



Modernising vocational education and training

Fourth report on vocational training research in Europe: background report

Volume 3

In 2002, the European ministers for vocational education and training from 31 European countries and the European Commission adopted the Copenhagen declaration, which underlines the contribution of vocational education and training (VET) to achieving the Lisbon goals and sets priorities for VET systems' reforms through enhanced European cooperation. Every two years, progress by Member States in modernising VET is reviewed and reform priorities are refined. The latest review was in Helsinki in December 2006.

The fourth report on VET research documents, discusses and analyses the socioeconomic context and VET reforms, based on latest research evidence. The report informs and improves policy-making and helps develop the VET research agenda. It thus provides and discusses the evidence base for enhanced cooperation in VET.

The background report collects contributions from renowned experts and researchers. Contributions have been regrouped into three separate volumes. This volume addresses various aspects and dimensions of the VET reforms process such as: the development of national qualification systems and frameworks, policies to improve the attractiveness of VET and European level tools and strategies, such as the European qualification framework.

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Cataloguing data can be found at the end of this publication.

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We provide information on and analyses of vocational
education and training systems, policies, research and practice.
Cedefop was established in 1975
by Council Regulation (EEC) No 337/75.

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Table of contents

Foreword	9
Acknowledgments	10
Introduction. Modernising vocational education and training – A fourth Cedefop report on VET research <i>Pascaline Descy, Guy Tchibozo, Manfred Tessaring</i>	12
Improving the attractiveness and image of VET <i>Johanna Lasonen, Jean Gordon</i>	15
Legibility of qualifications: an issue as long-standing as Europe <i>Annie Bouder, Françoise Dauty, Jean-Louis Kirsch, Philippe Lemistre</i>	89
The role of national qualifications systems in helping to modernise vocational education and training systems <i>Mike Coles, Patrick Werquin</i>	141
European strategies and priorities for modernising vocational education and training <i>Sandra Bohlinger, Dieter Münk</i>	179
Towards knowledge-based societies: indicators of European competitiveness <i>Manfred Tessaring</i>	243
List of contributors	284

Foreword

The skill levels of the European Union's (EU) workforce must be raised to improve competitiveness, growth rates, job prospects, and promote social inclusion. At the Lisbon Council in 2000 the EU institutions, Member States and social partners made a commitment to devise policies to modernise their education and training systems to make them the best in the world by 2010. The EU and the Member States launched the Copenhagen process in 2002, specifically to strengthen European cooperation in improving VET policy. As part of the process, the Member States agreed to work closer together on several priorities. They agreed to look at ways to improve VET's status and quality to attract more people into it; to make VET more responsive to the needs of a labour market that has an ageing workforce and many who find it hard to get a job. They also agreed to encourage more employers to offer training places and adapt training to meet better new demands at the workplace. Cedefop, as the EU's agency supporting vocational education and training (VET) policy development, is actively involved in this process.

Cedefop's strategic objective is to contribute to achieving the Lisbon goal to modernise VET. To serve its strategic objective, Cedefop supports evidence-based policy-making through research findings and policy analyses. Research and policy-making often seem to have different agendas. Researchers' interests may not match those of policy-makers who, in turn, can be too busy to take into account what researchers are saying. Consequently, basing policy decisions on firm research evidence can be difficult to achieve. Cedefop's fourth research report addresses this issue. It brings together experts from the world of research to discuss policy matters for VET in the EU. The common VET policy priorities agreed between EU ministers for education in the Copenhagen process constituted the backdrop to select the issues discussed in the report.

The report provides a thorough review of research into the major aspects of EU VET policy priorities. It forms a valuable body of knowledge to inform European VET policy-making.

Aviana Bulgarelli
Director of Cedefop

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Cedefop would like to thank Pascaline Descy, Guy Tchibozo and Manfred Tessaring, project managers in Cedefop and editors of the contributions gathered in this book. It would also like to thank all the authors of the articles for their valuable input. A special thanks also to Roula Panagiotou, secretary to the project.

Other volumes of the background report

The background report to the fourth research report is composed of two other volumes published separately, the content of which is detailed below.

Volume 1

Introduction. Modernising vocational education and training – A fourth Cedefop report on VET research

Pascaline Descy, Guy Tchiboza, Manfred Tessaring

Geographical mobility
Terry Ward

Social mobility and VET
Giorgos Tsakarissianos

The role of vocational education and training in enhancing social inclusion and cohesion
John Preston, Andy Green

Skill shortages
Olga Strietska-Illina

The private benefits from vocational training: a new framework
Wendy Smits

Modernising vocational education and training: the importance of information, advice and guidance over the life-cycle
Lex Borghans, Bart Golsteyn

Volume 2

Introduction. Modernising vocational education and training – A fourth Cedefop report on VET research

Pascaline Descy, Guy Tchiboza, Manfred Tessaring

New and emerging issues in vocational education and training research beyond 2010
Catherine Béduwé, Jean-François Germe, Tom Leney, Jordi Planas, Marianne Poumay, Russel Armstrong

The training and development of VET teachers and trainers in Europe
David Parsons, Jacqui Hughes, Chris Allison, Kenneth Walsh

Learning at the workplace
Elke Gruber, Irene Mandl, Thomas Oberholzner

The learning society as a greying society: perspectives of older workers and lifelong learning
Tarja Tikkanen

‘Through the looking-glass’: diversification and differentiation in vocational education and training and higher education
Torsten Dunkel, Isabelle Le Mouillour, Ulrich Teichler

Policy learning – applying the changing learning paradigm for policy advice on VET reforms in transition countries
Peter Grootings, Sören Nielsen

Introduction. Modernising vocational education and training – A fourth Cedefop report on VET research

Pascaline Descy, Guy Tchibozo, Manfred Tessaring

The series of reports on vocational education and training (VET) research have been published by Cedefop since 1998 ⁽¹⁾. The reports give a comprehensive review of current socioeconomic research related and relevant to VET and skill development in Europe, its results and implications for policy and future research. Research reports are a tool for evidence-based policy making. Attention is always paid to the theoretical and methodological foundations of research.

Each research report consists of a background report of several volumes with contributions from renowned researchers, of which this is one and a synthesis report written by Cedefop experts.

Fourth research report: modernising vocational education and training

Modernising VET is the overarching theme of the fourth research report. It aims to provide and

discuss the evidence-base for the process of enhanced cooperation in VET which sets priorities for reforming VET to contribute to the Lisbon process ⁽²⁾.

This fourth research report aims to document, discuss and analyse the socioeconomic context, and process of reforming VET, based on latest research evidence. The report intends to inform and improve policy-making and develop the VET research agenda.

Enhanced European cooperation in vocational education and training

In 2002, the ministers for vocational education and training of 31 European countries and the European Commission adopted the Copenhagen declaration ⁽³⁾. It underlines the contribution of VET to achieving the Lisbon goals and sets priorities for VET reforms systems to be

⁽¹⁾ Cedefop. *Vocational education and training – the European research field: background report*. Volumes I and II. Luxembourg: Publications Office, 1998 (Cedefop Reference document, 3002).

Cedefop; Tessaring, M. *Training for a changing society: a report on current vocational education and training research in Europe*. 2nd ed. Luxembourg: Publications Office, 1999 (Cedefop Reference document, 3001).

Cedefop; Descy, P.; Tessaring, M. *Training and learning for competence: second report on vocational education and training research in Europe: synthesis report*. Luxembourg: Publications Office, 2001 (Cedefop Reference series, 6).

Cedefop; Descy, P.; Tessaring, M. (eds). *Training in Europe: second report on vocational training in Europe 2000: background report* (3 volumes). Luxembourg: Publications Office, 2001 (Cedefop Reference series, 3008).

Cedefop; Descy, P.; Tessaring, M. (eds). *Impact of education and training: third report on vocational training research in Europe: background report*. Luxembourg: Publications Office, 2004 (Cedefop Reference series, 54).

Cedefop; Descy, P.; Tessaring, M. (eds). *Evaluation of systems and programmes: third report on vocational training research in Europe: background report*. Luxembourg: Publications Office, 2004 (Cedefop Reference series, 57).

Cedefop; Descy, P.; Tessaring, M. (eds). *The foundations of evaluation and impact research: third report on vocational training research in Europe: background report*. Luxembourg: Publications Office, 2004 (Cedefop Reference series, 58).

Cedefop; Descy, P.; Tessaring, M. *The value of learning – evaluation and impact of education and training: third report on vocational training research in Europe: synthesis report*. Luxembourg: Publications Office, 2005 (Cedefop Reference series, 61).

⁽²⁾ http://ec.europa.eu/education/copenhagen/index_en.html.

⁽³⁾ Declaration of the ministers for education and the European Commission convened in Copenhagen in November 2002.

implemented through enhanced cooperation. Every two years, the Member States' progress in modernising VET is reviewed and priorities for reforms are refined.

The first review was in Maastricht in December 2004. The Maastricht communiqué noted progress and refined the VET priorities. It identified reforms to be made and action to be taken at national and European levels. The communiqué focused particularly on:

- (a) the image and attractiveness of the vocational route for employers and individuals, to increase participation in VET;
- (b) achieving high levels of quality and innovation in VET systems to benefit all learners and make European VET globally competitive;
- (c) linking VET with the labour-market requirements of the knowledge economy for a highly skilled workforce, and especially, due to the strong impact of demographic change, the upgrading and competence development of older workers;
- (d) the needs of low-skilled and disadvantaged groups for the purpose of achieving social cohesion and increasing labour-market participation.

The second review of the Copenhagen process by the European ministers for vocational education and training, European social partners and European Commission was in December 2006, in Helsinki. The Helsinki communiqué reaffirmed the need to invest in human capital and skills but proposed a more focused approach with a limited number of priority areas and clear targets. While the Copenhagen and Maastricht priorities remain valid, the process needed strengthening, until work focuses on the following priorities:

- (a) the image, status and attractiveness of VET, placing emphasis on good governance of VET systems, institutions and/or providers;
- (b) further development, testing and implementation of common European tools, which should be in place by 2010;
- (c) strengthen mutual learning and improve the scope, comparability and reliability of VET statistics by 2008;
- (d) active involvement of all stakeholders, as the Copenhagen process moves towards an implementation phase.

The background report – Volume 3

As in the previous editions, the background report collects contributions from renowned experts and researchers. Contributions have been regrouped into three separate volumes. The present volume addresses various aspects and dimensions of the VET reforms process such as the development of national qualification systems and frameworks, policies to improve the attractiveness of VET and European level tools and strategies, such as the European qualification framework.

Manfred Tessaring reviews and discusses indicators of European competitiveness. These include economic and employment indicators as well as indicators related to education, training, human capital and science and technology. European countries are compared with several others, such as Australia, Canada, China, India, Japan, Korea, the Russian Federation and the US. It becomes clear that competitiveness cannot be reduced to a single indicator, but has many dimensions. It is also obvious that several European countries score high on the competitiveness scale, particularly concerning their education, training and human capital performance.

Improving attractiveness of VET is one of the education and training policy priorities and objectives set by the Lisbon-Copenhagen processes and their follow-ups such as the Maastricht and Helsinki communiqués. Johanna Gordon and Jean Lasonen conclude from a survey of available statistics that the attractiveness of VET seems to have improved in the EU-15, whereas in the new Member States from the Baltic, central and Mediterranean Europe, the attractiveness of VET appears to have shown some decrease in recent years. The study explores the different policy approaches and strategies implemented by European countries to open up access, pathways and progression, including into higher education, for VET routes and to increase the links with working life. Several issues are raised for reflection and future research including quality, teacher education, governance and the role of students in designing their own pathways.

The readability or transparency of qualifications has been a European concern since the Treaty

of Rome was signed. The aim is to bring about a better match between the supply and demand for skills, making it possible to transcend the particular situation of individual countries, to foster the movement of workers in a European labour market. Therefore, the proposed European qualifications framework and the encouragement given to the different States to develop national systems and frameworks can be considered the most recent forms of modernisation proposed to meet this concern. One of the aims of the article by Annie Boudier, Françoise Dauty, Jean-Louis Kirsch and Philippe Lemistre is to review this historic dimension, partly to prepare a European project and partly to set up national systems for States, which are in a very different situation and have different options with regard to the building and development of their own vocational training systems.

Presently, employers may not find the appropriate skills and competences they need in the market either because they do not exist – VET systems have not incorporated them in their programmes – or because employers do not know

where to find them. Modernising VET systems, therefore, has to do with ensuring that it is able to deliver the expected skills and competences and effectively to provide information about how the system functions. In their report, Mike Coles and Patrick Werquin focus on the latter, i.e. the role of qualifications systems in helping to modernise VET and, where appropriate, they discuss more specifically qualifications frameworks.

Analysing European strategies and priorities and their potential impact is one of the main tasks involved in ensuring sustainable development of vocational training. It is against this background that Sandra Bohlinger and Dieter Münk discuss some vocational training strategies and priorities. They examine their conception, function and implementation. These strategies include, among others, the development of the European qualifications framework (EQF), promoting mobility and internationalisation strategies as a major element of economic and employment policy, and the effect of vocational training on the unemployed and on workers threatened by unemployment.

Improving the attractiveness and image of VET

Johanna Lasonen, Jean Gordon

Abstract

Making vocational education and training (VET) systems more open, flexible and attractive has been identified as a major item in the European economic, employment and social agenda. Opening and consolidating a range of new pathways between VET and higher education, as well as VET at tertiary level, are defined as key aspects of improving education and training systems which have a dynamic role in developing the labour force, human skills and economy. Potential measures for making VET more attractive include improved vertical and horizontal mobility, workplace learning and recognition of prior learning.

Improving the attractiveness of VET is one of the education and training policy priorities and objectives set by the Lisbon-Copenhagen processes and in follow-ups such as the Maastricht and Helsinki communiqués (European Commission, 2004; 2006). Attractiveness is observed as preferences, attitudes and related behaviour of individuals and groups and their families. The objectives of this study are to:

- (a) examine some factors that constitute and are related to attractiveness of VET;
- (b) survey the statistics on enrolment in upper secondary general and vocational education for females and males, and in vocational higher education for different fields;
- (c) compare unemployment rates and salaries between persons with different education attainments;
- (d) map Member State policy measures to improve the attractiveness of VET and, to some extent, continuing vocational training.

The statistical analysis in this study shows that the policy goal of improving the attractiveness of VET seems to have progressed in the EU-15 countries, whereas in the 10 countries from the Baltic, central and Mediterranean Europe, which joined the EU in 2004, it appears to have shown some decrease in recent years. Parents' educational and occupational backgrounds, as well as their attitudes towards different options, have significant influence when students are choosing between pathways after compulsory education. The study explores the different policy approaches and strategies implemented by the European countries to open up access, pathways and progression, including into higher education, for VET routes and to increase links with working life. Several issues are raised for reflection and future research: quality, teacher education, governance and the role of students in designing their own pathways.

Improving the attractiveness and image of VET is likely to remain on the agenda of education systems in the coming future. One of the main challenges in improving the image of VET is to recognise the value of academic research on VET and its pedagogy, and accordingly to invest in and organise it systematically.

Table of contents

1. Introduction	20
1.1. Objectives and scope	22
1.2. Sources and methods	23
1.3. Outline of the report and some limitations	23
2. Lessons from past studies	24
2.1. Some key terms	24
2.2. Previous studies on occupational status or prestige	25
2.3. Parity of esteem between vocational and general education	27
2.4. The attractiveness of VET	30
2.5. Concluding remarks	31
3. Statistical data on VET enrolment	33
3.1. Student enrolment in, and graduation from, upper secondary education	33
3.2. Enrolment in tertiary education programmes	37
3.3. Employment and unemployment	38
3.4. Income returns from learning	43
3.5. Conclusions	48
4. Policy measures to increase the attractiveness of VET and continuing vocational training	49
4.1. Introduction	49
4.2. The context	51
4.3. Image status and attractiveness of VET	53
4.3.1. Guidance and counselling	53
Summary points	54
4.3.2. Open VET and responsiveness to the needs of individuals	54
4.3.2.1. Improving the access to learning and to qualifications	54
4.3.2.2. Developing flexible and individualised provision and pathways	55
4.3.2.3. Facilitating transfers between the different parts of secondary VET	55
4.3.2.4. Improving access to higher education	56
4.3.2.5. Responsiveness through delivery of the curriculum	57
4.3.2.6. Summary points	58
4.3.3. Close links with working life for initial and continuing VET	58
4.3.3.1. Regionalisation/decentralisation	59
4.3.3.2. Sector involvement	59
4.3.3.3. Taking better account of labour-market requirements	60
4.3.3.4. Institutional development	60
4.3.3.5. Standards development	60
4.3.3.6. Summary points	61
4.3.4. Promoting recognition of non-formal and informal learning	61
Summary points	62
4.4. Good governance of VET systems and VET agenda through:	63
4.4.1. Training VET teachers and trainers	63
Summary points	64
4.4.2. Quality assurance	64
Summary points	65

4.4.3. Increased transparency of VET systems	65
Summary points	67
4.5. Issues arising	67
5. Conclusions and implications	69
5.1. Policies and measures to promote VET attractiveness in Member States	69
5.2. European and non-European enrolment patterns	69
5.3. Attractiveness of VET and parity of esteem between vocational and general education	72
5.4. An agenda for change	72
5.5. Implications for future research	74
Annex	76
List of abbreviations	84
References	85

List of tables, figures and boxes

Tables

1. Distribution of upper secondary students across vocational and general programmes (ISCED 3) by gender in 2004	35
2. The countries that responded to the DGVT questionnaire	50
3. Section organisation	52
4. Summary of the needs that the policies and measures are designed to fulfil for individuals, employers and systems	70
5. Summary of the measures of attractiveness in VET in ISCED 3	71
6. General education students at ISCED 3: trends in enrolment in 2000-04 (%), ranked by percentage of general education students in 2004	76
7. Vocational education students at ISCED 3: trends in enrolment in 2000-04 (%), ranked by percentage of vocational education students in 2004	77
8. Graduates in ISCED 4: trends in 2000-04 (N)	78
9. Structure of enrolment in tertiary programmes with academic orientation (ISCED 5A) in 2004. % - Total (N) = 100%	79
10. Structure of enrolment in tertiary programmes with occupational orientation (ISCED 5B) in 2004. % - Total (N) = 100%	80
11. Unemployment rates between 15 and 24 years old by gender – trends in 2000-05, ranked by unemployment rate in 2005	81
12. Unemployment rates between 25 and 64 years old by gender – trends in 2000-05; ranked by unemployment rates in 2005	82
13. Unemployment among those who have emigrated from non-EU countries and among EU citizens by EU-25 countries in 2004 (%)	83

Figures

1. General and vocational education students as % of all students at ISCED 3 in 2004 by countries	34
2. General and vocational education students as % of all students at ISCED 3 in 2000-04 by country clusters	35
3. Vocational education students by gender as % of all students at ISCED 3 in 2000-04 by country clusters	35
4. Graduates in ISCED 3 in 2004 (some in 2003) by study programmes	36
5. Students enrolment in ISCED 5A and 5 fields in EU-25 countries in 2004	37
6. Students enrolment in ISCED 5A and 5B by fields in Japan in 2004	38
7. A summary of tertiary programmes with occupation education orientation (ISCED 5B) in 2004	39
8. Unemployment by educational attainment and age group in the EU-25 in 2005	40
9. Unemployment by age groups in 2000-05 in EU-25 countries	40
10. Unemployment rate by educational attainment in 2005	41
11. Unemployment among adults (between 25 and 64 years) by gender and countries in 2005	42
12. Relative income from employment	44
13. Relative income from employment (educational attainment below upper secondary education)	45
14. Relative income from employment (educational attainment at tertiary level)	46
15. Relative earnings of the populations with income from employment (educational attainment of tertiary education)	47

Boxes

- | | |
|--|----|
| 1. Applications at local level | 29 |
| 2. A plumber earns more than a university graduate | 48 |
| 3. Different <i>baccalauréats</i> and higher education | 57 |

1. Introduction

In recent decades, public authorities in the EU Member States and the EEA/EFTA ⁽¹⁾ countries have been obliged to review their VET systems in response to fluctuating economic and demand situations. Learning has undergone major developments, adapting to new students and trainees and a range of sometimes conflicting requirements: the introduction of more flexibility to the content and delivery of courses; approaches to recognising prior learning; new awards and qualification structures and frameworks; and, in some countries, major organisational changes. In the 10 newer Member States and the accession countries, the economic pressures of transition have also led to substantial review and reform of education and training and provision, with many of the same aims and challenges.

The European employment strategy and the agenda agreed in Lisbon by the Member States in March 2000 set an ambitious agenda of building a strong knowledge-based economy and society throughout the EU by the year 2010. This crucial priority for the 27 EU Member States (EU-27) emphasises stability, cohesion and growth in employment, and hence investment in VET, as crucial contributions to developing robust strategies for lifelong learning. It has been frequently reported that poor levels of qualification among the active population remain a challenge for the EU. Quality improvements in the European labour market are a precondition for further reductions in the various age-, gender- and skill-related gaps. The communication from the Commission *Modernising education and training: a vital contribution to prosperity and social cohesion in Europe* (European Commission, 2005a), stresses that improvement in the quality and attractiveness of VET continues to be a key challenge for the future (see also Cedefop, Bédoué et al.; forthcoming). The *Helsinki communiqué* (European Commission, 2006) calls again for more attention to be given to

the image, status and attractiveness of VET.

The communication also sends a key message from policy-makers about the need to ensure the development of high quality systems, which are both efficient and equitable with no trade-off between the two dimensions. It advocates the search for excellence going hand-in-hand with a search for greater access, social inclusion, and active citizenship. This is clearly an important base point from which to analyse policies and measures to improve the image and attractiveness of VET.

Making VET systems more open, flexible and attractive is now identified as a major part of the European economic, employment and social agenda. Opening and consolidating a range of new pathways between VET and higher education, as well as VET at tertiary level, are defined as key aspects of improving education and training systems which have a dynamic role in developing labour force and human skills. Further, achieving this objective is also intended to open up more flexible opportunities for learners – potentially all citizens – as European countries move towards the model of a learning society. These opportunities should equally limit the dead ends and barriers to further progression that have often been associated with VET pathways.

The development of high quality VET has been a crucial and integral part of the Lisbon strategy (2000) ⁽²⁾ in terms of promoting social inclusion, cohesion, mobility, employability and competitiveness. The report *Concrete future objectives of education systems* (European Commission, 2001) ⁽³⁾ identified new areas for joint actions at European level to achieve the goals set at the Lisbon European Council. These areas are based on the three strategic objectives of the report:

- (a) improving the quality and effectiveness of education and training systems in the EU;
- (b) making access to education and training systems easier for all;

⁽¹⁾ European Economic Area/European Free Trade Association.

⁽²⁾ Lisbon strategy available from Internet: http://ec.europa.eu/growthandjobs/index_en.htm [cited 1.10.2007].

⁽³⁾ The report was endorsed by the Stockholm European Council in March 2001.

- (c) opening up education and training systems to the wider world.

