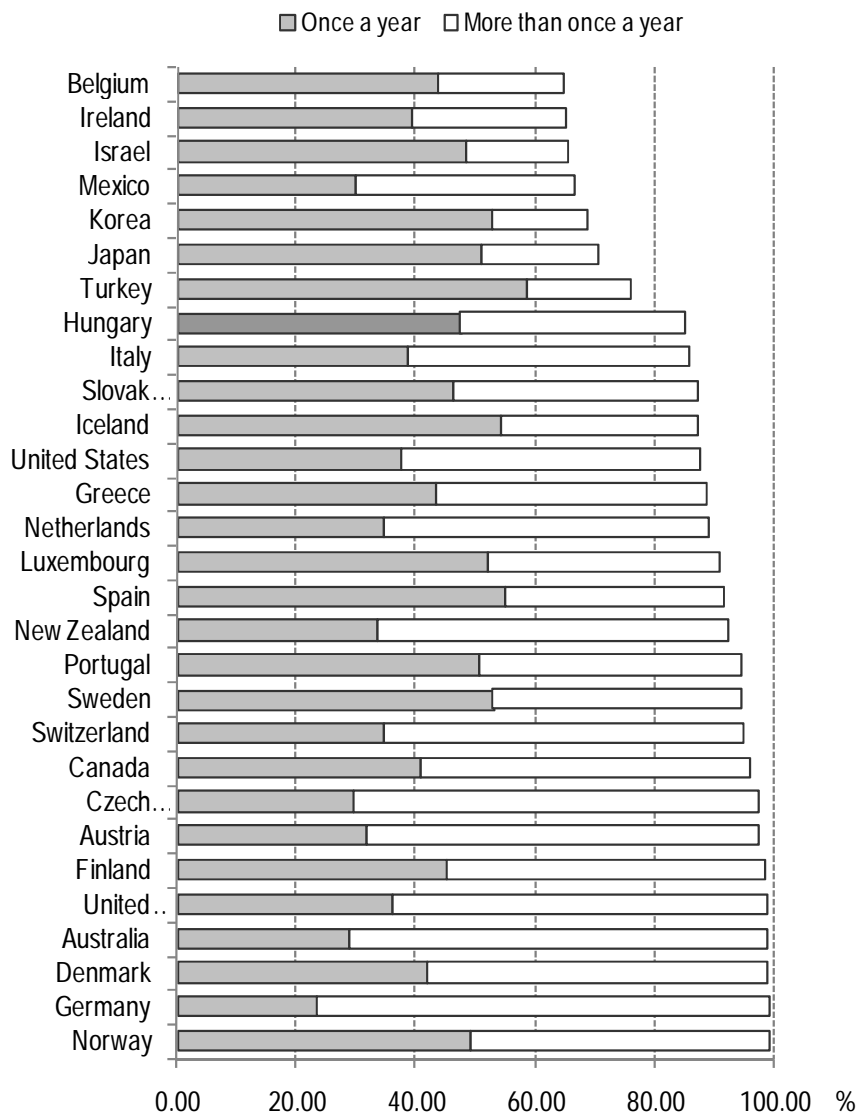
Percentage of 15-year-olds students in schools where the principal reported that more than half of students from the school received some training in local businesses as part of school activities during school year, 2006



Source: PISA 2007 database.