The Copenhagen declaration (European Commission, 2002) ⁽⁴⁾ and the *Council resolution on promotion of enhanced European cooperation in vocational education and training* (Council, 2003) identified concrete outputs in quality assurance, transparency and recognition to improve the overall performance and attractiveness of VET and to foster mobility. The first joint review of the process took place at a ministerial meeting in Maastricht. Based on the Education Council conclusions adopted on 15 November 2004, the *Maastricht communiqué* (European Commission, 2004) set out priorities for the next phase of the process. The Maastricht communiqué linked the Copenhagen process more closely with the education and training 2010 work programme and introduced national priorities. The necessary reforms and investment should focus on:

- (a) the image and attractiveness of the vocational route for employers and individuals to increase participation in VET;
- (b) achieving high quality and innovation in VET systems to benefit all learners and make European VET globally competitive;
- (c) linking VET with the labour-market requirements of the knowledge economy for a highly skilled workforce; in particular, due to the strong impact of demographic change, the need for upgrading and competence development of older workers;
- (d) the needs of low-skilled (about 80 million persons aged between 25-64 years in the EU) and disadvantaged groups for the purpose of achieving social cohesion and increasing labour market participation.

VET is increasingly taking place at all educational levels and, therefore, the parity of esteem and links between VET and general

education, in particular with higher education, need to be fostered by innovative strategies and instruments at national and European levels. This should include designing VET systems which attract more students to higher qualifications, which is assumed to contribute to innovation and competitiveness.

The progress of the Lisbon strategy was assessed in the *Helsinki communiqué* (European Commission, 2006) as follows: the enhanced cooperation in VET has proved successful and has produced encouraging results. The process should, therefore, be continued in the spirit of Copenhagen and Maastricht. Continuity of the ongoing work and a holistic approach where the different initiatives and tools are interlinked and mutually supportive, and where VET is seen as a major element in lifelong learning, are of particular importance. To strengthen and focus the process, priorities should be limited and clear targets set.

The Helsinki communiqué set four priorities as from 2007:

- (a) policy focused on improving the attractiveness and quality of VET;
- (b) development of common instruments and tools to enhance a European area of VET and a European labour market;
- (c) strengthening learning from others ⁽⁵⁾;
- (d) taking all stakeholders on board.

In particular, Priority 1 refers to policy focused on improving the attractiveness and quality of VET (European Commission, 2006, p. 5). This calls for:

- (a) strong links between VET and working life, both in school-based VET and continuing workplace learning for employees;
- (b) better counselling and information in preparation for working life and better guidance throughout life;

⁽⁴⁾ Copenhagen process, available from Internet: http://ec.europa.eu/education/copenhagen/index_en.html [cited 1.10.2007].

⁽⁵⁾ In 2000, the Lisbon European Council introduced a new mode of governance to education policy, the open method of coordination, whose main elements include agenda setting, establishing European indicators and benchmarks as well as monitoring and evaluating progress by the EU. It also organises mutual learning processes between the Member States. In 2001, the white paper on European Governance indicated the principles of good governance: openness, participation, accountability, effectiveness and coherence. Governance refers to the functional and structural whole formed by the rules, processes, action and practice through which the activities of the EU have been organised and managed. Since the introduction of the open method of coordination, some changes in VET governance may have occurred in process, cooperation, systematisation and coordination. The cooperation between institutional, national and European levels and stakeholders has increased. The content of education and training policies has become more systematic. See also Grootings and Nielsen's article on policy learning in this report.

- (c) permeable VET systems offering access to flexible, individualised pathways and progression to further education and training, for example higher education;
- (d) highlighting excellence in skills – for example by greater use of skills competitions. In delivering the VET agenda, more emphasis should be put on good governance. This calls for:
 - (i) development of funding and investment mechanisms;
 - (ii) responsiveness to changes in labour-market and individuals' needs (demand as a driver, e.g. identification and anticipation of new and changing skill needs);
 - (iii) interplay between different stakeholders and decision-makers;
 - (iv) national quality assurance and improvement in line with the common quality assurance framework;
 - (v) strong leadership at provider level and recognition of the key role of teachers and trainers.

1.1. Objectives and scope

Understanding the dynamics of the continuing processes is important when analysing and assessing policies and measures. The different national contexts and approaches show a variety of VET philosophies in Europe. Improving the attractiveness of VET is a process which is multifaceted and not strictly linear. It is built on the socioeconomic and cultural base of each Member State.

This study contributes to the fourth research report on VET and to the background analysis for the review of the priorities for reforming VET identified in the Copenhagen process of enhanced cooperation. More specifically, the study seeks to assess policies which have been implemented to improve the attractiveness and image of VET. It builds on previous work in this field, presenting and discussing a panorama of policies and measures which are currently being developed and implemented to improve the attractiveness of VET. Though the scope of the study is mainly initial

VET (ISCED-3), data concerning adult provision is introduced in Section 4 which maps the range of policies currently developed and implemented with a view to highlighting possibilities of pathways and progression including through the recognition of prior learning.

The study examines statistics and research results in the light of the issues of attractiveness of VET. Further, the outcomes and effects of related measures and current developments in education and training are evaluated. The objectives of the study are to:

- (a) work out some factors that constitute and are related to attractiveness of VET;
- (b) review why and how the issue of attractiveness of VET has been raised;
- (c) survey statistics on enrolment in upper secondary general and vocational education for females and males, and in vocational higher education, for occupational fields;
- (d) compare unemployment rates and salaries between persons with different education attainments;
- (e) map Member State policy measures to improve attractiveness of VET.

Additionally, some attention will be paid to enrolment and graduation patterns in non-European countries compared with the EU-27.

The assessment of the attractiveness of VET is based on the choices of young people seeking to enrol and proceeding through the education and training system. Access to qualifications at higher levels is reviewed through differentiated pathways and an examination based on available data. Statistical indicators of attractiveness of and esteem for VET are presented by:

- (a) the number of students in the vocational and general upper secondary education and in tertiary education;
- (b) employment rates according to educational attainments;
- (c) the professional fields of academic and vocational education;
- (d) income returns on education and training.

Figures and tables demonstrate the statistical data and parameters. National reports (2004 and 2006 DGVT ⁽⁶⁾ reports ⁽⁷⁾ and the Helsinki

⁽⁶⁾ Directors-General of Vocational Training.

⁽⁷⁾ Available from Internet: http://ec.europa.eu/education/policies/2010/nationalreport_en.html [cited 13.11.2007].

communiqué) are reviewed to show the measures of VET attractiveness.

The scope of the policies and measures covers both those to build and extend pathways and progression and those to ensure better links with the economic sectors. Measures include those that aim to provide bridges from vocational/technical provision towards general provision at secondary level and/or for entrance to higher education based on student enrolment. The main focus is on initial VET and transition to working life, and subsidiary focus on lifelong learning. The measures also include those designed to improve links with the labour market.

The geographical scope of the study is predominantly the EU-27 and the EEA countries (Iceland, Liechtenstein and Norway). Some reference is made to Switzerland, to two candidate countries (Croatia and Turkey) and to competitor countries such as Japan and the US, with reference to progress in policies to make VET more attractive in these countries. Reference is also made, where feasible, to progress and priorities in the selected OECD countries.

1.2. Sources and methods

The primary purpose of the study is to inform policy development and implementation, at European level and nationally, within the context of VET development and lifelong learning linked to the Lisbon process, particularly concerning the objectives of promoting the attractiveness of VET. Existing data on trends in qualifications flows and outcomes (from OECD, Eurostat, the European Training Foundation, and national sources) are used to assess progress towards the 2010 goals concerning the attractiveness of VET. The qualitative aspects of the examination are provided through data drawn from recent country reports drafted in response to reporting processes put in place by the Commission of the EU, linked to the reporting on the Lisbon process.

The analysis of VET progression routes and

related student flows and how well these meet labour-market demands will be based on existing international data sets where possible (OECD *Education at a glance*, Eurostat, the European Training Foundation, the EU labour force survey 2000). European labour force survey data on highest qualifications for individuals in different occupational categories may be used to assess how well the output of skills meets the requirements for different occupations and sectors in different countries.

1.3. Outline of the report and some limitations

This study first focuses on phenomena and concepts related to the attractiveness of VET to reflect on what has been learned from past studies and research on the attractiveness of VET and parity of esteem (Section 2). Section 3 introduces available statistical data related to the attractiveness of VET. It asks whether the measures implemented in the last decade succeeded in improving the attractiveness of VET and for which aspects. The fourth main section seeks to map policy measures that the Member States have recently introduced and/or are currently implementing. This places the emphasis on what is new and in the process of changing. A conclusions section proposes some issues and areas for further research.

Although data availability on participation in education and training has improved during this decade, there are still limitations on having detailed and consistent statistics on VET in order to compare them reliably among the EU-27. Although the cautious interpretation of statistics is recommended, they provide quite relevant tendencies of enrolment and rewards indications. The policy measures on VET attractiveness have been mapped from the country report from each Member State, and are dependent on available data.

2. Lessons from past studies

European efforts to find innovative relationships between general and vocational education have taken various approaches, from curriculum development to system-level reforms. European countries have faced similar challenges in their vocational education concerning its attractiveness and quality. There is an additional question about the kinds of working life and citizenship qualifications and skills needed for the future and, accordingly, the quality of VET and the type of skills and qualifications they deliver. Although both general/academic and VET systems are changing to adjust to the perceived needs of knowledge societies, they still tend to build on their historical and cultural traditions and function separately, although with a certain degree of cooperation and integration.

2.1. Some key terms

The attractiveness of VET has been discussed in comparison with general/academic education which has traditionally been assumed to be a more attractive pathway for students and their parents. However, the attractiveness of VET varies between countries and social groups. The main terms used in this chapter are as follows:

- (a) attractiveness (of) and esteem (for VET) refer to:
 - (i) improving access and entry to employment, career development and progression;
 - (ii) the diversity of quality learning environments (meeting the needs and aspirations of different learners);
 - (iii) self-development choices as a citizen and individual;
 - (iv) willingness to invest in VET.

Attractiveness is observed as preferences, attitudes and related behaviour of individuals and groups. Improving the attractiveness of

VET is one of the education and training policy priorities and objectives set by the Lisbon-Copenhagen processes and in follow-ups such as the Maastricht and Helsinki communiqués;

- (b) Tsakarissianos indicates that ‘social status is the standing, the recognition, influence or prestige attached to one’s position in society. Even if social status is determined to a great extent by social position, it is often perceived in a broader sense that involves several elements identifiable in a specific social context’ (Cedefop, Tsakarissianos 2008). In this report, standing/prestige refers to the social status of a type of education and training measured as progression opportunities and income returns later in young people’s life;
- (c) occupational status corresponds to prestige, socioeconomic status of an occupation and to class measures in the past;
- (d) in the context of education and training systems, parity of esteem ⁽⁸⁾ considers:
 - (i) the flexible and transparent education and training systems and job markets that provide opportunities for all individuals in learning, career potential and in life histories;
 - (ii) relevant lifelong learning visions and options for all.

Parity of esteem has been analysed between different pathways and/or different groups of people (e.g. gender, ethnicity, social class) to examine the results of possible streaming and allocation of resources. The focus can thus be on the future and looking for learning opportunities for all with relevance to individual quality of life.

Improving VET attractiveness is an education policy goal in the EU; attractiveness is a policy term rather than a theoretical concept. Some variables, such as equal access to progression through different education and training pathways,

⁽⁸⁾ Parity of esteem has been used in political philosophy to analyse inter-communal conflicts and in equity. Hennessey and Wilson (1997) indicated that parity of esteem provides ‘a language for negotiation of a post-conflict equilibrium’. The aim of the measures is peaceful coexistence in a shared physical space despite their cultural, religious, ethnic and other differences. Parity of esteem has been a concept in the peace process in Northern Ireland.

that determine esteem for VET, are also assumed to improve the attractiveness of VET. Disparity of esteem between vocational and academic education may have its roots in occupational status based on a traditional conception of social class structure. The next section summarises more traditional studies on occupational stratification.

2.2. Previous studies on occupational status or prestige

Earlier empirical and theoretical analyses have shown that occupations have been ranked on the basis of their rewards for individuals and, as a result, their value for society. Empirical research on the classification of occupations has been a part of stratification research. Ganzeboom and Treiman (1996, p. 202) indicated that '[...] the division of labour is the kernel of social inequality and occupation therefore is the main dimension of social stratification [...] Stratification researchers have developed ways to derive status measures from information of occupations'. Three main international measures of occupational status have been used to develop a standard classification of occupations (ISCO68 and ISCO88) by the International Labour Office (ILO) of the United Nations:

- (a) Treiman's (1977) standard international occupational prestige scale (SIOPS);
- (b) the international socioeconomic index of occupational status (ISEI) (Ganzeboom et al., 1992);
- (c) Erikson and Goldthorpe's (1992) class categories (EGP).

Featherman and Hauser (1976) argued that the socioeconomic scores for occupational achievement are more valid indicators of occupational achievement than prestige scores⁽⁹⁾. The research results suggested that the process of stratification in both Australia and the US was best described as a distribution of persons both within and between generations over occupations hierarchically ordered by socioeconomic status

rather than by prestige. In other words, the fundamental dimension of occupational mobility is about socioeconomic status rather than prestige. The attractiveness of VET is related to the hierarchy of socioeconomic status rather than to the status hierarchy of occupations. However, many earlier research results are leaning to the categories produced by statistical research in some country contexts.

Hope (1982) took a liberal approach to prestige. She argued that the prestige of occupations was a simple average of the two dimensions of the rewards of an occupation and its societal value, implying that prestige has both a factual and a normative component. This argument was theoretical rather than inductive, as it starts from the assumption that assessments of prestige involve considerations of economic reward and use the data that support this assumption. Her findings suggested that there was a normative consensus. However, this consensus showed a weak relationship to prestige in its traditional sense. 'The traditional prestige which bolsters the elite is a fragile thing, whereas the normative consensus on occupational prestige may constitute an important source of legitimacy of the distribution of social reward' (Hope, 1982, p. 1011). In this report, prestige is not isolated from individual educational choices in particular situations and contexts. Deliberate choices in developing VET and its sectors are assumed to provide prestige for individuals and economy.

Some sociological studies, of which just few were introduced above, conclude that a prestigious field and good salaries seem to attract people. The prestige and status of occupations have been measured by standardised status scales which may give a quite static picture of VET attractiveness. At individual level, the prestige of occupations is now based increasingly on employment prospects, salary and opportunity for self-fulfilment. However, some physical jobs and occupations involving hygiene and health risks, for instance, may carry rather low prestige. People's attitudes towards different types of education arise largely from images associated with particular occupations.

⁽⁹⁾ This argument was premised on evidence from parallel results from Australia and the US in which estimates for the structural equations of 'status attainment' models with occupations scaled in units of Duncan's socioeconomic model (SEI) yield higher coefficients of multiple determination (R²) than do those scaled in units of the National Opinion Research Center prestige.

Lamont's (2000) study illustrates an even more complex and dynamic picture of the occupations that shape their carriers' identity and values.

Lamont (2000), in her comparative ethnographic research on France and the US, aimed at explaining how workers construct similarities and differences between themselves and other groups, how workers define 'us' and 'them' and draw the line between the worthy and the less worthy in the socioeconomic hierarchy. She examined their attitudes towards immigrants, whether the opinion of black and white workers differed from each other, and how they perceived 'people above' and 'people below'. She interviewed 150 workers in New York and Paris, with workers' sense of identity also analysed.

American and French workers represent different cultural repertoires based on their distinct historical, social and economic structures. While French workers come from republicanism, Catholicism and socialism, American workers come from Protestantism, traditional religious morality, and individualism. The interviewees called themselves 'lower middle class', 'middle class proletariat', 'blue-collar worker', or 'worker'. The American workers had stable, but not very well-paid jobs, being high school graduates with limited access to the labour-market and opportunities because they did not hold a college degree.

Lamont focused her comparison on the moral boundaries of Americans in comparison with French workers, especially of two groups among them: African Americans in the US and North African immigrants in France. Both of these groups were the prime victims of racism in these countries, with low skill and low-paid jobs. They occupied similar positions in the American and French economies and had limited occupational mobility. They had higher rates of unemployment than other ethnic groups. Lamont concluded that morality was at the centre of the world of the black and white workers she interviewed. Moral standards helped them to maintain dignity and self-worth, make sense of their life and define their own identity. Traditional morality and also, for some of them, religion, allowed them to 'keep pollution at bay'. They liked people who cared, who were clean, and not disruptive, and disliked those who were irresponsible, who lived for the moment, who got into fights, and who had forgotten

where they came from. What they valued most was honesty, responsibility, personal integrity, and being hard-working, and, at the same time, they scorned dishonesty, irresponsibility, and laziness. They wanted to be good family protectors and providers.

There were some differences between black and white workers. Black workers more than whites tended to protect their families and guard themselves against criminality through religion and traditional morality. Black workers underlined the collective dimension of morality and emphasised the 'caring self' rather than the 'disciplined self' more than white workers. Although blacks and whites lived in largely overlapping worlds, there were cultural differences between them which could be explained by the fact that both of these social groups were fabricated by different cultural models. Although American and French worldviews overlapped, their models of inclusion and exclusion differed. Lamont argues that black workers are more likely to experience exploitation and to express more solidarity with the poor than white workers do. African Americans seemed to disassociate socioeconomic status and moral worth when judging the poor. Similarly, they equated socioeconomic status with moral worth when judging the middle class, believing that class advantages transcended disadvantage. This is the strategy that significantly allows African American workers to claim moral worth when faced with overwhelming obstacles to socioeconomic mobility.

The study denies the presumption of the declining role of class and race in creating identity. Identity seems to be structurally embedded and shaped by the context of workers' lives. The study showed that class was still an important aspect of the lives of working people in France and the US. The workers' definition of themselves is based on a comparison with 'people above' and 'people below'. Lamont argues that workers in both countries become empowered by using a measure of social value that discerns moral worth and respect from social status, rather than through socialist collectivism.

Social origin measured as family background still seems to influence young people's education and career choices in many countries. Iannelli's (2002) studies of country differences, in the extent

to which social origin affects young people's educational and occupational outcomes, support earlier research findings. The percentages of young people leaving education at the stage of ISCED 1-2 are much higher among those whose parents have low education than among students who have more educated parents. The differences are also statistically significant, with the only exception being Finland. There are significant country variations.

The relative advantage of having more educated parents is stronger in the eastern European countries (with the exception of Slovenia) and weaker in the Nordic European countries (Finland and Sweden). Females are significantly less likely than males to leave education at lower secondary level (ISCED 1-2) in 7 out of 12 countries (Belgium, Greece, Spain, France, Italy, Slovenia and Finland). Elsewhere, women's opportunities to leave education early are not significantly different from men's. However, young people with highly educated parents (ISCED 5-6) very often have higher chances of graduation than youngsters with less educated parents. Countries (e.g. Italy, Hungary, Romania and Slovakia) with low tertiary education leavers are those where attainment differences among young people are high, according to social background varieties.

Iannelli (2002) concludes that more universal welfare state policies in the Nordic countries and the increasing social and economic disparities in the eastern European countries, during the transition period towards a capitalist economy, could have played an important part in the polarisation of these two groups at the extremes of this study. More particularly, young people's occupational outcomes have been indicated by the length of time before starting the first significant job and its occupational status, measured by the international social and economic index of occupational status (ISEI). Iannelli analysed the relationship between social origin and young people's occupational outcomes. The study revealed that the young people whose parents had low education, seemed to wait longer before acquiring the first significant job than the youngsters with parents who had graduated from tertiary education. In all 12 countries under examination (Belgium, Greece, France, Italy, Hungary, Austria, Romania, Slovenia, Slovakia, Finland, and Sweden), young

people with different social backgrounds tend to achieve different occupational status, with parental educational attainment correlating to their children's occupational status.

The status of VET teachers also has an influence on the status of VET overall. The position of VET teachers varies widely across Europe (Cedefop, Parsons et al., forthcoming). Some countries have detailed selection criteria including both university-based qualifications and specific periods of relevant employment. In others, colleges are free to recruit as they wish. However, in terms of qualifications, work experience and pedagogic skills, as well as closer equivalence with general education teachers, there is greater emphasis on developing and broadening the skills of vocational teachers to also raise their status. 'Concern for quality assurance in teacher education is closely linked to the broader context of the development of higher education and the follow-up of the Bologna process' (Eurydice, 2006, p. 3). The prestige of VET is reflected in the status of vocational teachers and their education, and vice versa. Prestigious VET is essentially based on broadly competent vocational teachers who respect their own work. The demands set for their expertise have evolved from vocational pedagogics into broad professional mastery of relevant sections of the education system and economic sector. The development of vocational teacher curricula, with respect to education strategic competence and international educational knowledge, are some of the challenges of quality assurance.

2.3. Parity of esteem between vocational and general education

Parity of esteem between vocational and general/academic education is related to the societal rewards resulting from education and training, ultimately linked to the attractiveness of VET. Such rewards may be social status, salary, prestige and opportunities for further education and career development. Educational pathways should not restrict citizens' opportunities to access further education and higher levels.

It seems that, since the end of the 1990s,

no further studies on parity of esteem between academic and vocational education have been carried out at European level. The synthesis of the results of four European collaborative projects, which focused on upper secondary education reform strategies and schemes, showed the potential to reduce the disparity of vocational education and training. The conclusions on strategies for improving the attractiveness of VET and promoting parity of esteem between vocational and general education is based on the research results provided by major partnership projects, including Post-16 strategies/SPES-net and Intequal/Duoqual (Cedefop, Lasonen and Manning, 2001).

The post-16 strategies project identified four reform strategies to promote parity of esteem between vocational and general/academic education in European upper secondary education. These are vocational enhancement, mutual enrichment, links and unification. Vocational enhancement stressed the distinctive nature of vocational education on the basis of its characteristic content and links between employers and the providers of education of this kind. The Austrian, Czech, German and Swiss education systems have been founded mostly on this strategy. They have enhanced vocational education and made it more attractive to potential students through measures that have maintained and strengthened its distinctive ethos and its separate character alongside general education. Mutual enrichment brought various types of school, both vocational and academic institutions, closer by encouraging cooperation between vocational education establishments, enterprises and upper secondary schools with the aim of providing students with a wider range of options and offering them stimulating learning methods and environments. The education systems of Finland and Norway were examples of this strategy. It has enriched both vocational and general education through measures that allow each educational track to draw from the best features of the other one. The strategy has lowered the traditional barriers between these two types of education while maintaining a distinct identity for each.

Link sought to make vocational and general education formally more equal by connecting them through such measures as a common certification framework, arrangements for credit recognition

and transfer, and common curricular elements. The English and French systems, which have been attempting to make their vocational education more attractive to parents and students, have adopted this approach. Traditionally in these systems, academic education has tended to prepare middle-class children for high-status jobs. Unification was about merging vocational and general education into a single system of post-16 education. The education systems in Scotland and Sweden were based on this strategy, where the goal has been to offer all students a core programme of common general subjects and abolish the distinction between vocational and general learning. The distinction between vocational and academic students and vocational and academic teachers, however, remains even after the administrative unification and modularisation of study programmes.

Additionally, workplace learning periods in enterprises have been systematically added to each field of vocational education since 1998. The on-the-job learning period, of minimum six months, is now included in three-year vocational education in upper secondary schools (ISCED 3). Training for vocational teachers and workplace trainers has been organised (Lasonen, 1999).

The case description above (Box 1), analysed in the national dissemination project (Lasonen, 1999), shows that within one single local area, three European school reform strategies were applied (enrichment, enhancement and links). In Finland, local decisions are based on VET legislation covering on-the-job learning periods in all vocational upper secondary qualifications, work placement, individual study plans based on the available provision by appropriate institutions, credit transfer, general eligibility for further studies after a vocational qualification (Vocational education and training act 1998). The example above dealt with the reciprocal enrichment of general and vocational education and of vocational schools and enterprises. The extensive course menu drawn from vocational and general education programmes provided a variety of choices and thus made possible more varied study programmes for different learners.

Cooperation with companies has been rapidly gaining momentum in mutual understanding. Strengthening the vocational aspects of VET has

brought it closer to working life. The influence of the labour market is reflected in the content of studies, as vocational components are designed on the basis of work tasks. Parts of these components are taken on-the-job under workplace instructor supervision. Learning on-the-job has always been used in apprenticeship training and, in the 1990s, it became part of vocational upper secondary education. The amount of such learning varies by institution, field, or student, although the minimum requirement for all qualifications is approximately six months in Finland. The practices of on-the-job learning have been influenced by many factors such as the field, location, and size of companies. As a method, on-the-job learning brings new challenges to classroom teaching and guidance given at school. Instructional differentiation and individual guidance are increasing, while the on-the-job components consist of the tasks at the workplace and also depend on the student's personal goals. The involvement of business life in the curricular work of educational institutions leads to a better match between education and work tasks and brings theory closer to practice.

Increasing the eligibility and readiness for further studies given by vocational upper secondary qualifications poses a challenge to vocational institutions. The law guarantees eligibility for higher education after the three-year programmes of vocational upper secondary education, hence implementing also the third post-16 strategy: linking general and vocational qualifications on an equal basis. The possibility of taking a dual qualification is one way of improving eligibility for further studies. Cooperation with polytechnics aims not only at wider study options, but also at content development of the studies and introduction of new teaching methodology.

In the secondary analysis of strategies and qualifications across 17 countries (Cedefop, Lasonen and Manning, 2001), a distinction was made between the following types of national settings for relating education and work: a close relationship between the education system and the labour market, including a tracked system of education and a qualification structure which has direct relevance for occupational entry; a loose relationship between the education system and the labour market, allowing for predominantly

Box 1. Applications at local level

Jyväskylä Catering College, as with other vocational colleges in Finland, has participated in curriculum cooperation both with other educational institutions and with workplaces since 1997. This work has taken place in the frame of curriculum decisions, renewed education and training legislation, and new stipulations on vocational qualifications. The vocational institutions and upper secondary schools in the Jyväskylä district set up a planning group in spring 1996, to seek such forms of cooperation that would serve the students as flexibly as possible. The first step was to compile a shared course menu involving the surrounding institutions in the locality. For the cooperation period the institutions were offering courses from their respective speciality areas: for example the Catering College offered courses in cooking, the College of Health and Social Care provided a course of sign language, among others, while the upper secondary schools offered courses in communication, Latin, etc. The shared course menu enabled students to choose studies from other institutions. General upper secondary school students typically selected courses from other such schools, while vocational students tended to choose courses from other vocational colleges. Within vocational qualification requirements, the courses on the shared menu belong to free-choice studies, while in general upper secondary schools the courses offered by vocational colleges are credited as applied studies. During the cooperation period, students were also permitted to take separate courses in the partner institutions. In addition, vocational students had an opportunity to take upper secondary school courses for matriculation examination in A-levels. This cooperation between vocational and academic upper secondary education institutions first yielded two projects aiming at dual qualifications, starting in autumn 1997 with about 50 students. The dropout rate during the first year was about 25-30%. In 1998 about 60 new students started the dual qualification programme, with fewer dropouts. Presently, up to 10% of vocational students are aiming for a dual qualification. The opportunity of studying for both A-levels and vocational diplomas has been more attractive among talented vocational students than among academic students in Finland.

school-based, broad vocational education and subsequent on-the-job training; and a varied relationship between the education system and the labour market, calling for coherent education and qualification frameworks. These three types of national setting provide a context for identifying different approaches towards the esteem of vocational education.

According to political theory, parity of esteem

refers to a founding principle of recognition and a just and stable political order that allow all citizens to enjoy recognition and dignity in communities with cultural, social and ethnic diversity (du Toit, 2004; Thompson, 2002). Promoting parity of esteem between vocational and general education has been an education and training policy goal that was followed by some reforms, especially in the UK and Scotland (Raffe et al., 2001). The first cycle of the Leonardo da Vinci programme attracted several R&D projects that evaluated European education and training systems and upper secondary education reforms according to the extent to which education and training policies promote parity of esteem between academic and vocational education.

In their contribution to this background report, Preston and Green analysed social inclusion and social cohesion as being important policy objectives to provide equal opportunities for all in VET (Cedefop, Preston and Green, 2008). They indicate that ‘In terms of social exclusion, although VET arguably has a large role in increasing labour-market participation (a narrow form of inclusion) when wider issues of social inclusion are considered (such as citizenship) it is arguable whether models of VET premised on competences and employment alone can deliver the types of social inclusion desired by EU Member States. We have shown that social exclusion is much broader than employment and that it is best defined by outcomes (for example, in terms of income or other social categories). [...] In terms of enhancing social cohesion, value formation, institutional integrity and reducing inequalities are areas where education – and VET – can make a contribution. With regard to the latter, we found that within European countries educational equality was particularly important in maintaining civil and political rights. On the basis of current evidence we cannot conclude that there is a strong association between vocational enrolments and/or vocational equity and general educational equity. However, from the vocational and professional socialisation literature there is strong evidence for a value socialisation mechanism for VET and social cohesion’.

Preston and Green’s statements reflect a modern conception of the function of VET, serving diverse customers in whose life it can make a difference by improving the quality of their lives.

2.4. The attractiveness of VET

The Maastricht communiqué reviewed the priorities for VET as defined in Copenhagen and mentioned explicitly the need to increase the attractiveness of VET, including secondary, higher and adult education, in Europe. The Maastricht study conducted by Leney et al. (2004b) found that the EU-25 Member States sought to raise the attractiveness of VET and the flexibility of initial VET. The Member States identified the following measures:

- (a) modernising VET programmes and curricula through modularisation (13 countries);
- (b) establishing national qualifications systems or frameworks (7 countries);
- (c) establishing competence-based programmes (11 countries);
- (d) increasing access to higher education (7 countries);
- (e) improving the quality of VET (5 countries);
- (f) diversification of VET programmes (3 countries) and pathways (1 country);
- (g) integrating vocational subjects into general programmes and vice versa (9 countries);
- (h) strengthening information, advice and guidance activities (8 countries).

The Member States have comprehensively understood improving the attractiveness of VET but little information on particular measures and indicators could be found.

At the end of the 1990s, the Intequal project investigated some particular measures and related indicators. Trainees or students were given the option of vocational programmes that provided qualifications for higher education access alongside vocational qualifications (Manning, 1996; 1997). The dual qualification systems⁽¹⁰⁾ used within the Member States differed from each other by function, scope, and structure. The basic idea of dual qualifications was to integrate general and vocational education as well as work- and

⁽¹⁰⁾ Dual qualification refers to the opportunity for a student to pursue parallel studies for vocational upper secondary qualification and matriculation examination.

school-based learning. The best qualification practices were found in school-based full-time education (e.g. Austria and Finland). Most dual qualification systems have evolved within VET as part of a qualifying process. Within Europe, the percentage of the age cohort studying for dual qualifications ranged from 1 to 45%, depending on the country (Brown and Manning, 1998). Graduates either entered the labour market or continued their studies, preferably in vocational tertiary education. However, in most countries the emphasis has been on employment. In programmes aiming at dual qualifications, the work-orientation and the degree of integration have varied from low through average to high. The employment rate for these graduates has been high. Dual qualifications have maintained their position or even gained popularity in many countries, for example in Finland, where the number of students has gradually increased. The challenge facing educational policy is, therefore, to ensure that dual qualification schemes are part of a transparent and flexible system, accessible from any point and linking up with other parts of education and training providing opportunities for lifelong learning.

In the Maastricht study, Leney et al. (2004a) showed that the attractiveness of VET as a European policy goal, along with continuing vocational training, is related to the quality of, and progression from, VET and to lifelong learning opportunities for all. In their contribution to this background report, Béduwé et al. anticipate that, as a policy goal, the attractiveness of VET and relevant research continues to be one of main development measures for the future of Europe (Cedefop, Béduwé et al., forthcoming).

Nevertheless, the nature of VET attractiveness is a political concern that has not been thoroughly analysed in research. For VET teachers and trainers, Parson et al. (2008) indicate that 'esteem remains an illusory concept, and without firmer measures which can contrast, and track, changes between different education professionals and between education professionals and others, this is set to remain an intangible and controversial issue, especially in those Member States where this is felt to hold back the quality of those taking up professional training, and their subsequent retention within the career'.

The status and esteem of VET professionals vary between the Member States. VET teachers in the Czech Republic, Denmark, Cyprus and Finland enjoy relatively high status compared with their European counterparts. Their status is associated with the prestige of a teaching job rather than with wages. In countries where the VET teachers and trainers have lower status than other professionals, it seems that they also earn less. Career attractiveness for VET teachers and trainers ensures availability of qualified teachers and teaching quality which, in turn, improves attractiveness.

Attempts have been made to increase the employer involvement in decisions about the form, content, context, and resourcing of vocational education. Employer involvement varies from taking on advisory roles as members of national, local, and institutional governing bodies and consultative curricular committees, or assuming key roles in standard-setting bodies for vocational qualifications, up to direct delivery roles in relation to work-based training. Employers' interest in selection and recruitment of new employees will, of course, also shape their attitudes and the advice they give. Work-based learning and on-the-job training arrangements can provide opportunities for employers to get acquainted with their future employees in both school-based and apprenticeship-based education and training systems.

2.5. Concluding remarks

One of the major tools in the Lisbon process and the EU's employment strategy is to support full employment and to promote social inclusion and a competitive labour market through delivery of quality VET. Improving the attractiveness of VET is one of the key education policy objectives in the EU. Rising educational attainment is assumed to give the best preconditions for active citizenship and employment. By the same token, European countries have adopted educational reform strategies for improving the progression from vocational secondary education to higher education and for enhancing the status and quality of vocational education. Three criteria – personal competence, educational mobility, and

occupational mobility – underpin the assumption that esteem correlates to the quality of vocational education and to access to further studies in which VET competes in attractiveness with other educational pathways.

Traditional research on occupational status seems to be based on an assumption that classification of occupations follows a pattern of social stratification. Could this kind of assumption be a barrier for modernising VET?

Family background is related to young people's education and career choices to varying degrees in different European countries. In addition to equity policy and its implementation, relevant career guidance and quality of VET can improve the attractiveness of VET.

Vocational teachers and trainers are important

facilitators of learning and role models for their occupations for young people. Therefore, the status of VET teachers is also related to the attractiveness of VET. The Bologna process also challenges VET teachers and trainers training in terms of transparency, flexibility and lifelong learning.

Progression opportunities, including choices for double qualifications and access to higher education, prestige of occupations and interesting learning environments, are assumed to attract young people to VET. From the perspective of lifelong learning, it does not matter which type of education was chosen by young and older people, but it matters if education and training produce transparent and flexible competences for continuous education and training at any point in individual lifespans.

3. Statistical data on VET enrolment

The expected length of time spent in education has increased since 1995, with greater participation in preschool, secondary, and higher education. In the majority of European countries the expected duration of studies for current five-year-olds is more than 16 years. The highest expectancy figures are found in Belgium, Finland, Iceland, Sweden and the UK; ranging from 18.5 to 20 years. The mean of the years of educational attainment in formal education was 11.9 years in the OECD countries in 2004 (OECD, 2006).

On average, 53% of the youth of industrialised countries will participate in some sort of higher education in universities or polytechnics. In 2003, some 16% of higher education students were enrolled in educational institutions other than universities (OECD, 2005a). The increasing demand for higher education also calls for a broader and better educational choice, diverse learning environments of good quality, and opportunities for further studies.

Some enrolment statistics can provide indications of the attractiveness of VET. The figures in this chapter show the statistics of:

- (a) enrolment distributions of upper-secondary education (ISCED 3) students in general/academic and vocational programmes, comparing EU-27 Member States with EEA/EFTA, candidate and non-European countries;
- (b) graduate distributions of ISCED 3 vocational and general programmes in 2004;
- (c) student enrolments in vocational tertiary programmes, ISCED 5B (vocational) programme by field in 2004;
- (d) unemployment by educational attainment, age groups and gender;
- (e) income distribution according to education attainments.

3.1. Student enrolment in, and graduation from, upper secondary education

Upper secondary level enrolment in vocational and general programmes shows which programmes are

favoured by young people. Student distributions in general and vocational programmes at the upper secondary level (ISCED 3) have been illustrated by countries and by gender (Figures 1, 2 and 3, and Tables 6 and 7 in the Annex). The countries include the EU-27, EEA/EFTA countries (Iceland, Liechtenstein, and Switzerland), candidate countries (Croatia and Turkey), Albania and non-European countries such as Japan and the US.

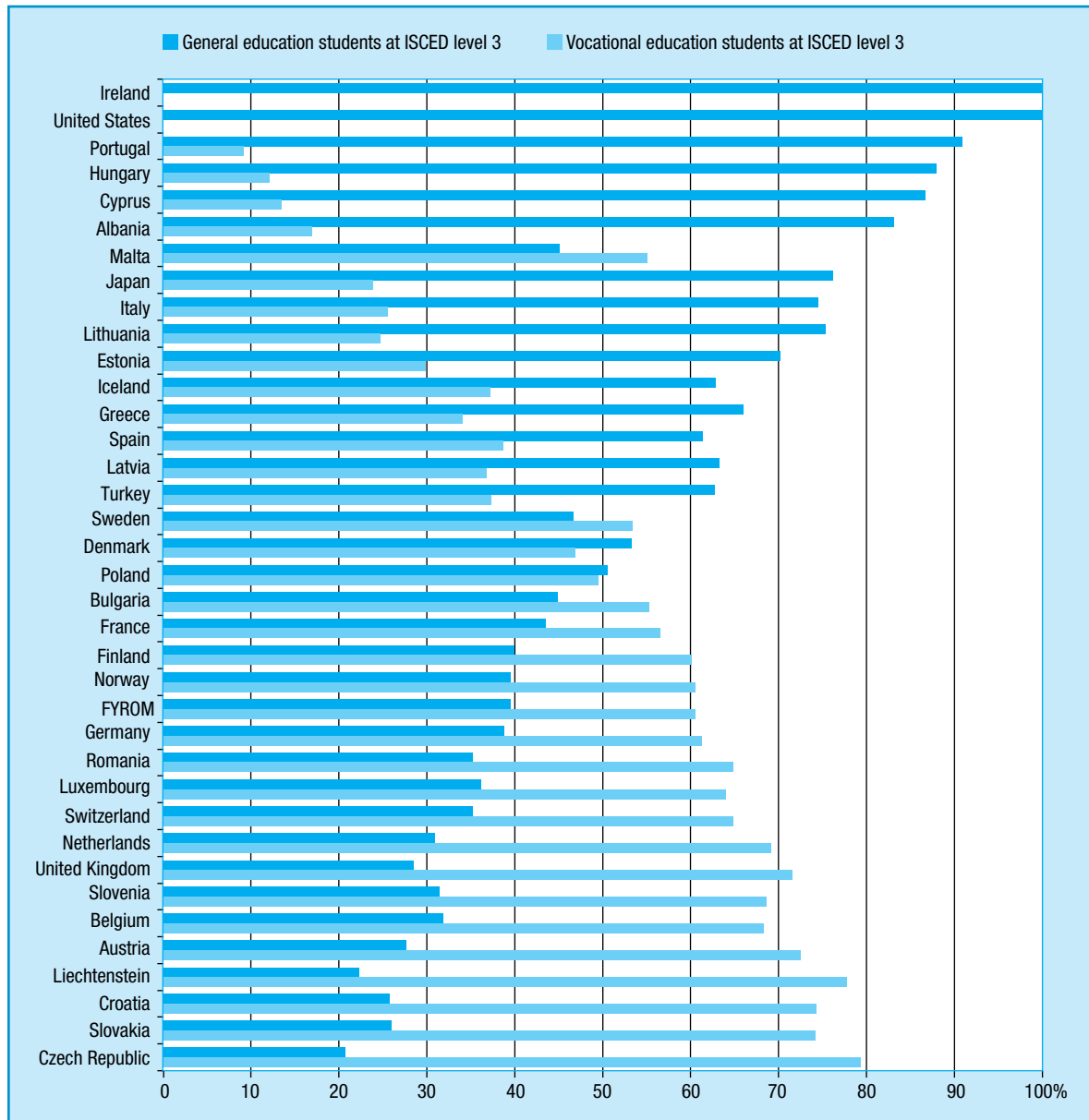
In 2004, vocational programmes accounted for more than half of the upper secondary students in the Czech Republic (79.2%), Liechtenstein (77.7%), Slovakia (74.1%), Croatia (74.3%), Austria (72.4%), the UK (71.5%), the Netherlands (69.1%), Slovenia (68.6%), Belgium (68.2%), Switzerland (64.8%), Romania (64.5%), Luxembourg (63.9%), Germany (61.2%), the former Yugoslav Republic of Macedonia (60.5%), Norway (60.5%), Finland (60.1%), France (56.5%), Bulgaria (55.2%), Malta (55%), Sweden (53.4%), and for almost half in Poland (49.5%). In more than half (n=21) of the 37 countries students enrol in vocational education programmes at the ISCED 3 levels (Figure 1 and Table 7 in the Annex).

In Ireland and the US, upper secondary provision consists of academically oriented programmes only. However, many Irish youngsters (34%) graduate from pre-vocational programmes (Figure 4). Both Irish and American education and training systems deliver post-upper secondary/post-high school vocational programmes (ISCED 4) for their students (Table 8 in the Annex).

In fourteen countries, the majority of upper secondary students (ISCED 3) are enrolled in academic education programmes: Portugal (90.9%), Hungary (87.9%), Cyprus (86.6%), Albania (83.12%), Japan (76.7%), Lithuania (75.3%), Italy (74.5%), Estonia (70.1%), Greece (66%), Iceland (62.8%), Latvia (63.2%), Turkey (62.7%), Spain (61.7%), Denmark (53.2%), and Poland (50.5) (Table 7 in the Annex). Italy and Portugal have significant pre-vocational programmes from which 34% and 15% of students graduate respectively.

In the EU-27 and in candidate, EEA/EFTA and non-European countries, vocational education programmes are more popular among male students than among females, except in Sweden,

Figure 1. **General and vocational education students as % of all students at ISCED 3 in 2004 by countries**



the UK, Ireland and the US (see also Tables 6 and 7 in the Annex).

Between 2000 and 2004, less than 50% of all upper secondary education students enrolled in general/academic programmes in the EU-25. Three quarters or more of Japanese students enrolled in academic programmes. American high school students had only one choice, general/academic programmes pathway.

Only about 25% of Japanese upper secondary education students chose vocational education

programmes, whereas almost 60% of European students preferred VET programmes. By gender, 63.5% of the male students and 57.6% of female students of the EU-25 enrolled in VET programmes in 2004. Respective numbers were 26% and 21% in Japan.

Female students prefer general/academic upper secondary programmes compared with males in all countries except Sweden and the UK. Ireland and the US indicated that all their ISCED 3 programmes were academic in nature.

Table 1. **Distribution of upper secondary students across vocational and general programmes (ISCED 3) by gender in 2004**

Programme choices (ISCED 3)	Vocational education programmes		Academic/general education programmes	
	Females (%)	Males (%)	Females (%)	Males (%)
EU-25	57.6	63.5	42.4	36.5
EU-15	60.3	64.7	39.7	35.3
NMS-10	42.9	57.8	57.1	42.2
United States	0.0	0.0	100.0	100.0
Japan	21.0	26.0	79.0	74.0

Figure 2. **General and vocational education students as % of all students at ISCED 3 in 2000-04 by country clusters**

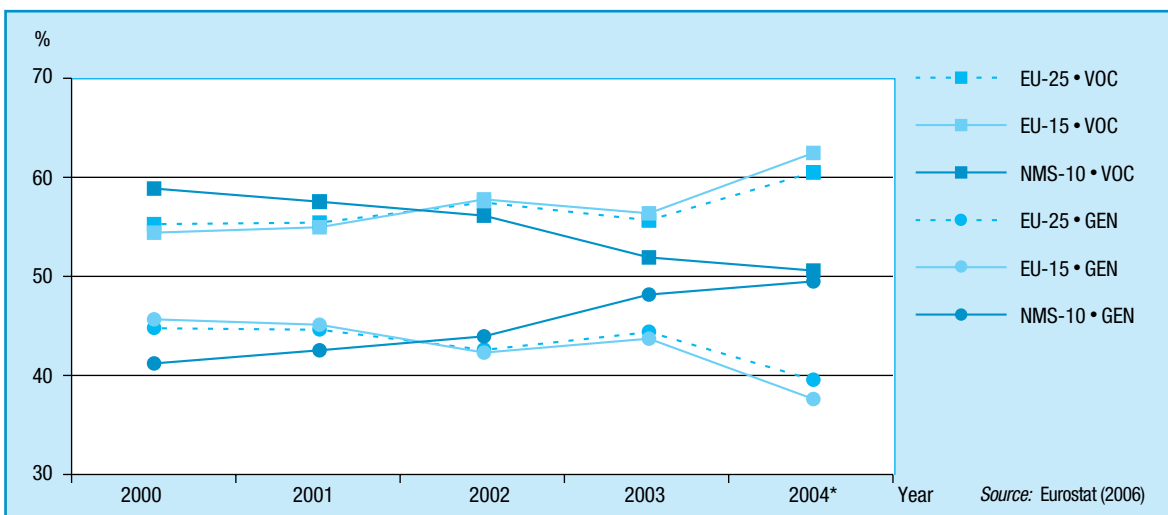
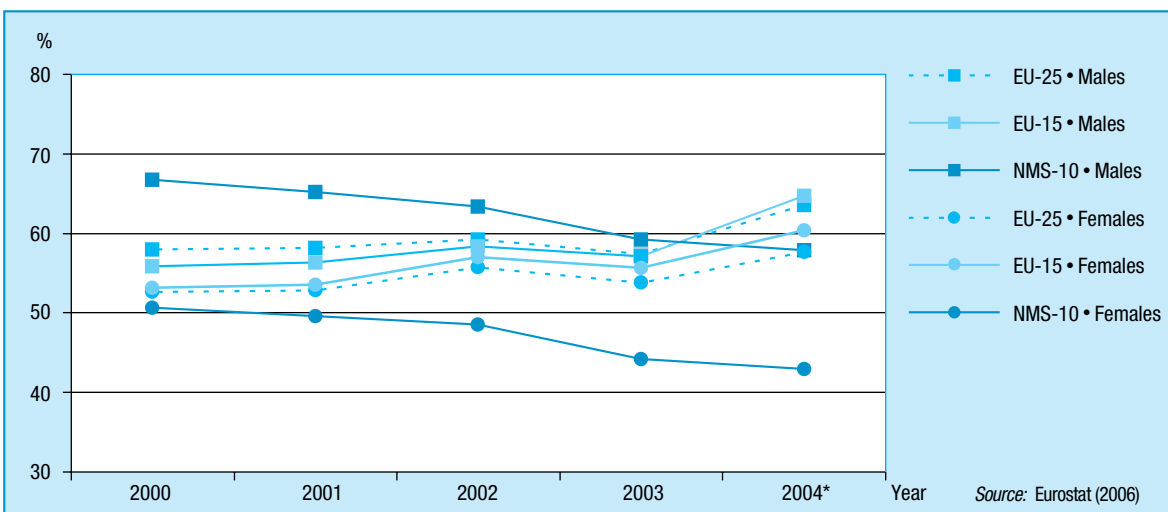


Figure 3. **Vocational education students by gender as % of all students at ISCED 3 in 2000-04 by country clusters**



The biggest differences in programmes choices between females and males are found in Bulgaria, Cyprus, Denmark, Estonia, Latvia, Liechtenstein, Lithuania, Malta, Poland and Romania.