Figure C.3. Business involvement in schools

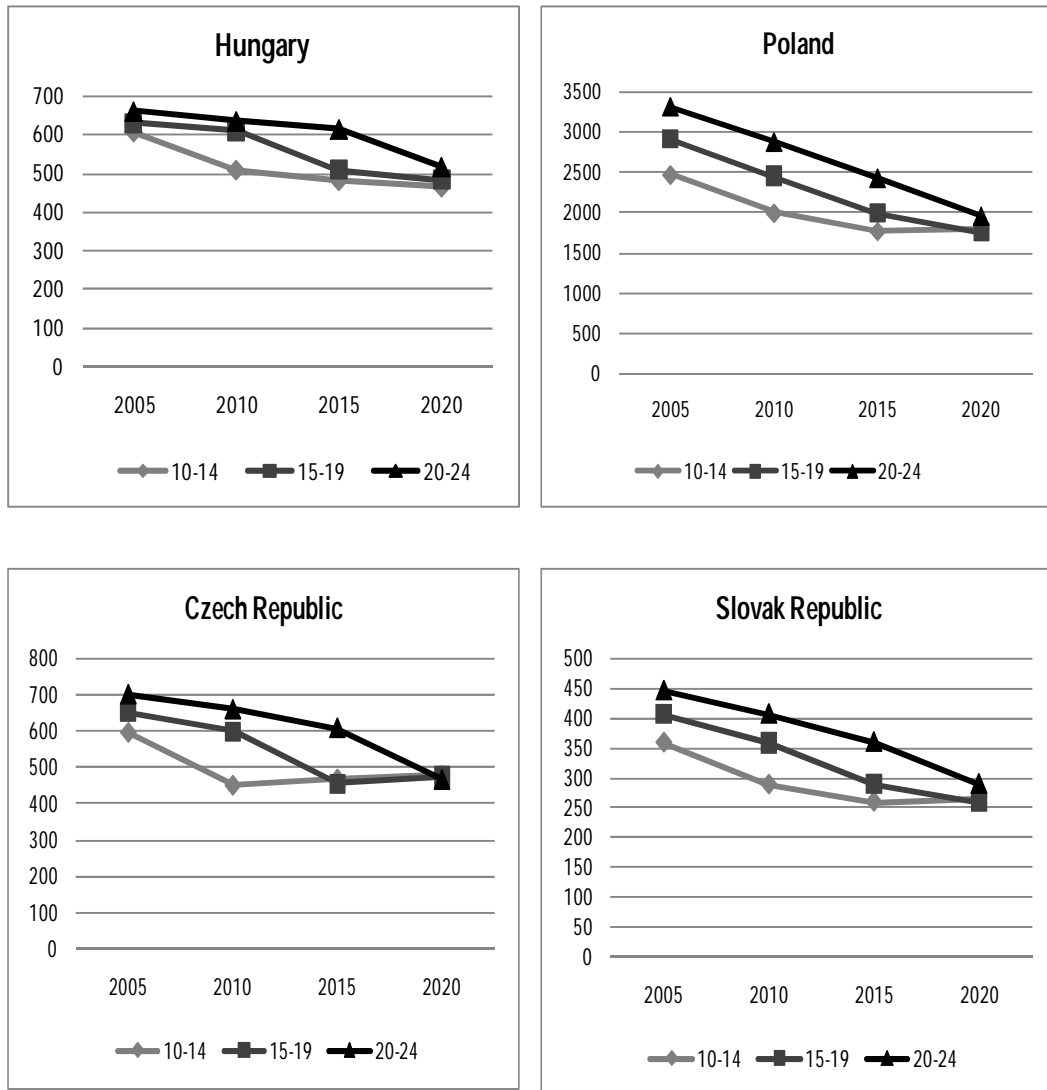
Percentage of 15-year-olds students in schools where the principal reported students had the opportunity to participate in job fairs, lectures (at school) by business or industry representatives and visits to local businesses and industries as part of their normal schooling, 2006



Source: PISA 2007 database.

Figure C.4. Population projections, thousands

Medium variant



Source: Population Division of the Department of Economic and Social Affairs of the United Nations Secretariat (2007), *World Population Prospects: The 2006 Revision and World Urbanization Prospects* <http://esa.un.org/unpp>

2. Statistical picture of upper secondary VET in Hungary

Table C.6. Number of students in elementary education

Year	Number of students	Students in 1st grade
1990/91	1 177 612	130 026
1991/92	1 124 098	131 682
1992/93	1 082 671	135 508
1993/94	1 041 007	131 566
1994/95	1 008 267	132 102
1995/96	992 766	130 312
1996/97	980 522	130 759
1997/98	976 566	133 464
1998/99	976 342	131 875
1999/00	972 901	127 382
2000/01	960 790	122 580
2001/02	947 037	117 689
2002/03	933 171	117 262
2003/04	912 959	108 469
2004/05	890 551	104 771
2005/06	861 858	101 192
2006/07	831 262	99 095

Source: Hungarian Ministry of Education (2007), *Statistical Yearbook of Education 2006/2007*, Ministry of Education, Budapest.