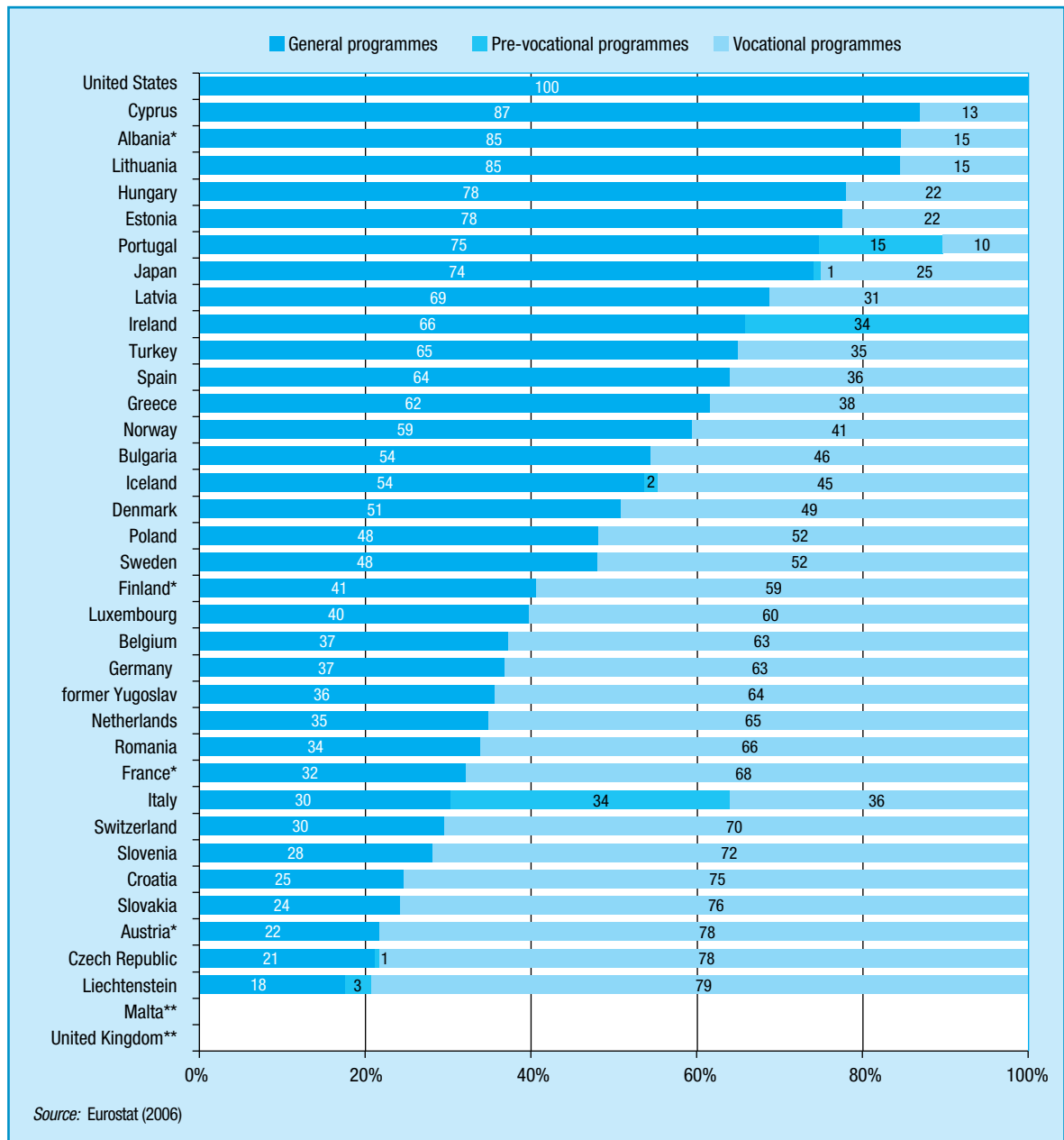
The popularity of VET among the EU-15 countries this popularity rose steadily during this decade (Figure 2). At the same time, the popularity of academically-oriented programmes has decreased slightly, and according to 2004 statistics, this trend was strongest among EU-15 countries. In contrast, among the 10 newer

Member States, VET steadily lost popularity in the years 2000-04.

The popularity of vocational upper secondary education programmes rose particularly in Finland, Iceland, Liechtenstein, Malta, Norway and Spain between 2000 and 2004. In contrast, enrolment in VET programmes at the ISCED 3 level, decreased in Estonia, Lithuania, Poland and Portugal (Table 7 in the Annex).

Vocational education programmes seem to be most popular among the males of the EU-15 and

Figure 4. **Graduates in ISCED 3 in 2004 (some in 2003) by study programmes**



EU-25. The popularity of VET has risen particularly among males in Greece, Italy and Malta, and among females and males in Finland. EEA countries, such as Iceland and Norway followed a similar pattern to Finland in 2000-04. In contrast, the popularity of VET programmes decreased among the students of the 10 newer Member States, especially among females.

The previous statistics mainly focused on the numbers of student enrolments. Figure 4 shows how many students actually graduated from general and vocational upper secondary programmes in 2004.

In 17 out of 35 countries (data from Malta and the UK missing) more than 50% of upper secondary education students graduated from VET programmes in Europe. The graduation figures follow the pattern of student enrolment statistics. Disparities in education between females and males have decreased throughout the EU. In fact, women have slightly overtaken men in terms of the numbers of those obtaining qualifications.

3.2. Enrolment in tertiary education programmes

In the EU-25, students in vocational higher education (ISCED 5B) mostly chose health and welfare (Table 10 in the Annex). Social sciences, business and law were most often chosen by students with an academic orientation.

In EU-25 countries and in Japan, health and welfare services, social sciences, business and law, and engineering, manufacturing and construction are the most popular tertiary programmes with occupation orientation, whereas social science, business and law programmes were most attractive for the student with an academic orientation. The enrolment figures in Japan differ only slightly from the European ones. Enrolment in agriculture and veterinary is low in all country groups, perhaps because of limited occupational fields which do not always require tertiary qualifications. The next figure shows student enrolment in occupational higher education programmes by country.

Figure 5. **Students enrolment in ISCED 5A and 5 fields in EU-25 countries in 2004**

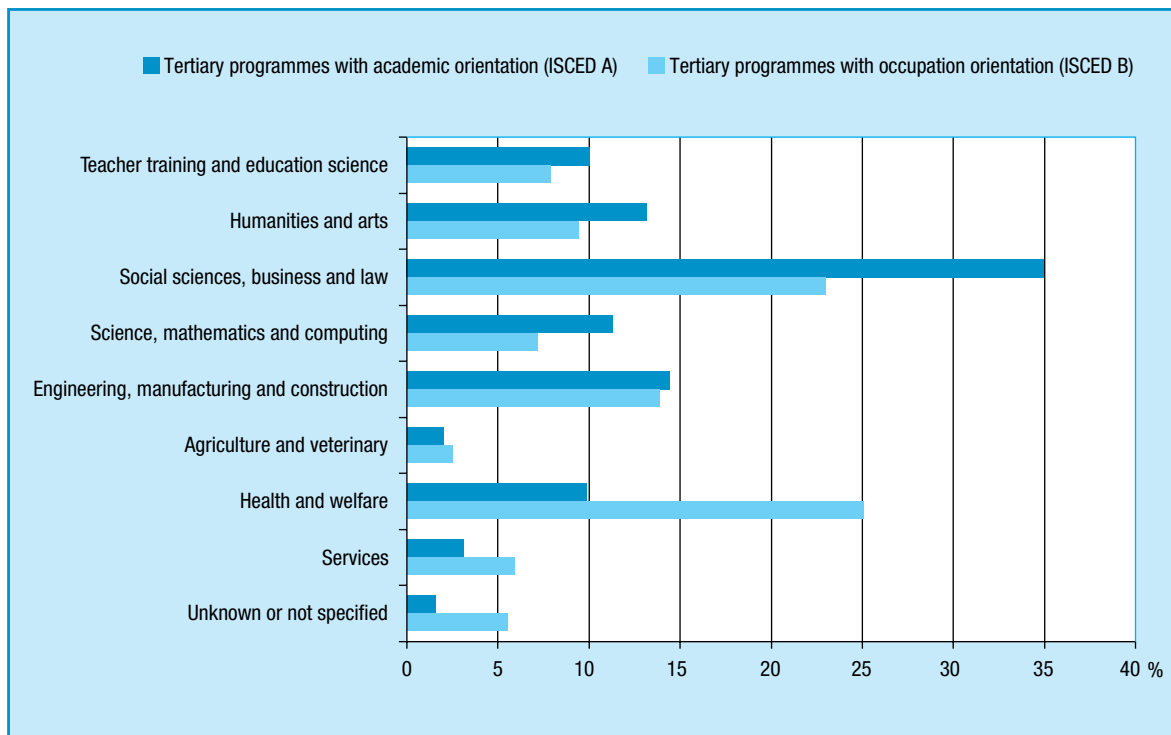
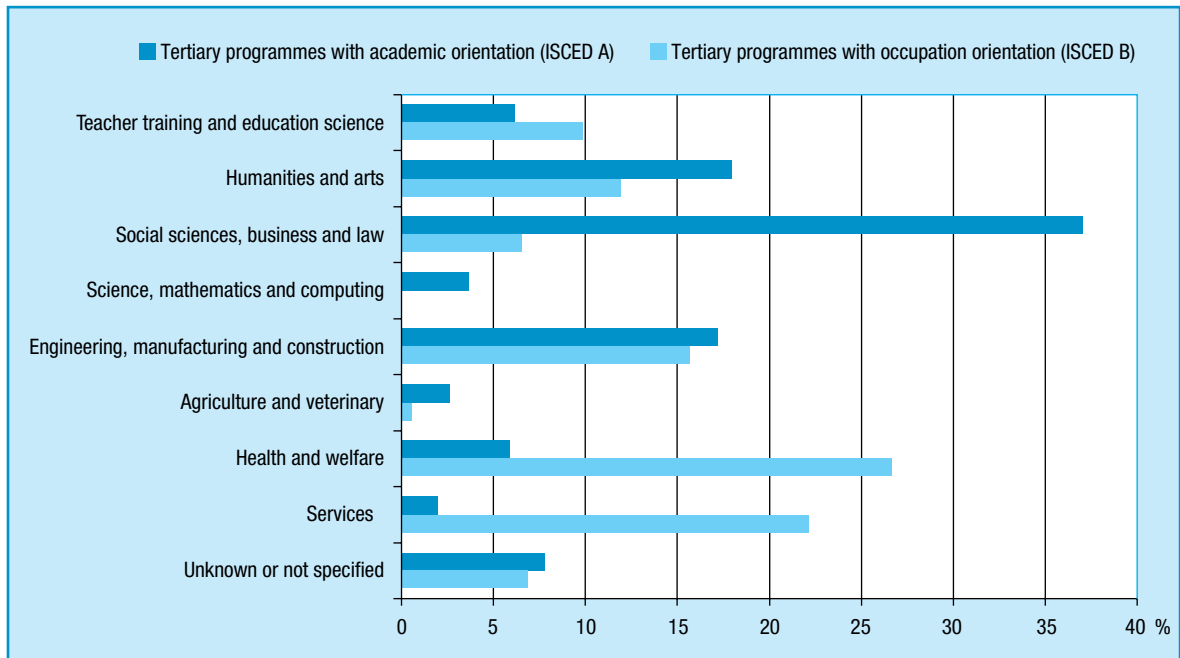


Figure 6. **Students enrolment in ISCED 5A and 5B by fields in Japan in 2004**

Tertiary programme enrolments with occupation orientation by country show great variety in choice of field. For instance, in Finland, the highest rates are in engineering, manufacturing and construction, and in humanities and arts. In Japan, services and health and welfare are the biggest areas (Table A6 in the Annex).

Despite the educational attainments success of female students, differences persist in the type of educational courses taken by young women and men. Smyth (2002) examined gender differentiation in early labour-market outcomes across European countries. Countries differ in the extent of educational segregation by gender but certain regularities are evident. Health/welfare, education and art programmes are dominated by women, while engineering programmes are dominated by men. Countries with higher educational segregation by gender were found to have higher occupational segregation by gender. However, marked gender differences were apparent between women and men who had received the same kind of education, regardless of the country considered. Female labour force participation is lower than male in all countries. It also seems that women experience fewer occupational upgrading opportunities than men.

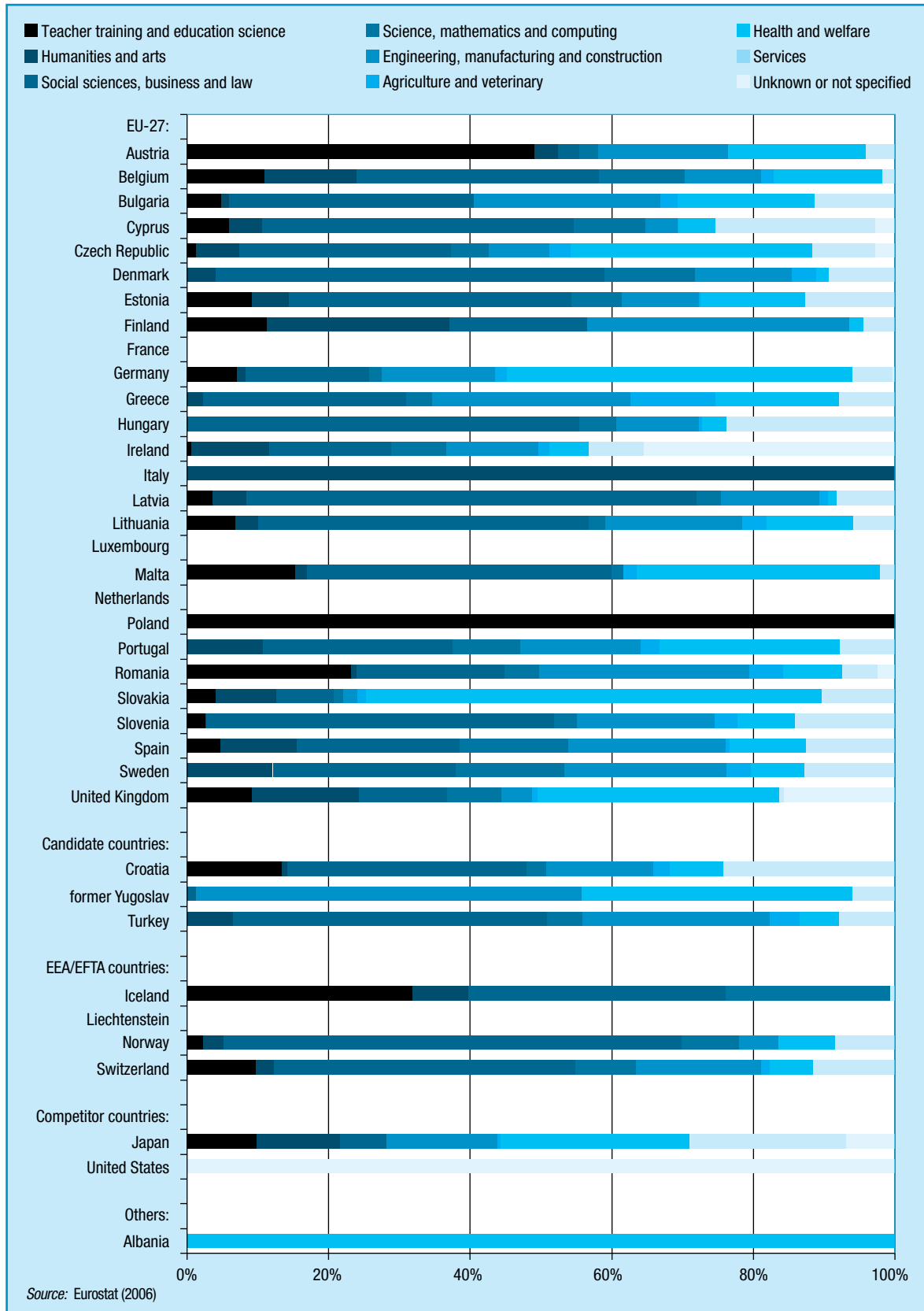
However, no evidence was found that greater segregation within the youth labour market either hindered or facilitated the integration of young women into stable employment.

School to work transition indicates the measures and conditions under which the young people move to employment after finishing school or graduation. The next section focuses on employment and unemployment.

3.3. Employment and unemployment

The employment statistics for people with certain qualifications provide some evidence of what kind and level of education are preferred in the labour market. Unemployment figures may indicate the demand for an educated workforce in the labour market, the success of planning for educational provision, and the flexibility of professional qualifications and competences amid the structural changes of working life. At individual level, employment and consequent rewards indicate how profitable the previous studies and achievements turn out to be, and the

Figure 7. **A summary of tertiary programmes with occupation education orientation (ISCED 5B) in 2004**



opportunities of a person for active participation in societal life and in contributing to economy. However, employment is not solely or directly associated with educational success but is a result of several factors, including economic aspects, labour-market situation, employers' recruitment policies and the candidate's personal qualities. Figure 8 presents unemployment rates for the EU-25 in 2005 by education attainment and age group.

There are considerable differences between the unemployment rates of youths (15-24 years) and adults (25-64 years). On average, unemployment in both age groups has stayed relatively stable during the years 2000-05 (Figure 9). Youth unemployment seems to be a common challenge in European

countries. According to the statistics for 2005, the youth unemployment rate (range 7.9%-38.6%) is in many countries twice or even three times that of the older age group (range 1.7%-15.15%). However, the higher the educational attainment of the individual, the easier the transition to the labour market. The picture hardly changes when reviewing the trends of unemployment in five years among different age groups (Tables A7 and A8 in the Annex).

Figure 9 shows unemployment in each country by educational attainments among people over the age of 15.

Figure 10 shows unemployment in each country by educational attainment among people over the age of 15.

Figure 8. Unemployment by educational attainment and age group in the EU-25 in 2005

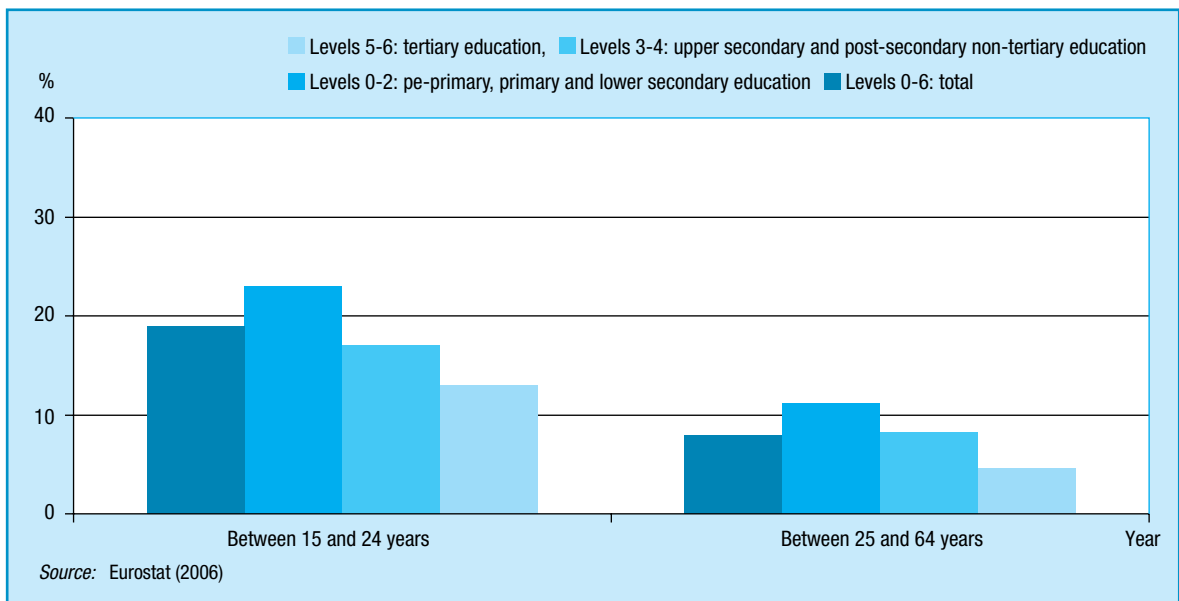
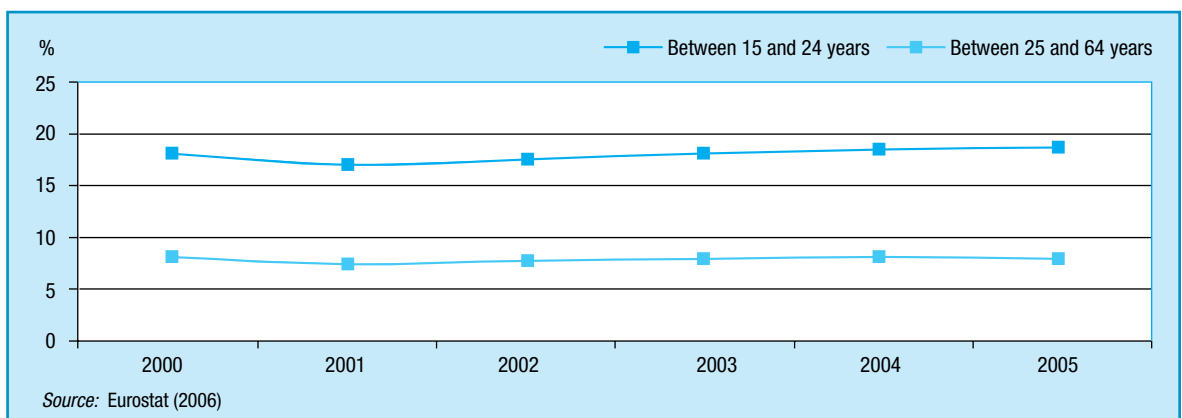


Figure 9. Unemployment by age groups in 2000-05 in EU-25 countries

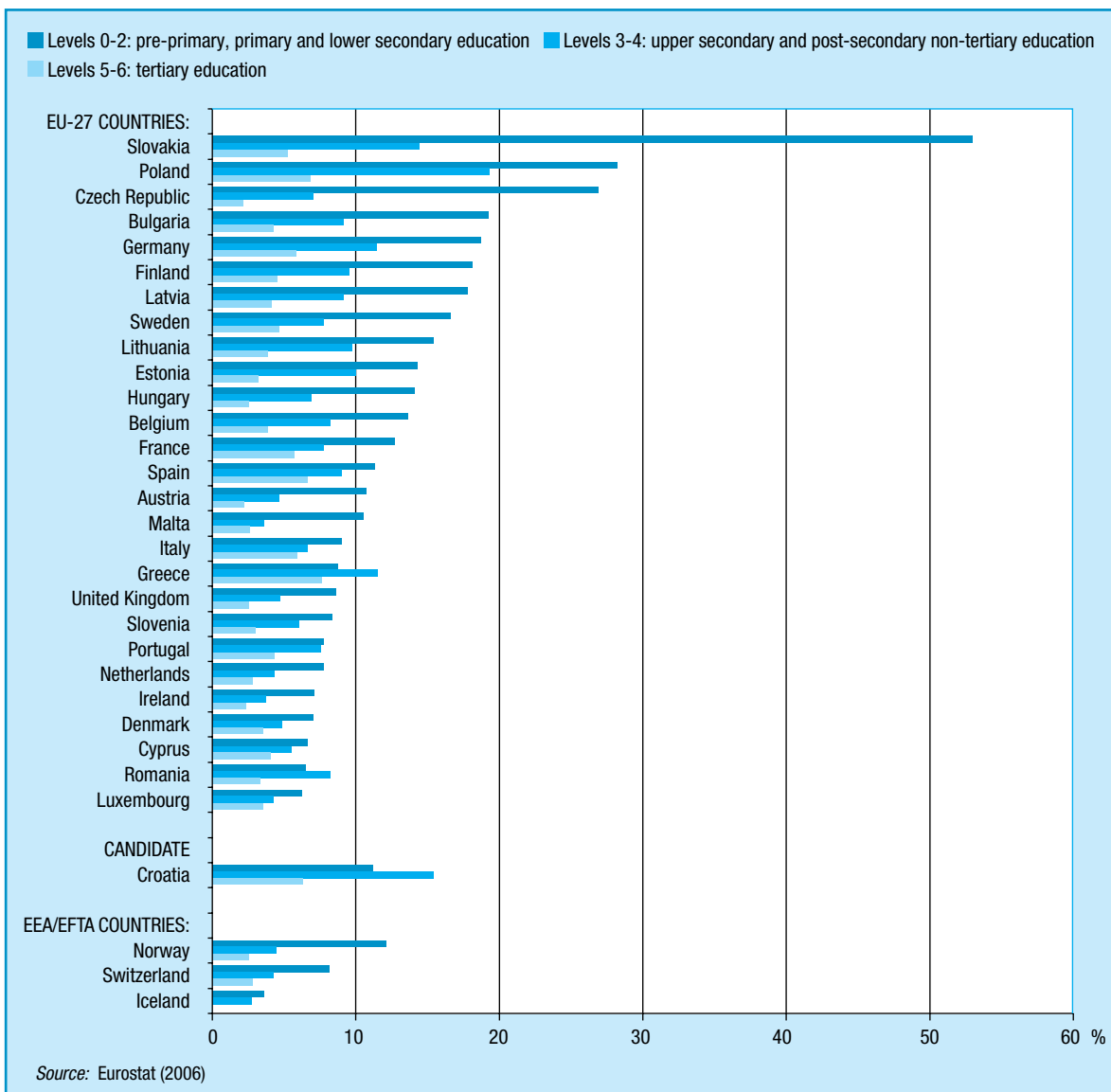


Most of the EU-27 Member States follow the pattern that the higher the educational attainment, the lower the unemployment rate. Tertiary education seems to ensure entry to the labour market. The exceptions are Croatia, Greece, Portugal and Romania where upper secondary education provides slightly better qualifications for finding employment than tertiary education qualifications. Unemployment rates among females and males vary between the countries, as shown in Figure 11.

The highest unemployment rates among Europeans over 25 were in Poland (15.5%), Slovakia (14.7%), Germany (10.9%) and Croatia

(10.9%) in 2005. The lowest unemployment among adults was found in Iceland (1.7%), Norway (3.3%), Switzerland (3.8%), the UK (3.3%), Ireland (3.5%), and Luxembourg (3.8%). Women's unemployment among 25-64 year olds was highest in Poland, Slovakia, Greece, Croatia, Germany, Spain, the Czech Republic, Bulgaria, Italy, France and Belgium. On average, it was higher than men's in EU-25 and in EEA countries. The greatest differences between female and male employment are in Greece, Spain and Italy (Table A8 in the Annex). Female unemployment was 13.2% in Greece in 2005, as opposed to 4.9% for men.

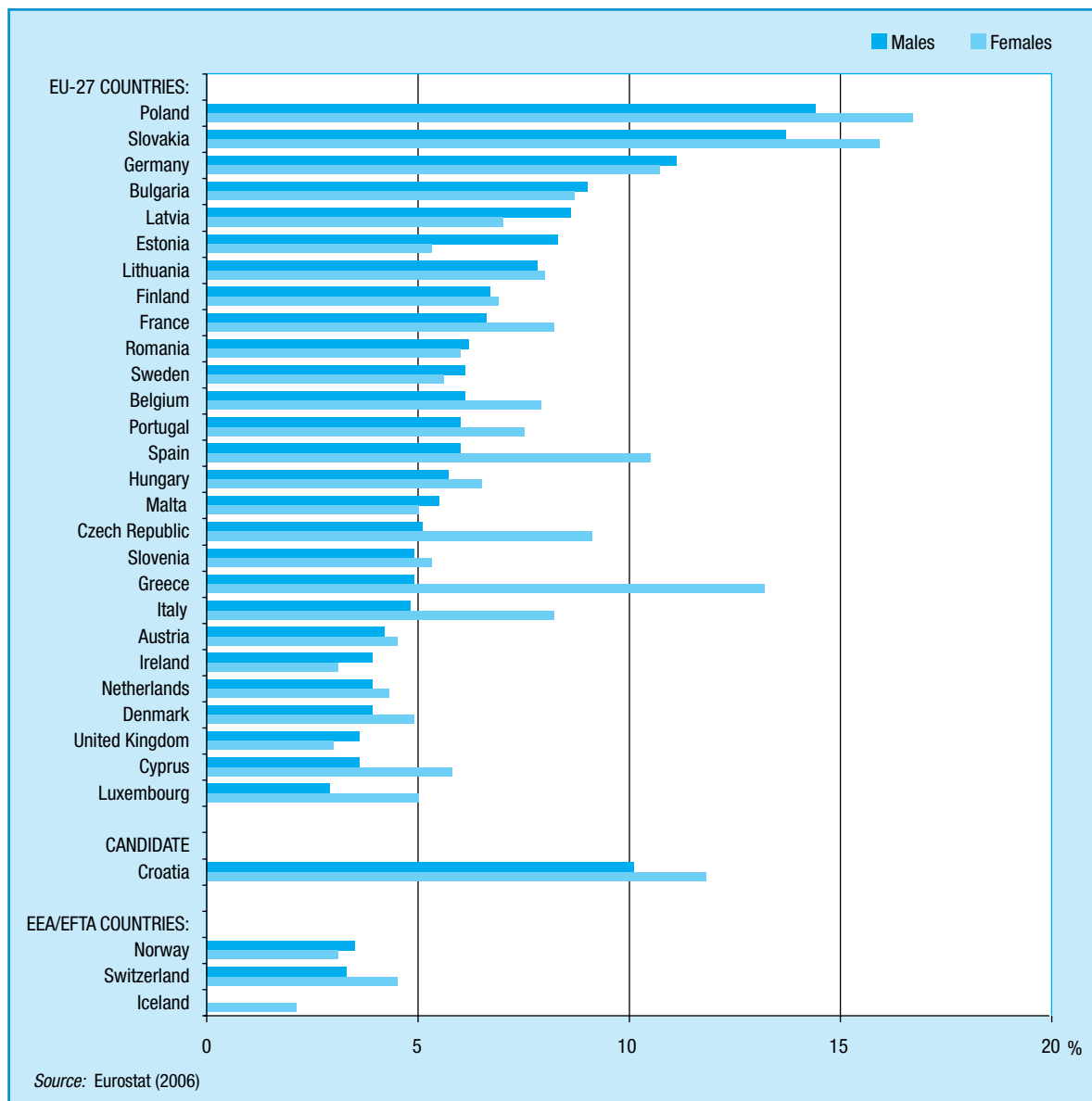
Figure 10. Unemployment rate by educational attainment in 2005



In 2005, the overall highest unemployment rates among young people were in Poland (38.6%), Croatia (32.8%), Slovakia (28.3%), Sweden (28%) and Finland (27%). The lowest unemployment rates were found in Denmark (7.9%), Ireland (8.2%), the Netherlands (8.6%), Iceland (8.7%) and Switzerland (8.8%). Many more young women than men were unemployed, especially in Croatia, Denmark, Greece, Italy, Latvia, Luxembourg, Malta, Portugal, Slovenia and Spain, (Table A7 in the Annex).

Unemployment among those who emigrated from non-EU countries to Europe is much higher than among EU citizens in almost all countries (Table A9 in the Annex). Only Ireland and Slovenia are exceptions. Comparative data on the labour-market integration of immigrant youth are very scarce. Kalter and Kogan (2002) aimed at enhancing the understanding of ethnic inequalities making use of a new dataset made available by Eurostat, the EU labour force survey 2000 ad hoc module on school-to-work transitions. They used

Figure 11. **Unemployment among adults (between 25 and 64 years) by gender and countries in 2005**



longitudinal information on labour-market entry. They found that non-EU youth are disadvantaged with respect to higher status employment in Belgium and Spain. While in Belgium it seems to be mainly due to lower educational qualifications and labour-market discrimination, in Spain an additional self-selection process seems to take place. The data showed in detail access to medium and lower status jobs, as well as the general transition patterns from school to work in both countries.

Wolbers (2002) investigated ⁽¹¹⁾ the determinant of job mismatches in terms of education among school-leavers in Europe and the effects of having a job mismatch on their labour-market position. The results showed that some individual, job, and structural characteristics affect the likelihood of job mismatch. Further, the incidence of job mismatch differs between European countries:

- (a) school-leavers with a non-matching job achieve less occupational status than those with a matching one;
- (b) this negative effect of job mismatches is smaller in countries where the proportion of school-based, apprenticeship-type vocational education is higher;
- (c) in the countries where the proportion of upper secondary education students in school-based vocational education is high, the incidence of job mismatch among school-leavers is higher than in countries where this proportion is low (the UK and Germany were not included in the data);
- (d) school-leavers with a job mismatch use adjustment strategies to improve the fit. The adjustment strategies used were job searching and participation in (further) training. A surprising result of the analysis showed that having a job mismatch had a negative effect on participation in continuous vocational training. One can speculate about whether this is due to a less positive attitude toward lifelong learning activities or to overall educational attainment.

Certain individual, job and structural characteristics are related to job mismatch (Wolbers, 2002). Male school-leavers more often seem to suffer job mismatch than their female counterparts.

Older employees are more likely to be working in a non-matching job than younger workers. School-leavers with temporary and/or part-time contracts are more frequently employed in a job that does not match their education and training than those with secure tenure. Those working in small firms and/or the private sector experienced job mismatch more often than those who were employed by large firms or/and the public sector. Periods of high unemployment have a tendency to increase job mismatch. The higher the education, or the more occupation-specific qualifications employees had, the fewer job mismatches they experienced.

Investing in education brings rewards both to the individual and to society. Individuals are willing to invest in education if there are adequate options available. Better education increases the probability of employment and secures higher income, although this connection varies between countries and education. In particular, women without upper secondary education have much poorer employment prospects than men who have completed such education. Employment is particularly unlikely among women with a low education, when compared to low-educated men or high-educated women (OECD, 2006). This is especially true for Greece, Ireland, Spain and Turkey, where less than 40% of 25-64 years old women having no upper secondary education are employed, compared to 70% of the corresponding group of men (OECD, 2005a).

3.4. Income returns from learning

There seems to be a strong positive relationship between educational attainment and relative earning (before taxes) for 25 to 64-year-olds. The higher the education, the higher the wages people earn, on average. People with below upper secondary education have the lowest salary. This trend is true in all countries (see also Table A10 in the Annex).

In most countries men have more earning advantages from their educational attainment

⁽¹¹⁾ Data on this European research were drawn from the European labour force survey 2000 ad hoc-module on transitions from school to work.

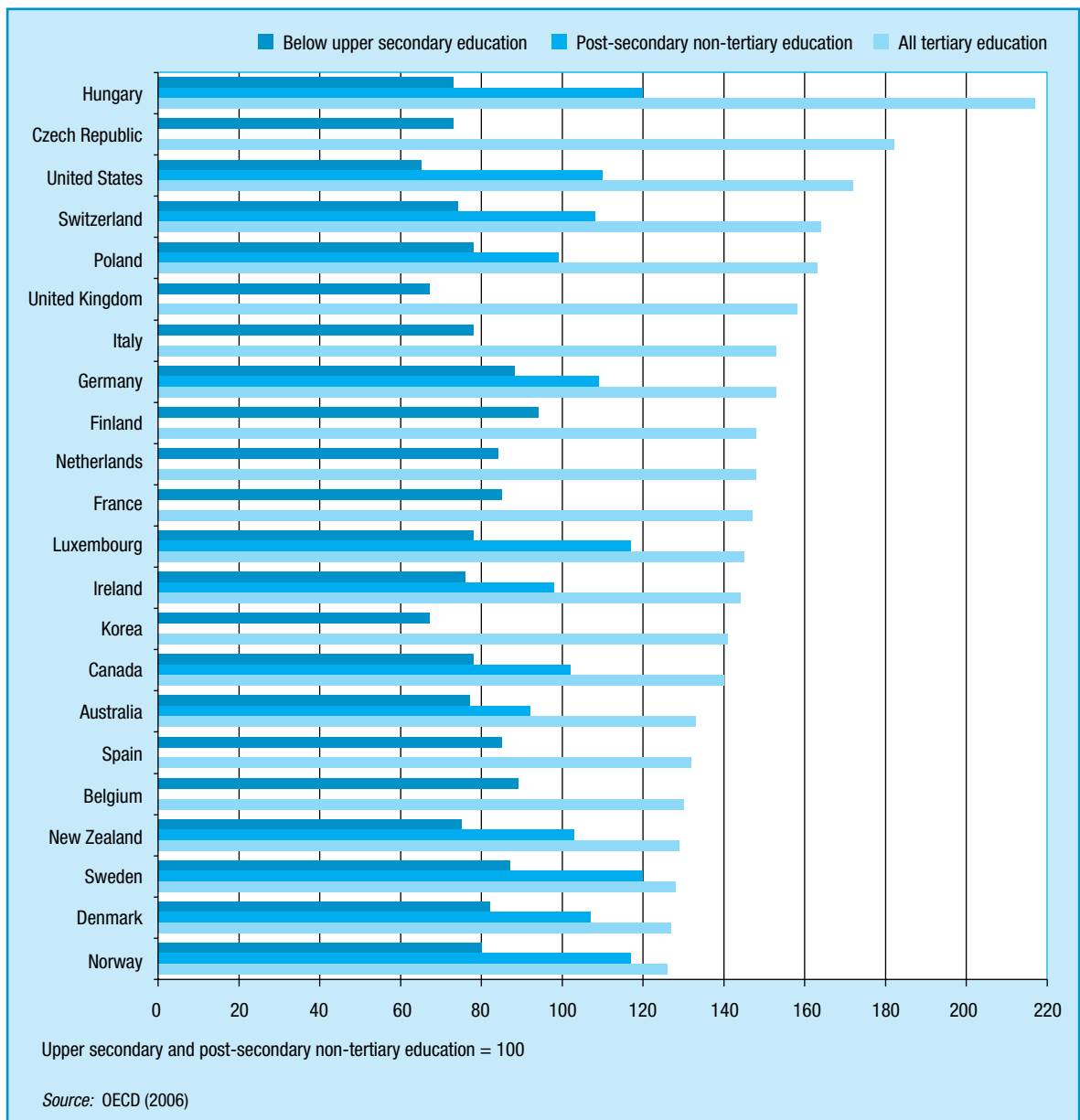
than women, especially visible for people with qualifications below upper secondary level. However, there are some exceptions. Females with below upper secondary education can count on better wages than males in Nordic EU countries (Denmark, Finland and Sweden) and Italy. Also Korea, New Zealand and Switzerland belong to this group. In Australia and the US, females and males with this kind of education are equally positioned.

At post-secondary level, women have higher salaries than men in Germany, Ireland,

and Luxembourg, as well as in Canada and Switzerland. Financial rewards from tertiary (all tertiary education) benefit females more than males in some EU countries: Ireland, Spain, the Netherlands and the UK, plus Australia, Canada, Korea, Norway and Switzerland.

At post-secondary level, women have higher salaries than men in Germany, Ireland, and Luxembourg, as well as in Canada and Switzerland. Financial rewards from tertiary (all tertiary education) benefit females more than males in some EU countries, Ireland, the Netherlands,

Figure 12. Relative income from employment



Spain, the UK, as well as in Australia, Canada, Korea, Norway and Switzerland.

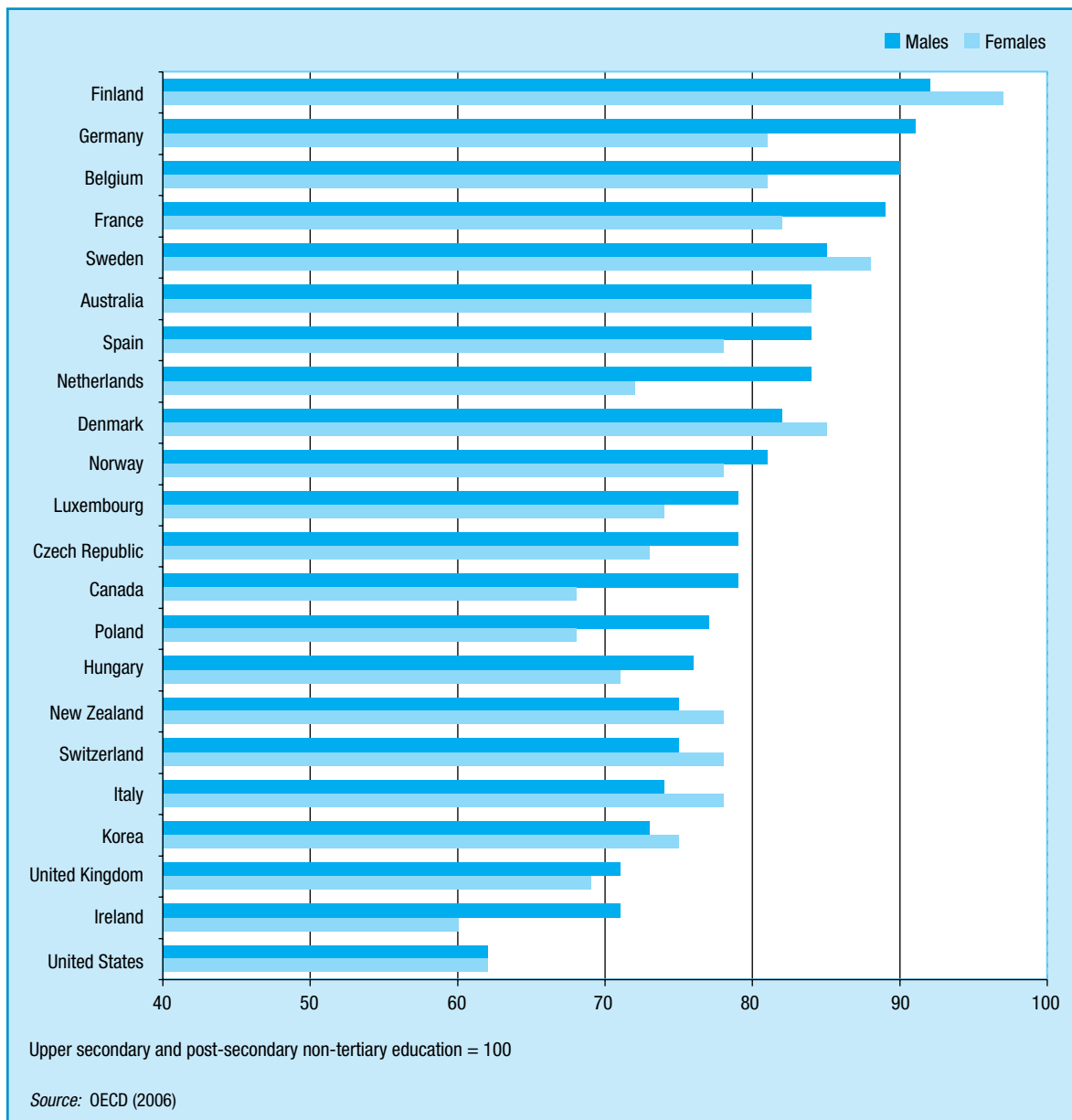
In all countries, and at all levels of educational attainment, females aged 30-44 earn less than males. However, the differences in relative earnings between men and women should be treated with caution. In most countries, earnings data include part-time work, which is more common among women (OECD, 2006, p. 124).

By considering all levels of education together, average annual female earnings, given as a percentage of earnings for males in the 30 to

44 age group, are highest in countries where part-time work and part-year earnings are excluded: Hungary (87%), Luxembourg (84%) and Poland (81%). Women aged 55 to 64 get the biggest percentage of male earnings in Poland, Hungary, and the Czech Republic, respectively, 87%, 86% and 82%.