Table C.7. Social background of upper secondary students in Hungary

School type Year	Vocational training schools			Vocational secondary schools			Gymnasium		
	2001/02	2003/04	2005/06	2001/02	2003/04	2005/06	2001/02	2003/04	2005/06
Students	126 367	126 673	126 211	292 646	292 305	287 290	223 474	239 086	243 878
– of which full-time	123 951	123 457	122 162	238 622	247 622	244 001	182 267	190 447	197 217
– of which part-time	2 416	3 216	4 049	54 024	44 683	43 289	41 207	48 639	46 661
Socially disadvantaged	m	m	25 851	m	m	24 689	m	m	10 827
Socially disadvantaged as % of all students	m.	m	20.5%	m	m	8.6%	m	m	4.4%
Repeaters	m	7 476	6 706	m	10 400	8 735	m	5 119	4 084
Repeaters as % of all students		5.9%	5.3%	3.6%	3%			2.1%	1.7%
Under state care	1 837	1 902	1 604	708	897	550	304	168	224
Endangered	8 475	9 905	10 126	7 334	9 780	9 282	3 437	3 781	4 345
Endangered as % of all students	6.7%	7.8%	8%	2.5%	3.3%	3.2%	1.5%	1.6%	1.8%

m: indicates a lack of information on the question

Source: Hungarian Ministry of Education (2003), *Statistical Yearbook of Education 2001/2002*, Ministry of Education, Budapest; Hungarian Ministry of Education (2004), *Statistical Yearbook of Education 2002/2003*, Ministry of Education, Budapest; Hungarian Ministry of Education (2006), *Statistical Yearbook of Education 2005/2006*, Ministry of Education, Budapest.

Table C.8. The most popular fields of study in VET, 2006/07

Field of study	Number of students
Building and civil engineering	15 204
Hotel, restaurant and catering	14 083
Wholesale and retail sales	12 284
Computer use	8 997
Mechanics and metal work	7 637
Management and administration	6 693

Source: Hungarian Ministry of Education (2007), *Statistical Yearbook of Education 2006/2007*, Ministry of Education, Budapest.

Table C.9. Occupational groups in the National Vocational Qualifications Register

Health care	Social services	Education	Art, community education, communication
Mechanical engineering	Electrical engineering, electronics	Computer science	Chemical industry
Construction	Light industry	Wood industry	Printing industry
Transport	Environmental protection, water management	Economics	Administration
Trade, marketing, business administration	Tourism and catering	Other services	Agriculture
Food industry			