In some cases, 55 to 64-year-old women are better paid than men. This is observed among women graduates of tertiary-type A and advanced research programmes (131% of male earnings) and tertiary-type B education

Figure 13. **Relative income from employment**

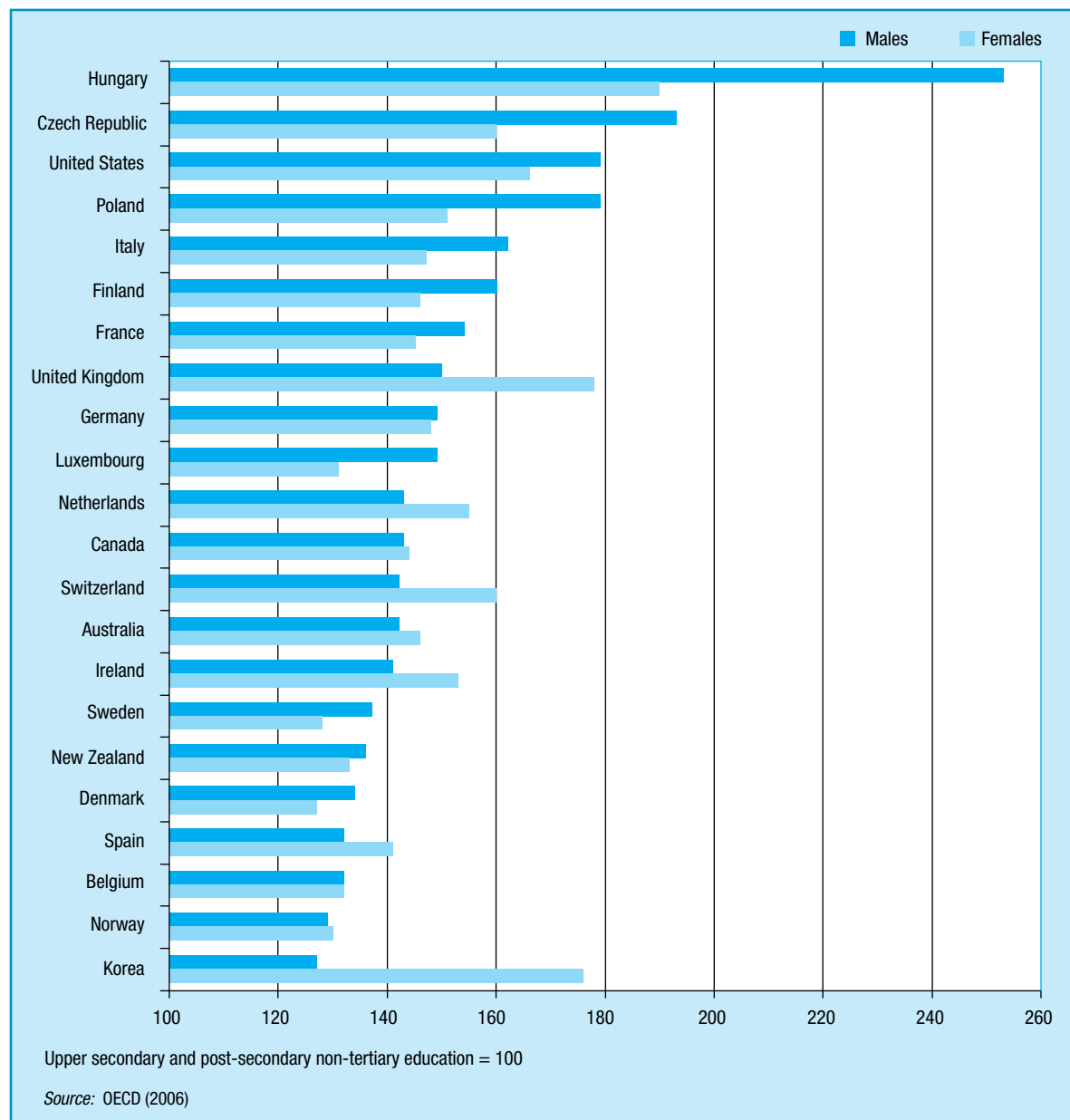


(105% of male earnings) in Luxembourg, among women with tertiary-type B education (107% of male earnings) and upper secondary and post-secondary non-tertiary education (104% of male earnings) in Hungary, and among Korean females with tertiary-type B education (107% of males earnings).

Despite these exceptions, women still earn, on average, much less than men. For instance, in Finland where women's education attainment is higher than that of men, women's salary is only 80% of men's salary on average.

In salary comparison across different education levels, vocational upper secondary education seems to yield, for both genders, at least as high salaries as general upper secondary education (OECD, 2005a, p. 130). However, there is a marked difference when compared to tertiary vocational education and academic education (OECD, 2006, p. 123 and 135). The latter interpretation has to be handled with caution as access to vocational higher education (ISCED 5b) is very limited in the EU-27. In only one out of 21 countries under study – Norway – do females

Figure 14. **Relative income from employment (educational attainment at tertiary level)**



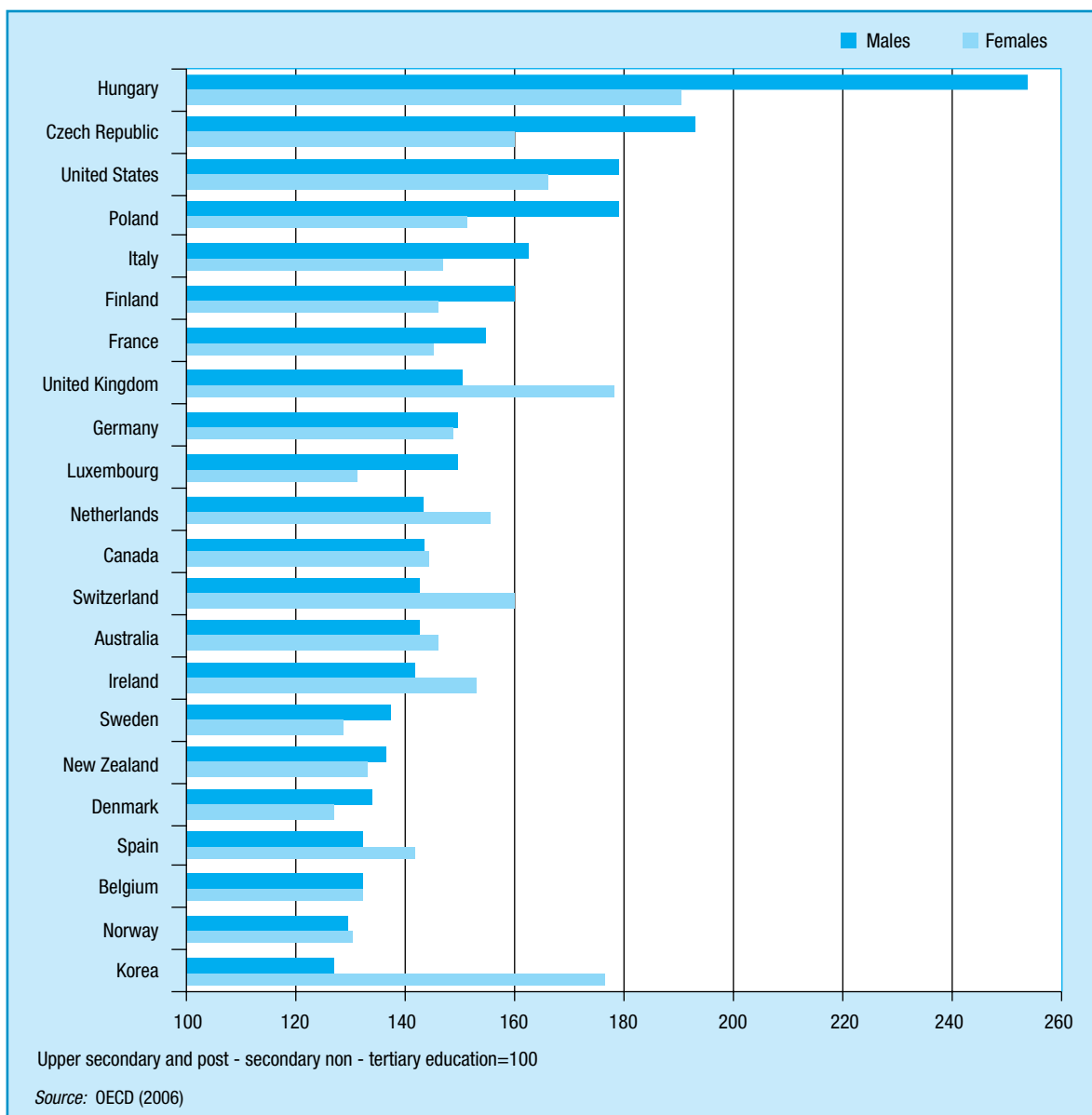
profit more than their male counterparts from tertiary-type B education.

Although it can be argued that the higher education people have, the better paid job they will have, there are exceptions based on the occupation and the length of studies (Box 2). The higher a degree, the more years of study required. Each year of study is a loss of income in the short term. The future job has to pay well to cover the gap.

According to OECD statistics (OECD, 2005a), the biggest differences in salary comparisons

across education levels occur between higher education and upper secondary or specialist vocational education. However, higher education does not pay off, at least financially, in all fields when compared to some vocational qualifications, as seen in Box 2. Further, money is by no means the only reward education may bring. Other aspects to consider include self-fulfilment and work satisfaction. Many people may also end up working in a field other than that for which they originally studied. Though the effects of education on economy as a whole are hard to

Figure 15. **Relative earnings of the populations with income from employment (educational attainment of tertiary education)**



Box 2. **A plumber earns more than a university graduate**

In Finland a recent Helsingin Sanomat report (2006) compared average earnings and their development over a 35-year work career for six occupations: museum secretary, nurse, engineer, plumber, lawyer, and doctor. It turned out that a plumber achieves considerably higher earnings than many more highly educated professionals. The calculations were based on the Finnish salary statistics of trade unions and municipal employers. A plumber who starts in the profession at the age of 20, has many years in a paid job while the others are still studying. Lawyers and doctors catch up with the plumber in overall earnings after some 13 years of working. After six years of university studies a museum secretary will never reach the plumber's income level due to lower annual income. Naturally, the salaries vary within occupational fields. For example, a lawyer working in the private sector may earn twice as much as a fellow lawyer working as a civil servant.

measure precisely, available indicators permit the conclusion that these effects are clearly connected to economic growth with relation to productivity and human capital.

3.5. Conclusions

Nearly all European countries have achieved the goal of universal upper secondary education (ISCED 3). The mass of students challenges the education and training systems in terms of diversification of secondary and tertiary education. VET learning environments are different from those of traditional academic/liberal education. Teaching and learning approaches draw on strategies of constructivist, and situated, work-based and expanding learning theories. Thus, VET can contribute to modernising teaching and learning methods and curricula.

VET seems to be quite attractive among young people in most European countries,

especially among male students. In 2004, enrolment in VET programmes varied by country from 9.2% to 79.2% of all upper secondary education students. In 20 countries out of 35, more than 50% of upper secondary education students enrolled in VET in 2004 (Table 8 in the Annex). In all country groups (EU-27, EEA/EFTA and in Japan), VET is more popular among male students than among females; exceptions are Sweden and the UK. However, countries count VET enrolment in various ways. Finland considers vocational students those who enrol in vocational upper secondary programmes, whereas the UK counts these as further education students. Ireland and the US have only academically oriented programmes at the ISCED 3 level, having pre-vocational programmes and vocational programmes at the ISCED 4 level (post-secondary non-tertiary programmes).

The policy goal of improving the attractiveness of VET is being achieved in EU-15 countries, whereas in the 10 newer Member States, which joined the EU in 2004, it decreased during the first years of the 21st century. The pattern of graduation is similar to that of enrolment numbers.

Statistics show that average salary increases, and the risk of unemployment declines, with education, both in Europe and abroad. VET is appreciated if this route is also seen to enable progress in educational and professional careers. With respect to professional socialisation and structural reproduction in society, the family plays a central role in passing on values and attitudes. Some exceptions exist in the Nordic countries (Finland and Sweden). Childhood conceptions of VET and certain types of professionals tend to be sustained in later life as well. Parents' educational and occupational background and their attitudes towards different options have significant influence when students are choosing between pathways after compulsory education.

4. Policy measures to increase the attractiveness of VET and continuing vocational training

4.1. Introduction

The purpose of this section is to present and discuss selected policies and measures currently developed and implemented by EU Member States, the EEA countries and the candidate countries to increase the attractiveness of VET. The data is drawn from the following reports, drafted mainly by the relevant country ministries of education and employment, in response to requests for analysis and reporting undertaken at EU level:

- (a) the 2004 national contributions to the Maastricht report drafted as responses to the questionnaire sent by the Qualifications and Curriculum Authority (QCA) to the Directors-General for Vocational Training;
- (b) implementing the Education and training 2010 work programme national reports drafted in 2005 for the 2006 joint progress report;
- (c) 2006 responses to the DGVT questionnaire sent out by Cedefop on progress made in the Copenhagen-Maastricht priority areas for VET.

These data sources are used because they are recent and were drafted for the purposes of reporting during the last three years. They state official positions in response to specific questions about recent policy developments in VET systems. The drawback is inevitably that they tend to be descriptive rather than evaluative, but the richness of the data provides a snapshot of the situation following the Lisbon mid-term.

The first section of this study examined past research on the attractiveness of VET and measures to improve parity of esteem. Three criteria – personal competence, educational mobility and occupational mobility – are important factors in examining whether VET is perceived as an attractive choice in comparison with other educational pathways. Factors such as family background, policies in favour of equity, career guidance and quality have been shown to play a role. Past research has also indicated the function of vocational teachers and trainers both

in their pedagogic role and as models for their occupations. Other factors highlighted include progression opportunities and dual purpose qualifications giving access to higher education. It is interesting, therefore, to assess the extent to which current policy-making takes account of such factors. The next section of the study analysed statistical data to assess any progress associated with earlier measures to make VET more attractive. The statistical analysis suggests that VET is quite attractive among young people in most European countries, especially among male students, but it appears to be appreciated if it is seen to enable progress into further and higher education and training, and in chosen professional careers.

It is interesting to map the range of policy measures currently being implemented, with emphasis on what is new and in the process of changing. The choice was made to present a broad panorama to obtain an overall perspective about how European countries are responding to the Lisbon challenge. The examples selected are illustrative of current policies designed to improve the attractiveness of VET and to improve its status and image both for the general public (young people and their families) and for employers. Given the different paces of reviewing and reforming VET systems, as well as different VET contexts and histories, countries which have been implementing certain specific types of measures for many years may not be mentioned given the focus on current policy developments. Therefore, the fact that a country is not mentioned, for example, concerning access to higher education or stakeholder involvement, does not suggest that they are not implementing the type of strategy presented. As a well-established practice it may not be a current preoccupation. A telling comment in the Maastricht study was that 'cooperation among Member States across Europe is growing as Europe strives towards the Lisbon goal. Yet the indications are also that countries and sectors will continue to develop reforms that are most appropriate to their own traditions, circumstances, challenges

and aims. This means that Member States will progress the Copenhagen actions according to rather varying sets of priorities' (Leney et al., 2004a, p. 3). This observation is well illustrated in the different sets of concerns of the countries included in this study.

The countries included in this section are listed in Table 2.

To provide a point of anchorage with the Lisbon process, the country reporting is set against the framework of the Helsinki priorities. In most cases it is too early to assess the success of the policies. Following the presentation of the policies and measures, a matrix has been devised to summarise the types of needs that different policy measures are likely to fulfil for individuals and their families, as well as for employers, and at systemic level as an indication of possible success factors.

The key issue is whether or not the policies developed actually improve VET systems and if they can also contribute to improving the parity of esteem between the technical/vocational routes and general education routes. In 1993, Woolf wrote that 'governments find it nearly impossible to develop a coherent long-term policy – in large part because they are trying to achieve a number of quite separate objectives. They are attempting

to compress into a single national system programmes which imply very different sorts of education and training, to reconcile individual's interests and ambitions with wider social concerns and to do so in a situation of inherent uncertainty about the future' (Wolf, 1993). The situation has not changed much in the intervening years and makes the parity and attractiveness agenda both more complex and difficult. The metaphor of 'building blocks' has been used to describe the different functions of a VET system:

- (a) 'to be able to define occupational sector priorities (on the best possible evidence available);
- (b) to be able to identify the appropriate occupational sector competences and skills required (and to construct the institution and tools to do this);
- (c) to be able to turn these into curricular profiles and programmes and measurable standards;
- (d) to deliver these at school level including the capacity to transfer from pilot to system level;
- (e) to help make the processes attractive to students and teacher (transferability, visibility and portability of qualifications for students and working conditions for teachers);

Table 2. **The countries that responded to the DGVT questionnaire**

EU		EEA countries		Candidate countries	
Austria	AT	Iceland	IS	Croatia	HR
Belgium (Flanders)	BE-FI	Liechtenstein	LI	Turkey	TR
Belgium (Wallonia)	BE-Wa	Norway	NO		
Bulgaria	BG	Ireland	IE		
Cyprus	CY	Italy	IT		
Czech Republic	CZ	Lithuania	LT		
Germany	DE	Luxembourg	LU		
Denmark	DK	Latvia	LV		
Estonia	EE	Malta	MT		
Spain	ES	Netherlands	NL		
Finland	FI	Poland	PL		
France	FR	Portugal	PT		
Greece	GR	Romania	RO		
Hungary	HU	Sweden	SE		
		Slovak Republic	SK		
		Slovenia	SI		
		United Kingdom	UK		

- (f) to provide for timely and effective feedback through evaluation, monitoring, quality control and tracer studies of school-leavers' (Parkes et al. cited in Cedefop, Viertel et al., 2004, p. 199).

It provides a useful indication of the different aspects that issues of attractiveness and parity need to consider in order to have a systemic effect.

But how does Europe situate itself in comparison with other competitor countries and in attitudes towards the development of VET? Studies suggest that the main competitors outside Europe (Japan and the US) have higher qualifications on average among their adult population than Europe does; in addition Europe has a smaller percentage of higher education students in vocationally-oriented courses than these competitors (Leney et al., 2004a). The OECD tends to underline the importance for education systems of ensuring that young people can obtain at least a full secondary school award before leaving initial education and training; it also stresses the importance for the economy of investment in higher education. The World Bank emphasises the importance of investing in general education, even to the detriment of VET. The previous section dealt with the complex issues of the returns on education and training. According to the Maastricht report, evidence suggests that investing in training both at the level of the higher achievers and of the most disadvantaged groups is worthwhile from both economic and social points of view (Leney et al., 2004a). To a certain extent the emphasis placed by Europe on the specificity of VET and its particular contribution is somewhat exceptional in the supra-national landscape. In terms of the twin priorities of equity and efficiency underlined in the 2006 report on Education and training 2010, VET can be seen as a significant contributing factor playing a specific role in increasing equity, particularly at post-compulsory level as it still tends to enrol lower achievers into formal education.

4.2. The context

Over recent decades many countries in Europe have faced the challenges of improving opportunities for young people and adults to

access education and training and to enable them to obtain recognised qualifications (certificates and/or diplomas), including attesting to their (prior or current) learning outcomes. In brief, some of these developments have included:

- (a) developing coherent progression routes and pathways which allow people to build on the qualifications they already have to move to a higher level;
- (b) improving access to learning and to qualifications to enable individuals to undertake further learning to develop their knowledge, skills and competences; improve employability; have their acquired competences validated. Depending on the country, developing access has also focused on gender inequalities and on specific groups of the population which tended to face major obstacles and barriers to learning, obtaining recognised qualifications and entering (or seeking to return to) the labour market;
- (c) developing flexibility to allow people (young people and adults) who have left the school system to access training and qualifications more easily. This is a question of entitling adults to learn in ways which take account of their work and life constraints;
- (d) implementing measures to ensure transparency among the different types of diplomas and/or certificates which exist in any given country so that people can more easily access higher level or specialist qualifications. This may include aligning qualifications to a set of references which allow individuals, employers, training providers, etc., to situate where specific qualifications fit in comparison to others;
- (e) establishing criteria and procedures for ensuring the quality of the qualifications which may be issued by different ministries or bodies. Quality is essential for building trust in the system and contributes to improving the image of VET;
- (f) improving the links between learning and the labour market to ensure the relevance of the qualifications provided.

Specific policies and measures implemented vary depending on the country; the issues prioritised also vary depending largely on socioeconomic factors. Transition to a market economy has also played an important role in

determining priorities in the last 15 years for some of the 10 newer Member States.

The conclusions to the Maastricht conference on 15 December 2004 emphasised the achievements of VET systems in Europe and underlined the urgency for national authorities to put in place lifelong learning strategies by 2006, with the priorities and objectives outlined in the Maastricht communiqué as a key element. The communiqué underlined the importance of continuing the modernisation of VET systems to increase their attractiveness, to become increasingly demand-led, of high quality and relevant (European Commission, 2005a). Earlier in 2004, the Joint Interim Report (Council, 2004) had identified key areas and recommended that reforms and investment focus on the image and attractiveness of VET. The Maastricht agenda put a high priority on improving the image and attractiveness of the vocational route for employers and individuals to increase participation in VET, setting the challenge to ‘maintain and improve the quality of IVET [initial VET], to make provision attractive to stakeholders and client groups and to provide flexible links between pathways and with general and higher education’ (Leney et al., 2004a, p. 5).

Two years later, the priorities in the conclusions to the Helsinki conference reiterated most of the Maastricht priorities with a focus on improving the attractiveness of VET. They are, in summary:

- (a) more attention should be paid by participating countries to the image, status and attractiveness of VET. This calls for:
 - (i) improved guidance;
 - (ii) open VET systems;
 - (iii) close links with working life;
 - (iv) promoting the recognition of non-formal and informal learning;
 - (v) measures to increase the interest and participation of men or women in those VET fields in which they remain under-represented;
 - (vi) developing and highlighting excellence in skills;
- (b) in improving the attractiveness and quality of VET, more emphasis should be placed on good governance of VET systems and providers in delivering the VET agenda through:
 - (i) responsiveness to the needs of individuals and the labour market;
 - (ii) highly qualified teachers and trainers;
 - (iii) national quality assurance;
 - (iv) improving public and private investment;
 - (v) increased transparency of VET systems;
 - (vi) stronger leadership of institutions;
 - (vii) active partnership between different decision-makers and stakeholders nationally, regionally and locally.

Emphasis has been placed in this chapter on selected priorities and, in particular, on those which aim to improve the attractiveness of VET through measures for guidance, flexibility, transparency,

Table 3. **Section organisation**

More attention should be paid by participating countries to the image, status and attractiveness of VET:	In improving the attractiveness and quality of VET, more emphasis should be placed on good governance of VET systems and providers in delivering the VET agenda:
Improved guidance and counselling	Highly qualified teachers and trainers
Open VET systems	National quality assurance
Close links with working life, including responsiveness to the needs of individuals and the labour market and active partnership between different decision-makers and stakeholders nationally, regionally and locally	Increased transparency of VET systems
Promoting the recognition of non-formal and informal learning	

access to learning and qualifications, links with the world of work, partnership, quality and teacher education. Those noted in italics are not dealt with specifically. The following sections are organised as presented in Table 3.

4.3. Image, status and attractiveness of VET

This section examines a first set of issues with a focus on the individual, access into and progression through systems.

4.3.1. Guidance and counselling

Reports over the 2004 to 2006 period refer to improvements in guidance and counselling provision. In the 2005 several countries mentioned that improvement in their guidance and counselling systems was considered a significant contribution to improving the attractiveness of VET. This applied to the Belgium-Wa, Cyprus, the Czech Republic, Denmark, France, Germany, Lithuania, Malta, Norway, Poland and the UK, though little further explanation was given. Three types of guidance and counselling are dealt with in the reports: transition to VET and/or upper secondary; the end of secondary or higher education and adult guidance. Examples are presented below.

The Norwegian Ministry of Education is introducing a framework on quality which includes counselling to improve transition to upper secondary education by providing pupils with the information they need on increased opportunities for specialisation and practical activities. They will be able to choose some subjects from upper secondary provision while still in lower secondary, as it is felt that this can improve their transition. At the same time, the new framework will stimulate the professional development of counsellors and establish regional partnerships for educational and vocational guidance which will become a task for the county authorities. The hope is that this new provision will increase the percentage of pupils who complete their VET within the generally stipulated time, improving attainments. The 2005 law on vocational training in Germany will extend cooperation among the *Länder* in vocational

guidance and preparing students for choosing an occupation (in conjunction with the Federal Agency for Employment).

In Italy emphasis has been placed in recent years on guidance for students finishing upper secondary school or higher education called. The *tirocini formativi e di orientamento* gives young people on-the-job experience and guidance.

The UK has been developing adult information, advice and guidance provision since the late 1990s through the learndirect national learning advice line. This offers advice and information on learning and career opportunities, as well as on support services such as childcare. The service deals with a high number of calls (over six million since 1998) and a recent survey indicated that almost 80% of the respondents had either taken up training as an outcome of the information or intended to do so. In Ireland, following an OECD recommendation in 2003, guidance is being substantially developed. Measures include a national guidance forum which was established in June 2004 as a joint initiative of the Department of Education and Science and the Department of Enterprise, Trade and Employment to facilitate collaboration between guidance providers and to support lifelong guidance. It is composed of representatives of guidance policy-makers, practitioners, trainers, social partners, parents and consumers. New programmes within the school curriculum have significant guidance modules; an additional allocation of posts for guidance teachers has recently been announced by the Minister for Education and Science. Adult guidance is also being further developed through a number (over 35 at present) of guidance projects undertaken throughout the country and supported by the National Centre for Guidance in Education to assist adults to connect with learning opportunities and also those engaged in literacy programmes, community education and the vocational training opportunities scheme.