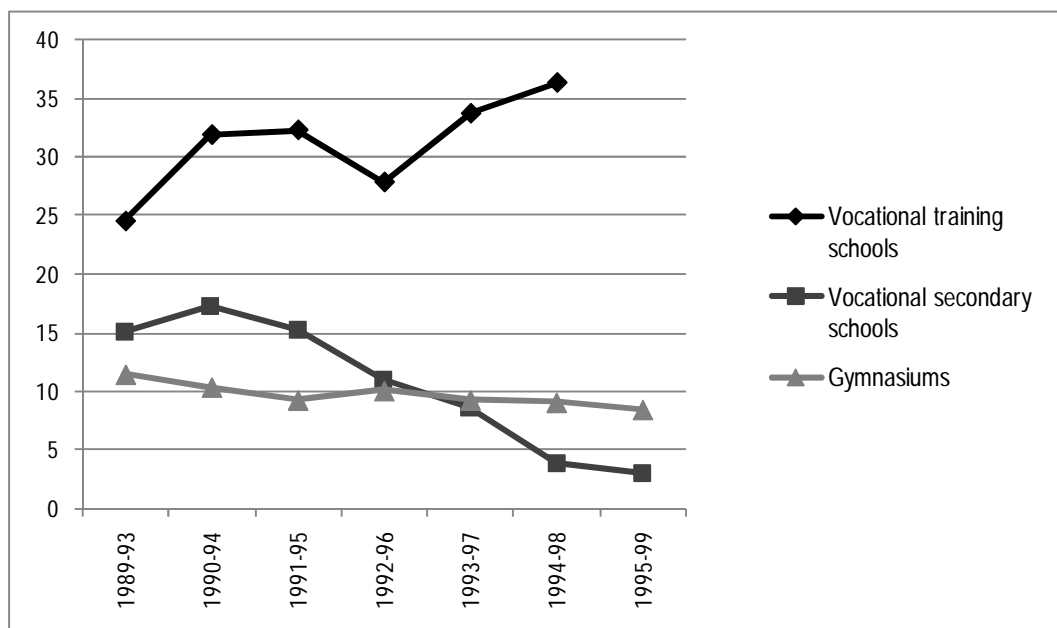
Source: T. Köpeczi Bócz and E. Bükki (2006a), *A szakképzés Magyarországon* (Vocational Education and Training in Hungary), CEDEFOP, Tessaloniki, p. 21.

Table C.10. Number of students in apprenticeship training by qualification, 2005/06

Occupation	Students	
	Number	%
Food and household retailer	2 924	9.1
Cook	2 462	7.67
Waiter	1 920	5.98
Hairdresser	1 873	5.83
Painter/wallpaperer	1 676	5.22
Carpenter	1 562	4.86
Car body repairer	1 216	3.79
Bricklayer	1 211	3.77
Garment retailer	852	2.65
Electrician	850	2.65
Subtotal	16 546	51.52
Total	32 114	100.00

Source: MKIK in Köpeczi Bócz, T. and E. Bükki (2006a), *A szakképzés Magyarországon* (Vocational Education and Training in Hungary), CEDEFOP, Tessaloniki, p. 25.

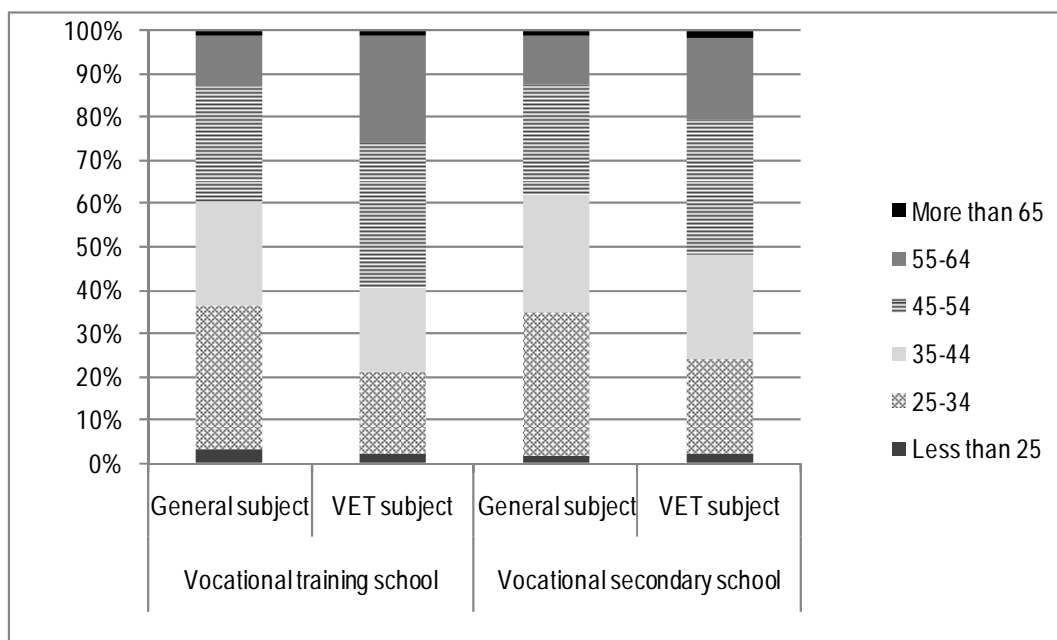
Figure C.5. Drop-out rates from upper secondary education in Hungary



Source: Hungarian Ministry of Education (1999), “OM Statisztikai Tájékoztató”, in I. Liskó, (2002a), “A hátrányos helyzetű tanulók oktatásának minősége”. *Új Pedagógiai Szemle*, No. p. 13.

Figure C.6. Teachers and trainers in VET schools in Hungary by age group

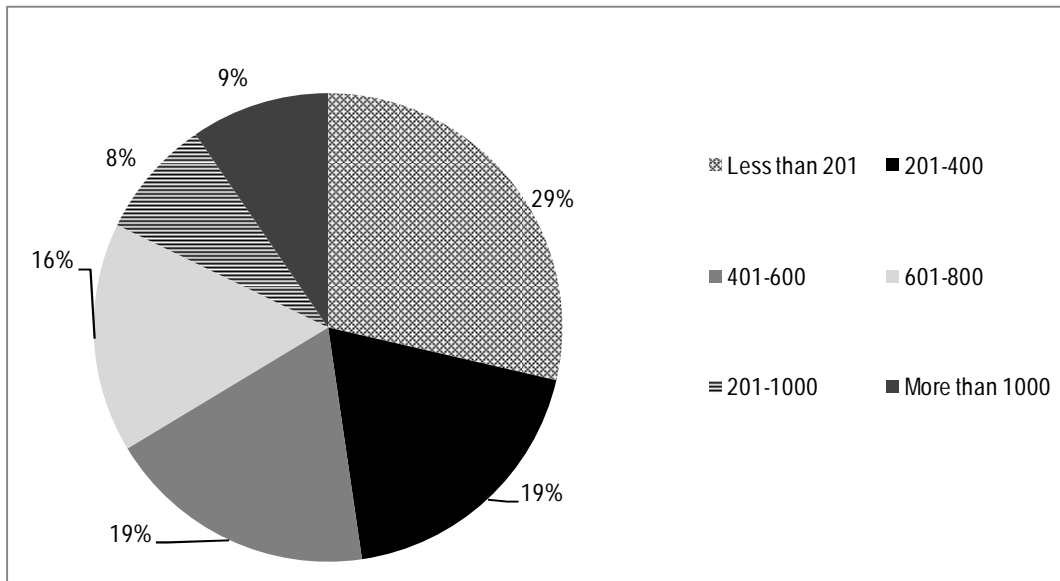
Academic year 2007/08



Source: Hungarian Ministry of Education (2008), personal communication.