In France a national career guidance portal for both young people and adults was launched in 2006 and aims to provide useful information to all categories for labour-market entry and throughout working life. It has been set up with the cooperation of partners from education, training, employment sector bodies and regional services.

Summary points

Observations about information, guidance and counselling have frequently tended to focus on the inadequacy of the information provided, particularly the fact that it may not be up-to-date and fully informed by recent developments in employment and occupations. Another issue is that of ensuring that it is provided in a lifelong learning perspective. Thus the declared purpose of these measures is to improve the quality of the information provided to the users, and the support given to both young people and adults. The aim is that they will be better equipped to understand and assess their learning and career opportunities to make more informed choices about the pathways to take. The reports tend to be limited to descriptions of such measures with little indication of success factors, except for quantitative ones. This is hardly surprising given the time needed for this type of measure to be effective and for its effects to be gathered and interpreted.

4.3.2. Open VET and responsiveness to the needs of individuals

Undertaking measures to make VET systems more open and responsive to individuals is not new and many pilot, innovative and mainstream experiences have been carried out over the last two decades. They tend to group around five main issues:

- (a) improving access to learning and to qualifications for all populations;
- (b) developing flexible and individualised provision and pathways;
- (c) facilitating transfers between the different parts of the secondary VET system;
- (d) improving access to higher education;
- (e) responsiveness through delivery of the curriculum.

The summary points are grouped at the end of the five subsections.

4.3.2.1. Improving the access to learning and to qualifications

Three types of approaches are presented here as illustrative examples: overall curricula approaches for the age-group; approaches specific to secondary VET; and approaches which focus on continuing vocational training.

The focus in the UK has been on improving

provision and the curriculum for the whole age-group (14-19 years old) to improve pathways both for academic education and for technical and vocational provision. The stated emphasis is on flexibility, tailoring the system to the needs of the individual, giving all young people a good grounding in key competences, reengaging the disaffected and providing challenging programmes for all. In Finland young people can mix academic and vocational options to suit their individual choices and work towards both academic and vocational qualification. This is also an approach to the whole age-group that does not separate students into 'silos' and gives them choice. It would be interesting to investigate further whether the good PISA results of Finland are a reflection of the control that young people are given over the design of their own pathways and the extended choice and possibility of integrating both general education and vocational choices. In addition an interesting system has been established in Finland for finding out from students what they think about the labour-market training they receive. The OPAL system gathers student feedback which is then used by institutions in follow-up about the quality of provision. Further in-depth research into these questions would be highly interesting, permitting investigation of the role played by the factors of choice and control in making VET options more attractive to young people. In other words, is the integration of a higher degree of self-organisation a criterion for success in policies developing pathways?

The second example is focused specifically on VET. In Sweden one aspect of developing a modern apprenticeship training system is through the introduction of an upper secondary education certificate for all the programmes offered. The modules that form the upper secondary curriculum will be broadened and more coherence introduced between the core subjects and specialised vocational subjects. In parallel this is linked to the development of advanced vocational education and training (AVET) which has become a regular part of the education system and includes close cooperation with the enterprises and course providers, with one third of the training taking place in the workplace. While Sweden is introducing a modern system of apprenticeship at upper secondary

school level as an alternative to school-based routes, since 2000, the German dual system has integrated about 30 new occupations and modernised about 94 others. A further reform in Germany to increase attractiveness (and individualisation) of the dual system comes through the legislation to promote mobility by allowing periods of vocational training courses to be completed abroad.

4.3.2.2. *Developing flexible and individualised provision and pathways*

Poland provides an interesting example of a country that is putting strategy for the development of continuing education at the core of the VET modernisation. This includes the development of new occupations and national standards, modularisation, etc. with the aim of providing clearer career routes for holders of secondary VET awards.

For over 20 years this has been seen as a key element in making VET more attractive and improving opportunities for young people and adults undertaking VET courses. Considerations include giving more choice to individuals, not just about the content of their course, to respond to their needs, but also developing more pathway options. Flexibility of delivery has also been a concern, especially for adults returning to learning and the need to make learning available in ways that suit their life and work style; this is about taking account of the importance of work-life balance considerations, especially for women (Gordon, 2004; Pont, 2004; Huggins and Harries, 2004).

Flexibility has become an important aspect in Slovenian policy for VET, with the development of bridging courses and the offer of continuing education and training. The bridging courses last one year and allow students to move in both directions between general and technical upper secondary education. Students who have completed general upper secondary education can transfer to vocational courses; those who have obtained a professional qualification can transfer to general secondary to obtain the upper secondary matriculation diploma giving access to higher education. The aim is to increase the number of students from upper secondary technical courses and who go onto higher education. Permeability between education pathways is also at the centre of the German Vocational Training Act to open up

access to the different sectors of vocational training and higher education, in this case with the aim of attracting higher achieving young people to VET.

Recent measures in Denmark and Norway have emphasised local autonomy and individual choice. In Norway the aim is to establish a broader based and more flexible structure for organising VET routes in upper secondary education for individual pupils, schools, apprentices and training establishment or work places, which is intended to be of benefit both to the individual learner and the labour market, reduce non-completion rates and improve the completion of upper secondary education, including for VET courses. The declared aim is to give each pupil the basis necessary for lifelong learning to support basic skills while fostering cultural and moral development. The overall approach is to build on mutual trust and understanding and a high degree of local freedom in implementing priorities. In Denmark all students are entitled to an individual VET plan based on an assessment of prior learning and which can include credit transfer where appropriate. Another approach to improving delivery and take-up is through flexibility, increased in Iceland with the introduction of credit-based awards which take account of work experience.

4.3.2.3. *Facilitating transfers between the different parts of secondary VET*

A further set of measures focuses on the need to develop pathways for young people and adults who have come through VET routes and to increase the possibilities of transfers, whether horizontal (between general education and technical and vocational education) or vertical (into higher education). There are two main approaches.

In Belgium-FI and Germany, for example, measures seek to smooth the passage between general and vocational provision. In Germany, links between vocational and general education are being strengthened by developing vocational modules. With the objective of improving the interface between general education and vocational training, qualification modules are being incorporated into vocational preparation targeted at young people experiencing difficulties at school. In Belgium-FI there have been major updates of the curriculum designed to remove barriers between general secondary education and vocational

provision. In a special pilot project, *Accent on talent*, supported by the government, schools can innovate by removing barriers between general secondary education and VET. In Iceland, barriers hindering transfers between general education and initial VET have also been removed and in the Netherlands the regulations which penalised students transferring from one course of study to another have been abolished to create scope for more flexible pathways from secondary vocational to higher professional education. In Portugal, substantial updating of the curriculum has been undertaken, allowing for easier movement between primary and secondary education and initial VET pathways, reinforcing the modular structure of programmes. In Estonia, access to general education has been improved.

A second approach is by creating two or more pathways to upper secondary qualifications. Well-known examples are France and the Netherlands where there are school-based and apprentice routes to the same qualifications. In Spain and Romania different pathways have been created towards upper secondary qualification, while in Slovenia, two upper secondary diplomas have been established, one for general education and one for vocational. A new exam at the end of vocational secondary school in Croatia is being developed with the purpose of preparing students who wish to take the higher education entry exams.

An interesting initiative in Germany addresses both the permeability of the system in terms of the possibilities of transfers and access to higher education. The Innovation Circle for Vocational Education is a think tank consisting of high-ranking representatives from enterprises, science, trade associations, trade unions and the federal regions which will work, among other areas, on modernising the system, including new qualifications requirements, developing a training culture in innovative, growth and research-related industries. The Innovation Circle will also be called on to reflect on better permeability of the training system and pathways into higher education.

4.3.2.4. *Improving access to higher education*

Improving access to higher education for VET students has been an important aspect of increasing the attractiveness of VET for many

years. In some countries, progression from VET courses into higher education is well-established. Examples are Cyprus, the Czech Republic, France, Iceland, Ireland, the Netherlands and the UK. Some examples of new policies are described below.

A key policy in Denmark is to improve credit transfer nationally between initial VET and adult vocational training into short higher education. In the UK, Foundation Degrees address skills needs at higher technician and associate professional levels; they are vocational higher education providing specialist knowledge and employability skills needed by employers. They are also a major progression route for young people who have followed an apprenticeship or other work-based routes. The first graduates qualified in 2003 and the aim is to increase the number of young people obtaining a higher education award. In Finland the policy is also to continue improving access to higher education for those who have taken a vocational route by increasing the number of award holders who leave school with both the matriculation exam and a vocational qualification.

Measures are being implemented in Austria to increase access to higher education, including after apprenticeship. In Liechtenstein a *Berufsmatura* has been established to raise the status of VET by creating an additional course that provides access to higher education. Giving equal status to the general and vocational tracks, as in Italy, is intended to open higher education to vocational award holders. In Spain open criteria for access to higher education have also been established and the new school leaving exam in Slovakia is intended to create better access to higher education for students who have followed vocational courses. Improving pathways is also of significant importance in Portugal where double certification can be either academic and professional or technical, including via apprenticeship. The objective is to involve over 650 000 young people in these courses by 2010 to make vocational courses more socially valued.

However, experience in France suggests that more than basic or legal entitlement is needed if vocational award holders are to be able to cope with the demands of higher education, follow the courses successfully and not find themselves in

unequal competition with students from general education. This type of reflection raises the issues of the advantages and disadvantages of binary higher education systems, differentiated routes and specific pathways (Cedefop, Dunkel et al., forthcoming). Hence, the recent measure in France to give the holders of the vocational *baccalauréat* an entitlement for admission to higher technician courses, if they make an application to improve their chances of success in higher education and to direct them towards courses that provide direct and appropriate progression routes. The example of French students follows.

Data on French students who obtained different types of *baccalauréats* shows that those who enter higher education with a vocational *baccalauréat* have less chance of obtaining a diploma than the students who have taken a general education or technological diploma. Just over two-thirds of the vocational *baccalauréat* holders continue their studies in higher education (compared with almost 98% of the general *baccalauréat* holders). Of those who do continue, only 10% leave with a diploma, mostly a higher technician award. For students who obtained their *baccalauréat* in 2002, after two years of studies, 79% of those with a general education *baccalauréat* enrolled in higher technician courses (*Brevet de technicien supérieur*) had obtained their diploma, but only 48% of those with a vocational *baccalauréat* were in the same position. Most of those who did not obtain it stopped their studies. In the case of the other two-year vocationally oriented diploma, the *Diplôme universitaire de technologie* (DUT), the students all obtained either a general or a technological *baccalauréat* (M.E.N., 2006).

Another issue is admission to higher education for people who do not have the standard requirements. The Netherlands have adopted a flexible admissions policy for students who have completed the third level of secondary vocational education but do not have standard requirements. In Austria recognition of non-formal and informal learning for admission to VET exams (demonstrating professional experience) has been introduced and the possibility of university entrance and the conferring of certain titles, for example engineer after engineering

college and three years experience. Access to learning and qualifications is dealt with more in the next section.

Box 3. Different *baccalauréats* and higher education

Data on French students who obtained different types of *baccalauréats* shows that those who enter higher education with a vocational *baccalauréat* have less chance of obtaining a diploma than the students who have taken a general education or technological diploma. Just over two-thirds of the vocational *baccalauréat* holders continue their studies in higher education (compared to almost 98% of the general *baccalauréat* holders). Out of those who do continue, only 10% leave with a diploma, mostly a higher technician award. For students who obtained their *baccalauréat* in 2002, after two years of studies, whereas 79% of the students with a general education *baccalauréat* enrolled in higher technician courses (*Brevet de technicien supérieur*) had obtained their diploma, only 48% of those with a vocational *baccalauréat* were in the same position. Most of those who did not obtain it stopped their studies. In the case of the other two year vocationally oriented diploma, the *Diplôme universitaire de technologie* (DUT), the students have all obtained either a general or a technological *baccalauréat* (M.E.N., 2006).

4.3.2.5. Responsiveness through delivery of the curriculum

There have been many curriculum reforms in most countries over the last two decades which cannot be dealt with in detail here. Selected examples presented below focus on recent reform. They cover issues of restructuring study programmes for VET, as in Norway, to increase the range of subjects, the general education inputs or choices for students. Or, as in Cyprus, the reform of technical and VET curricula also include increased use of ICTs. In the Czech Republic, more general education subjects are being integrated into the programmes for technical education to improve attractiveness to students.

Modularisation is still on the agenda, despite the fact that limited investigation has been undertaken on its real contributions and effectiveness for the systems, for individuals and in terms of resourcing. Curriculum delivery is being radically altered in Hungary with the introduction in 2006 of modularisation of VET provision, which is intended

to increase flexibility and to enable updating of the system to be carried out more easily, rapidly and drawing on fewer resources. It will be interesting in 10 years time to assess whether or not these aims of effectiveness and efficiency have been fruitful. In Belgium-FI, the *Dienst voor Beroepsopleiding* (DBA) in cooperation with its partners, has been developing a modular system for secondary schools, which is being piloted and will be evaluated in summer 2007. The overall aim is to increase coherence between vocational training, the labour market and lifelong learning. One specific objective is to reduce the number of unqualified school leavers from vocational training by improving the general transparency of the courses and giving students more flexibility.

Reforms in assessment vary by country. In Bulgaria the focus is on the creation of externally moderated exams, which is also a preoccupation in the western Balkans where such courses have tended to be assessed within schools and a final certificate issued which gave students few opportunities to continue in education and training;

In Estonia the e-VET consortium, brings together VET schools and higher education institutions to support cooperation and to develop innovative and interactive tools to improve the delivery of VET and teacher training. The hope is that it will also improve the standing of VET schools through their links with higher education.

4.3.2.6. *Summary points*

The measures presented above target both progression and labour-market entry while they also recognise the specificity of VET's contribution to the education and training of young people, broadening choice at all levels.

Developing better structured pathways for students taking VET courses in secondary education and providing them with more, and better, opportunities for transfer and progression, have been among the key approaches to making VET more attractive over the last 20 years. A crucial aim was to ensure that no courses lead to dead-ends but all fit into possible pathways that can be followed in initial or continuing provision. Movement between education pathways has been on agendas for several years. Barriers to progression have been reduced and access to

different types of training made more open, for example taking away age limits for apprenticeship. In those countries in which pathways into higher education have existed for many years, they have contributed to increasing the percentage of the age group obtaining a full secondary school certificate and of those obtaining a higher education award, as long as the routes offered correspond to student requirements and capacities. The data review suggests that earlier reforms and measures have indeed contributed to increasing the number of young people completing secondary education through different types of routes, and, by extension, have contributed to increasing the entry to higher education of award holders with a technical or vocational diploma.

Alongside these more technical measures, there is an interesting series of questions concerning the specific contribution of individualising provision and making it more flexible, whether for mainstream students in initial VET or for adults and specific groups of the population. Are the technical measures sufficient alone in increasing the attractiveness of VET or are they substantially reinforced by approaches that increase choice of content, mix of vocational and general courses, and that increase the flexibility of delivery. In other words, is the self-organisation element a crucial contributing factor to added-value in making VET more attractive? This is an area which could usefully benefit from further qualitative research.

4.3.3. **Close links with working life for initial and continuing VET**

One of the key areas on which the *Joint interim report* recommended that reforms and investment be focused is linking VET with the labour-market requirements of the knowledge economy for a highly skilled workforce. Both the Maastricht and Helsinki communiqués further emphasised the importance of increasing the relevance and quality of VET through the involvement of all key partners, nationally, regionally and locally, and the need to pay greater attention to early identification of skills needs (European Commission, 2005a). Countries report on a range of approaches to improving the links between VET provision and the labour market, including reforms to the education and training structure,

developing relationships with enterprises and reviewing occupational, competence and/or education standards. Funding measures are also included. In most countries this process of review and adaptation has been on-going for many years.

The main aspects highlighted in the different reports focus on:

- (a) regionalisation/decentralisation;
- (b) sector approaches;
- (c) labour-market considerations;
- (d) institutional development;
- (e) standards development.

Some examples follow.

4.3.3.1. *Regionalisation/decentralisation*

This includes reforming and improving the structure of VET and strengthening links with the labour market, the social partners and other stakeholders. As part of reforming the Vocational Training Act in Germany, platforms will be established regionally which will bring together all the relevant stakeholders (regional authorities, chambers, social partners, teachers and vocational schools) to improve the planning and coordination of the provision of training places and, therefore, the regional training markets. A current challenge for Slovenia is to develop social partnership at regional level and partnerships of schools and companies at local level to ensure that companies are fully involved in delivering placements for training. In Italy the post-secondary higher technical education and training (IFTTS) is developed in collaboration between the education and the training systems, with guidelines formulated nationally but the curricula planned locally by a partnership of schools, universities, regions and vocational agencies with the aim of meeting the needs of the local labour market.

Increasing institutional autonomy is frequently linked to decentralisation and therefore has implications for regional and local labour markets; the Maastricht study noted that decentralisation is a major trend in the governance of initial VET institutions (Leney et al., 2004a). In the Netherlands, course planning will no longer be organised nationally but regionally, allowing vocational education institutions to decide in cooperation with regional industry what courses the region needs. Hungary is establishing regional

integrated vocational training centres, bringing together existing provision to rationalise the offer and help institutions better meet the needs of the local labour market.

4.3.3.2. *Sector involvement*

Several countries have well-established mechanisms for involving social partners in creating and updating diplomas and certificates and/or the development of curricula, while others have recently set them up. In France, for example, where these committees have existed for several decades, there has been substantial work to renew and update the technical and vocational qualifications; new awards put emphasis on multi-skilling, adaptability and autonomy. Special sector commissions in Sweden (e.g. the Vocational Education Commission) have been developing cooperation between education and working life since 2004, bringing together representatives of business, trade unions, trade organisations, training providers, and government agencies.

Among the 10 newer Member States there are several examples of strengthening links by creating sector bodies and commissions. Examples are: Romania, where a tripartite agreement has been signed to establish permanent sectoral committees responsible for validating and steering the qualification processes; Estonia, where the involvement of the social partners is being increased at all levels; Lithuania where industry lead bodies have been set up. Latvia has also set up 14 tripartite industry lead bodies jointly approved by the Ministry of Education and Science and the Ministry of Social Services and Labour. In Hungary, 21 tripartite sector committees have been functioning since 2002.

Developing new curricula in cooperation between schools and employers is another direction piloted, for example in Estonia, where employers are involved in school management through the school boards and also in final exams assessment.

Involving the chambers is another type of approach undertaken in Liechtenstein where two working groups have been put in place. One is led by the Chamber of Trades and aims to improve the attractiveness of apprenticeships in industry and the other is under the Chamber of Commerce and aims to promote attractive training places in industry.

4.3.3.3. *Taking better account of labour-market requirements*

Establishing mechanisms for obtaining better information and understanding about future labour-market needs has been addressed recently in Ireland. A group was set up on future skills needs to provide a central national resource on skills and labour-market supply, the aim being to provide advice on projected requirements and the steps required to meet them. This task is carried out in Italy by the inter-professional funds for forecasting and anticipating training and vocational needs, jointly undertaken by the Ministry of Labour and the regions.

Another approach to taking account of the needs of the labour-market concerns the validation of non-formal and informal learning, dealt with in a specific subsection below.

4.3.3.4. *Institutional development*

Examples of setting up or developing specific types of education institutions in response to a labour-market need include the technical/vocational post-secondary institutions in Croatia and Cyprus and building a network of VET institutions, which will work closely with labour market, in Hungary and Latvia.

4.3.3.5. *Standards development*

Ensuring labour-market relevance through training regulations and standards development is a frequently taken route. Slovenia is developing occupational standards for all sectors based on job profiles created by sectoral committees. In Germany there is a permanent process of evaluating and developing training regulations which involves all relevant stakeholders. It is intended to maintain a certain dynamic and to ensure that there is always a good supply of places in modernised training occupations. In some cases measures are implemented to increase attractiveness through direct links with enterprises. Examples include:

- (a) training programmes developed in partnership with enterprises, as in the focus in Denmark. However, within that framework, since 2003-04, there has been some shift from focusing on individual training programmes towards focusing on employment and labour-market skills and so programmes

are grouped by competence descriptions related to employment. The aim is to increase the number of students completing VET programmes. In Belgium-FI covenants between industry and education have been signed for cooperation between VET schools and enterprises with a focus on new fields of study and making schools more responsive to labour-market needs. In return workplace training is provided for students, financial support given to schools and in-service training to teachers. Finland has incorporated on-the-job periods in upper secondary VET qualifications so that students now spend a minimum of 20 weeks in firms with the aim of improving the transition from school to work in the coming years. Sweden recently introduced post-secondary VET, advanced vocational education, which is based on close cooperation with business; one third of the training takes place in enterprises;

- (b) dealing with emerging labour-market needs is an area addressed in Malta through the provision of tailor-made courses by the further and technical education provider, the College of Arts, Sciences and Technology;
- (c) apprenticeship is receiving much attention. In Germany there is a need to increase the number of apprentice places; 45 000 have been created outside the private sectors supported by the Federal and *Länder* authorities. In 2004 a national pact for vocational training and young skilled workers was signed. Italy and Portugal are also providing support for apprenticeship and alternance between school and work. In Norway tripartite cooperation in VET, organised in the councils appointed by sectors, have as an objective to increase the number of apprentice places and local partnership agreements;
- (d) Belgium-FI is creating opportunities for VET schools to develop stimulating partnerships with enterprises through the *Accent op talent* programme. The Flemish government has created this space for innovation where each local project can potentially become a success story for the school. The focus is on training in the workplace, competence development in schools and enterprises, promoting technology in schools and, above

all, direct and extended cooperation between schools and enterprises;

- (e) increasing support to employers to improve workforce skills through national employer training programmes is a focus in the UK. This means improving partnerships between employers and providers through sector skills councils and skill academies and developing the apprenticeship programme.

The intended outcomes for all of these measures are to improve and ease the transition from school to work for the young people, while training a more appropriately skilled workforce for employers and sectors. Developments have taken place in local and regional partnerships to involve enterprises and stakeholders in VET. In addition, there is action, particularly in the 10 newer Member States, on mechanisms and procedures to develop, update and cancel qualifications.

4.3.3.6. *Summary points*

With strong encouragement from the EU, decentralisation and regionalisation are playing an increasingly important role in the 10 newer Member States' reforms and tend to be implemented with increased institutional autonomy. One argument is to raise the relevance and credibility of VET by ensuring that local needs and requirements can be fully taken into consideration in designing and implementing provision. The implication is that this will, in turn, raise the attractiveness of VET. However, this type of approach raises issues such as the financing of VET provision, especially in poorer countries; it is an area in which further research would be welcome to investigate the relationship between responding to the needs of the local labour market and increasing the attractiveness of VET.

Other approaches will also need careful follow up in years to come, for example, the place and effectiveness of workplace training, especially given the closure of many enterprises in transition economies, where finding sufficient training places may pose a real challenge. There may be a need to balance the attractiveness of workplace training against the reality of the economic terrain. Detailed and specific statistical data monitoring across countries would be useful to provide the basis for an assessment of such measures.