Figure C.7. Secondary institutions in Hungary by number of students

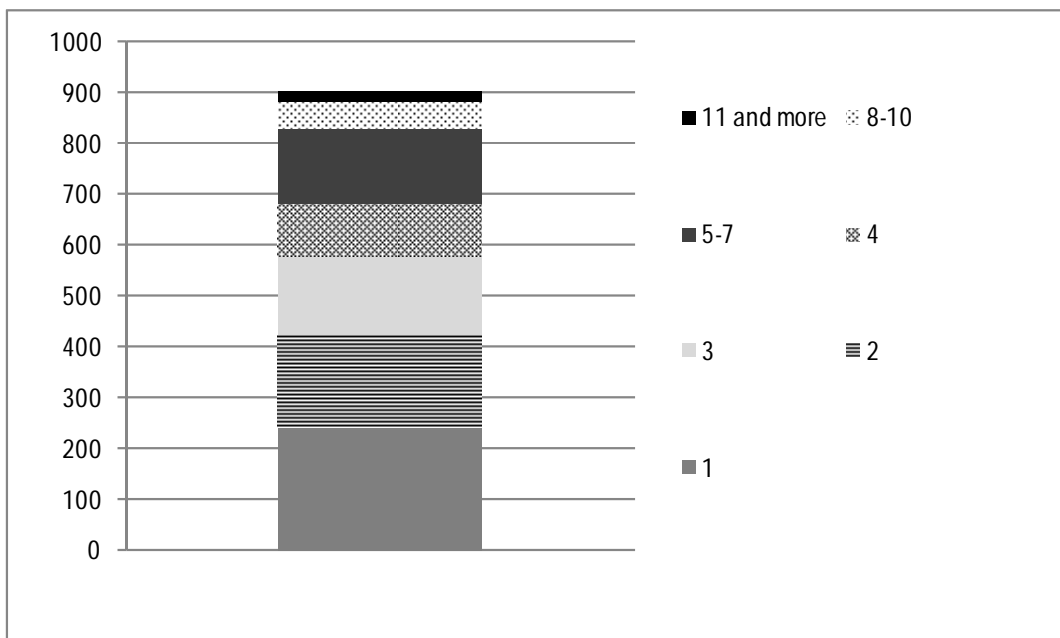
Academic year 2007/08, including full-time and part-time students



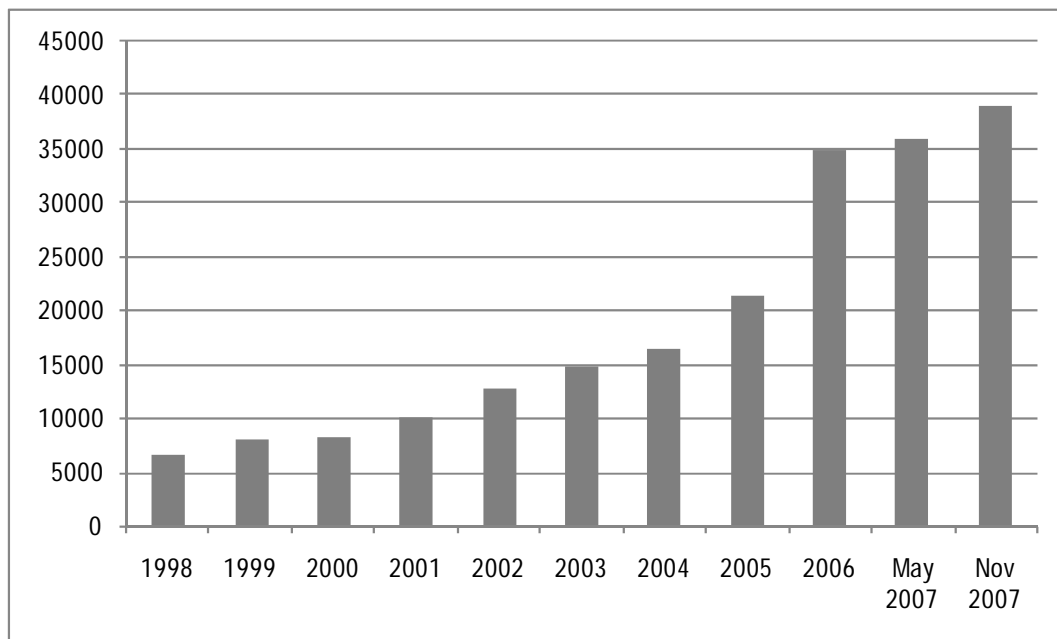
Source: Hungarian Ministry of Education (2008), personal communication.

Figure C.8. Number of VET schools in Hungary by number of occupational groups taught

Academic year 2007/08, including full-time and part-time students



Source: Hungarian Ministry of Education (2008), personal communication.

Figure C.9. Number of apprenticeship contracts, 1998-2007

Source: Hungarian Ministry of Labour and Social Affairs (2008), personal communication.

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