4.3.4. **Promoting recognition of non-formal and informal learning**

'In general change has become a core concept in today's working life. Lifetime employment becomes an exception, the majority of employees will, voluntarily or not, change job and career several times in their work lifespan. Labour-market change, reflecting evolutions in technologies, market, and organisation requires that skills and competences can be transferred and be "reprocessed" within a new working environment. Employees who leave or lose their jobs must be able to transfer their knowledge and experience to a new enterprise, sector or even a new country' (Colardyn and Bjørnåvold, 2004). This is the logic behind the moves to establish better recognition of non-formal and informal learning and experience. Substantial work has been carried out at European level in recent years, taking stock of how countries are setting up mechanisms to recognise non-formal and informal learning and in establishing some common principles. The focus in this section is uniquely on the attractiveness of VET.

Recognising and accrediting prior learning and experience is seen as essential to opening access to learning for adults and to qualifications. It is probably the only aspect of systems focusing on and promoting systematically the recognition of learning outcomes; the portfolios and other forms of documentation presented for recognition and accreditation are drafted around what has been acquired by the individual. The implications for education and training systems are potentially far-reaching in terms of the contributions of formal and non-formal/informal learning and for individuals to be able to construct pathways in a lifelong learning perspective. Examples are given below.

In Norway, a system of competence-based training for adults has been introduced and will provide the basis for establishing recognition of prior learning. Adults with more than five years of work experience who wish to obtain a trade certificate can obtain formal recognition of their acquired experience. Action has been taken in Denmark on documenting prior skills in cooperation with the social partners and other stakeholders from general adult education and non-profit associations as part of developing a system of recognition of prior learning. The Swedish agency for flexible learning has been established to improve access for adults.

In France a national system, *validation des acquis de l'expérience*, was established by legislation in 2002 and is being developed for all sectors and recognised awards. In Portugal a national system has been set up to recognise and formally validate prior learning acquired non-formally or informally through life and work experience. It is managed by a group of experts and stakeholders: tertiary education institutions, experts, trade unions, employers and the relevant ministries. The process is carried out by the centres for recognising, validating and certifying competences; by 2004 there were nearly 60 of these. In Belgium-FI, 21 competence centres deal with the accreditation of prior learning as well as other training and guidance activities. Competence certificates are being introduced for six occupations (bus and car drivers, extra-curricula school assistants, call centre operators, decorators and gantry crane operators) for individuals who have substantial professional experience but not the certificates to attest it. Candidates are being offered the opportunity to demonstrate their skills at an interview and through practical tests. The certificates are recognised by the Flanders government and drawn up by the Economic and Social Council of Flanders. The ERA project in Spain has designed a methodology to assess, recognise and accredit skills acquired through work experience and through non-formal and informal learning based on the National catalogue of occupational qualifications. Italy has introduced a competence portfolio, the *Libretto formativo del cittadino* while Germany is running a pilot project, *Profipass*, funded by the European Social Fund, for developing guided documentation of informal and non-formal learning.

Three examples from the 10 newer Member States are the Czech Republic, Hungary and Slovenia. In Hungary, a system of accreditation, assessment and validation of formal, non-formal and informal learning is under preparation with the support of the European Social Fund. From autumn 2006, new training modules were piloted in several VET institutions introducing a competence-based approach which is intended to provide more flexibility for adults. In the Czech Republic alternative pathways to qualifications are

being set up through new legislation on continuing education which is being piloted for adults without qualifications. Slovenia is establishing procedures for validating non-formal and informal knowledge, skills and competence for the labour market through the formal education system.

Summary points

The main issue is: does it work and does it bring real advantages to individuals? Does it contribute to making VET more attractive by opening up progression routes and pathways?

For the moment this type of recognition remains largely experimental, both in countries in which it is part of a national and systemic approach established by legislation and in the cases where it was piloted locally or is used by institutions for entry and progression. There subsists a need to change attitudes in the world of learning, especially in higher education. This could prove a hindrance to increasing the practice of full accreditation for a qualification, as opposed to giving candidates entry to education and training courses.

A major issue has been in establishing procedures which ensure credibility and reliability while remaining accessible in terms of the time needed and the input for individuals. In France, observation of the time needed for individuals to complete their dossiers has had an adverse effect on the number of candidates who follow the procedure completely. Taking the case of validation for higher education, the recently published figures of the Ministry of Education show that, while the number of diplomas obtained through the procedure increased in 2005, to 3 830, the number of validations for individuals to enter a course of study has been decreasing since 2003, which clearly raises cause for concern (MEN, 2007). In response to these difficulties, in 2006 measures to simplify procedures for candidates were introduced. They include a simpler form which will be the same for all 14 ministries that have developed procedures for validating experience. An additional form of support will come through the recently established advice centres (*Points-Relais-Conseils*) which will be supplemented by a call service.

4.4. Delivering the VET agenda: good governance

This section which looks at policies that respond to the Helsinki priorities linked to the need to improve the governance of systems and providers. One country, Cyprus, has reported that it is making use of the structural funds to be able to undertake a study of the attractiveness and appropriateness of VET provision, suggesting a high priority.

Relatively little information is available through reporting on Lisbon about governance matters. To obtain a better vision of how governance is being adapted to providing the VET agenda, more specific studies would be useful:

- (a) institutional reorganisation and restructuring;
- (b) changes in ministerial supervision of schools, apprentice training centres and colleges in line with decentralisation;
- (c) the changing institutional and provision landscape;
- (d) changes in approaches to institutional management and leadership;

Among the policies focusing on structures are examples of countries where there has been reorganisation of the schools and/or colleges providing initial VET. In Hungary, regional integrated vocational training centres are being developed to concentrate resources and to strengthen capacity regionally, as well as to strengthen links with the local labour market. In Malta a similar process of integration has taken place as the different VET providers have been merged into one institution, the Malta College of Arts, Sciences and Technology. Latvia is also establishing a network of institutions and Croatia envisages grouping institutions with similar objectives of efficiency and effectiveness. In all of these cases the policies aim to consolidate and make the best use of the existing resources to improve VET provision. This preoccupation with giving institutions the means to deliver effectively is also central to policies in Belgium-FI, where vocational schools with a large intake from low socioeconomic backgrounds receive extra resources to compensate for disadvantage.

This section examines teacher training, quality and transparency as part of good governance of VET systems.

4.4.1. Training VET teachers and trainers

The Maastricht communiqué emphasised the continuing competence development of VET teachers and trainers, reflecting their specific learning needs and changing role as a consequence of the development of VET. This priority is further developed in the *Progress towards the Lisbon objectives in education and training* report (European Commission, 2005b), which develops three main messages for improving the quality of teachers and trainers (in both general education and VET). The first concerns the need to motivate teachers, of whom a large proportion in Europe are over the age of 50, to undertake continuing professional development. The second underlines the variation in the pupil-teacher ratios, and the third concerns the need for recruitment from 2005 to 2015 to replace teachers who will retire. According to the Maastricht report, a key problem for vocational teachers and trainers is their lack of recognition. Though essential to supporting workforce skill development, they do not generally enjoy high status. Added to this, VET teachers are an aging profession and may attract comparatively low salaries. The report also drew attention to the increasing diversity of the range of profiles needed, given the diversification of training in the workplace (European Commission, 2005a).

Though mandatory requirements for continuing training for VET teachers have been introduced in many European countries, the challenge remains to develop recruitment and training policies which can attract individuals from different backgrounds. Providing high quality initial and continuing teacher training remain fundamental challenges in developing a lifelong learning strategy and increasing the attractiveness of VET.

The reports consulted express the same concerns and describe changes in the curriculum for teacher training for VET: establishing closer links with professionals, developing new standards, and broadening the curriculum. Promoting the responsibility of teachers as mentors is also reported, with a need to develop their roles in learning programmes centred on the individual. Other measures which reinforce VET include:

- (a) new standards for teacher training and training modules;
- (b) developing a broader curriculum to include ICTs;

(c) reinforcing higher education for teachers.

Continuing professional development for VET teachers is not dealt with in many of the national reports consulted, even though a major challenge in increasing the attractiveness of VET, both initial and continuing, will be to increase the access to education, training and retraining for both VET teachers and trainers. Though measures are being implemented by public authorities for VET teachers, the training and retraining of trainers does not appear to be well developed.

When considering issues of prestige, attention can also be paid to vocational teachers and their own appreciation of their teaching work and how it could be affected. For example, in Finland, vocational teacher education attracts people who have strong vocational expertise and self-esteem. Each academic year there are many more applicants than can be admitted to vocational teacher training colleges.

Summary points

Reforms to VET teacher training are emphasising standards, recruitment and higher education. However other aspects are likely to increase in importance and will play an essential role in raising, and then maintaining, the attractiveness of VET. How well teacher training currently integrates the consequences for the learning environment of moving towards individualised learning plans, individual choice, modularisation, local autonomy, workplace learning, and the immense potential of and transformations brought by e-learning and b-learning⁽¹²⁾ remains unclear. These factors, along with broader questions about the futures of learning which address issues to do with locus of learning, inter-generational transfer of information, the 'digital divide' between young people seen as 'digital natives' and adults seen as 'digital immigrants', will also become crucial in the coming years (Carneiro et al., 2007).

4.4.2. Quality assurance

For the 2005 Joint report, countries were asked to comment on how they are implementing the quality

tools developed nationally under the Copenhagen process.

In some countries, such as Spain, the Netherlands and Finland, the common quality assurance framework is already being implemented. The common principles are an integral part of the provider's quality assurance in Ireland where, since 2005, it has been prerequisite for accreditation for Further Education and Training Awards Council awards. In Belgium-FI the inspectorate has integrated them into the regular school audit tools and in Austria the Quality in School programme is being developed in line with the joint quality assurance framework for VET. The overall orientation is to encourage and support VET schools and colleges to review, monitor and develop their quality of provision. The approach is based on mainstreaming quality assurance pilot projects and the outcomes in terms of quality management procedures will be benchmarked regionally and nationally.

EU funding is being used in Romania (Phare) and in Lithuania (Structural funds) to develop quality assurance. In the former, quality assurance mechanisms based on the European Guide for training providers and self-assessment are being tried in pilot initial VET schools.

Quality assurance includes establishing accreditation procedures either for training centres, as in Bulgaria where they are in the process of being licensed, or through accreditation of all higher professional programmes, as in the Czech Republic.

In Turkey, the Institute for National Vocational Qualifications will be responsible for establishing a common quality assurance framework and the basis of a system of validation of non-formal learning. As part of improving quality, a database to follow the destinations of VET graduates is also being created.

In Belgium-FI, within the VIZO/Syntra system for training future and established entrepreneurs, a total quality assessment system is being implemented to obtain an overview of the quality status of the training system and to serve as

⁽¹²⁾ This definition has been adapted from EduTechWiki. Blended learning refers to courses that are taught both in the classroom (face-to-face) and at distance (online) using a mix of different pedagogic approaches. Thus the term tends to describe a solution that combines several different delivery methods (collaboration software, web-based courses, knowledge management practices, etc.) that mixes face-to-face classrooms, live e-learning, and self-paced learning.

a basis for improvements. In Spain, a national quality assurance network is under development with the aim of coordinating all the autonomous communities in VET to establish common principles for initial VET.

Summary points

Approaches to quality involve both developing the quality criteria and the processes for the overall system, and also fostering a culture of self-evaluation in institutions. In terms of increasing the attractiveness of VET, the purpose is to raise the credibility of provision for all the stakeholders: young people, their families, and enterprises.

Though quality is undeniably a contributing factor to the attractiveness of VET provision, it is difficult to assess its exact contribution. European studies linking quality assurance measures and developments in institutional self-evaluation to institutional development, VET enrolments and awards, would be useful and interesting to fill this gap.

4.4.3. Increased transparency of VET systems

Over the last 10 to 15 years, there has been a rise in interest in national qualification frameworks (NQF) across Europe. The reasons are complex, although at least partly linked to current EU policy on education and training. The stated reasons for developing a framework tend to include the following:

- (a) improving the coherence of a particular national qualification system;
- (b) connecting the parts and making the whole more transparent to users;
- (c) providing a framework within which individual learning can be recognised and validated (for the purposes of study, training, employment mobility, etc.).

It is common for countries to have developed over a long period quite complex qualification systems with several different types of certificates and diplomas issued by different ministries and/or other bodies. There may well be a lack of transparency among these awards which has consequences both for individuals and enterprises and which exacerbates already quite difficult issues about improving the coherence of education and training, connecting the different subsectors, ensuring quality, and improving

access for individuals. Clearly there is no single way to deal with these issues.

There are several broad approaches to designing NQFs (and their equivalents), all of which produce 'maps' of one type or another. The approaches originally emanating from the English-speaking world have tended to favour frameworks, whereas the French approach (also used in Spain and Portugal) uses the register or catalogue type approach. What they have in common is:

- (a) seeking better transparency among the different components in the system;
- (b) aiming to build more trust among the different actors in the system;
- (c) improving opportunities for individuals;
- (d) providing a strategic and overarching framework for reform of qualifications, including moving from a supply-led to more demand-led approach.

Where they differ is the extent to which the map is designed to be dynamic and interactive or fulfils a more descriptive function. At one end of the scale, inserting different types of provision and the existing formal qualifications of a particular system into a framework allows the user to visualise the spaces occupied by these types of provision. At the other end of the scale, the framework could allow for quite sophisticated credit transfer and be based on the recognition of learning outcomes. Thus, some aim to make the system more readable, others specifically allow the users to build pathways through different types of education and training provision, and a few are developing a credit-based approach (Bouder et al., in this volume). They are intended to respond to a range of different needs:

- (a) individuals: in terms of recognising learning. This may be in a fairly limited and formal manner examining diplomas or certificates, or it may be much broader and include non-formal and informal learning. The declared intentions tend to be to improve employability, access to formal qualifications, mobility, etc.;
- (b) employers: to understand better what the different types of provision and awards offer in terms of competences, knowledge and skills and as a contribution to human resource management;
- (c) transparency among the different component parts of one national system or sectors at

European/international levels, among national systems.

NQFs cover either the whole system (e.g. Scotland, Ireland) or a subsector of the system (e.g. VET or higher education) and can also focus on individual sectors. All tend to be structured around some form of reference; they also contain procedures for quality assurance and processes, as well as mechanisms for recognising learning acquired (including non-formal and informal as well as recognition of prior experience and learning). The reasons for starting a development process, and the processes then undertaken, vary considerably from country to country. They may respond to any or a combination of the following:

- (a) economic pressures: high unemployment, low skilled adults, long-term unemployment, issues of improving employability, etc.;
- (b) increasing the involvement of different groups of stakeholders;
- (c) part of reform process – Estonia, Hungary – links to Copenhagen/Lisbon;
- (d) part of a reform process outside the EU but influenced by EU developments, for example the western Balkans.

Specific approaches vary from country to country, building on certificates and diplomas which already exist. One aspect of the process of developing and then managing an NQF that is common to all countries, bringing together all the key stakeholders to ensure that the framework reflects their needs and preoccupations. A characteristic they all share is seeking to provide a more coherent map of the different types of certificates and diplomas and the different ways in which learning may be recognised. This entails clarifying how the certificates and diplomas relate to each other in terms of levels, the possibilities for progression, for labour-market integration, etc. Therefore, common components tend to be reference, quality assurance principles, and methods for recognising learning gained in different contexts, programmes and ways. As part of the process of understanding the implications of different European systems, Cedefop and the Qualifications and Curriculum Authority (QCA) conducted a study examining the roles and use of learning outcomes in VET (Cedefop, 2009).

These are some of the challenges around the development of strategies for national qualification frameworks and national registers of vocational qualifications. In establishing a more free-flowing system that encourages and supports the development and recognition of competences and allows individuals to build their competences in different ways over a long period, one clear intention is to seek parity between the different routes to qualifications. Though there is quite substantial activity in this field in several countries, partly linked to the development of the European qualification framework, little concrete information was provided in the country reports for the 2006 Joint report. Many developments are too recent for there to be evidence available to assess how well the objectives are being achieved. In a few countries NQFs or catalogues are already functioning; in others they are under development but may be at very different stages. Some countries are still examining the feasibility and desirability of establishing an NQF.

Two countries, Ireland and Scotland, are working with fully-fledged qualification frameworks, though in both cases they consider they are about half way to full development. France has created a national catalogue of vocational qualifications which shows equivalences between national qualifications of different types and, in some cases, with European ones. In Spain the national qualification and vocational training system has been under development nationally and regionally since the mid-1990s. It was formally established through legislation in 2002 and includes a national catalogue of occupational qualifications as well as recognition, assessment and accreditation procedures. There has been substantial social partner participation in the development of the catalogue and the different aspects of provision. In Portugal a similar catalogue is being launched. In the 10 newer Member States, examples include Estonia where a set of levels and a first framework were developed for VET outside of the school system under the Chamber of Commerce. The education system is now taking forward work on an NQF. In the Czech Republic the focus is on the introduction of a national qualifications system to provide better links between initial VET and

continuing vocational training. Transparency is being increased in Hungary through the establishment of a National Qualifications Register with a set standardised input and output criteria for qualifications. The process of reflection on an NQF is in its early stages in Austria and has been stimulated by discussion on the European qualifications framework. The Ministry of Education, Science and Culture is coordinating discussion on possible ways of tackling a project to develop an NQF in Austria and initial research has been undertaken and consultation carried out.

Summary points

The question remains about the extent to which these frameworks and catalogues will really be used by the main stakeholders, i.e. students, working people and employers, and the purposes they will serve. It is too early to evaluate the effects of developing qualification frameworks and national catalogues on the VET systems in particular and on education and employment in general. As Young points out in his paper for the ILO in 2005, 'the broadening support for NQFs across the world is based on relatively little evidence from the experience of countries that have already introduced NQFs that they can achieve the goals claimed from them' (Young, 2005). In an environment in which there is quite a lot of pressure on systems to move rapidly to outcomes-based approaches, as part of improving the attractiveness of VET, Young explores tensions inherent in NQFs, drawing attention to two particular issues of quality assurance for qualifications. First he asks whether outcomes can be independent of syllabus (inputs) and he draws attention to the continuing importance of strong institutions to ensure the quality of a qualification. An interesting comment from the Slovenian authorities in response to the European qualification framework consultations reinforces these points: with respect to their central European tradition they expect that both general knowledge and a major emphasis on a high-quality teaching process will remain a legitimate and valued part of educational outcomes.

However, what can be observed is that, in all cases where a framework or a catalogue has been developed, the process has fostered partnership among all the key actors bringing

together the social partners, the education sector, government, etc.

4.5. Issues arising

This section summarises the issues arising from the above and discussion of recent policies and measures to reduce the gaps between general education routes (and higher education) and technical and vocational routes. Earlier research tended to emphasise the importance for parity of esteem of the personal competence, education mobility and occupational mobility developed through VET routes. It also drew attention to the importance of measures to promote equity, improve career guidance and establish adequate quality assurance. Some of these factors are well illustrated in this section and examples have included approaches to:

- (a) developing coherent progression routes and pathways;
- (b) improving access to learning and to qualifications;
- (c) developing flexibility;
- (d) ensuring transparency among the different types of diplomas and/or certificates which exist in any given country:
 - (i) establishing criteria and procedures for ensuring the quality of the qualifications;
 - (ii) improving the links between learning and the labour market to ensure the relevance of the qualifications provided.

While it is highly probable that all the VET systems examined would recognise all or some of their national objectives in these issues, the existence of clearly defined and identifiable success factors are not evident in reporting to the Commission. Some of the policies and measures have already been implemented in some countries. One of the advantages of working at European level should lie in the potential for increased exchange of experiences and outcomes and so lead to better peer learning among countries about new policies and strategic choices (Cedefop, Grootings and Nielsen, forthcoming). The data review in Section 3 sought to assess progress in terms of enrolments and completions but from a more qualitative and policy analysis point of view; certain measures may continue to be recommended without very

thorough analyses of effectiveness. One example is modularisation which is now being introduced in some of the 10 newer Member States even though its usefulness and effectiveness has not been very well demonstrated elsewhere. It would, therefore, be interesting to look back at these experiences, with a view to highlighting implementation issues for the countries which are now going down the same road, a few years later.

The examination of policies and measures shows many interesting responses to clearly identified problems, such as the need for progression routes, flexibility, etc. From this point of view it would appear that real progress is being made in terms of provision and relations with enterprises and the economic sectors. Thus progress concerns:

- (a) regional and local partnerships which engage the stakeholders (except for the principal stakeholders, i.e. the students, who tend not to be included as key actors);
- (b) mechanisms and procedures for recognising non-formal and informal learning and experience;
- (c) pathways and progression routes with increased

flexibility and potential for individualisation of pathways;

- (d) measures and processes to promote labour-market relevance.

However, to what extent are the building blocks which constitute a VET system (Cedefop, Viertel et al., 2004) supported through systemic and institutional governance and quality measures? Recent reports suggest that quality assurance and information and guidance are two areas which are undergoing substantial improvement but relatively little information is available on governance. This appears to be an area in which more European level research would be most useful to obtain a clearer vision of how governance is being adapted to responding to the Lisbon/Maastricht/Helsinki VET agenda. Finally concerning teacher training, and in the context of increasing reflection on the use of learning outcomes in VET, there may be cause to investigate the extent to which teachers are being adequately prepared to deliver the evolving VET agenda.

5. Conclusions and implications

5.1. Policies and measures to promote VET attractiveness in Member States

The attractiveness of VET for individuals is essentially based on employment and income opportunities, but also on the competence and professional skill that precedes and then enables these benefits. Companies appreciate VET when it provides them with a skilled workforce matching their needs. The value of VET for society is much the same as for education in general; it contributes to the positive image and competitive edge of the country on the global market, serves as 'storage' of human capital for the reserve of labour, increases potential tax revenues in the long term, and underpins social stability. In different countries the respective factors pertaining to the history, societal development, and occupational structures, as well as major education policy orientations, have a substantial influence on the status and value of VET (cf. the high prestige of apprenticeship-based VET in Austria, the Czech Republic, Germany and Switzerland). According to the *Helsinki communiqué* (European Commission, 2006, p. 2): 'Young people in VET should acquire skills and competences relevant to labour-market requirements, for employability and for lifelong learning. This calls for policies to reduce dropout rates from VET and to better facilitate school-to-work transition, for example by combining education and training with work through apprenticeships and work-based learning. The skills, competences and mobility of the labour force should be promoted by encouraging the recognition of prior learning gained through training and work experience. Training opportunities should be provided for those in working life'.

In this policy statement, the important function of VET is emphasised for individuals, the labour market, the economy and societal cohesion. Some of the approaches to making VET more attractive make reference to improved mobility (both vertical and horizontal), practice-based learning and recognition

of prior learning. Improving the attractiveness of VET is an aim which can only be approached by continuously enhancing and adapting it to meet new requirements. The following table seeks to provide a synthesis of the needs that particular policies and measures are designed to satisfy for individuals, employers and, at systemic level, the image, status and attractiveness of VET.

It is important that the individual beneficiaries and users of the VET systems are provided with adequate and adapted information and guidance so that they can understand the offer and the range of possibilities open to them. A flexible offer, especially for adult learners, which allows them to build their individual pathway and see the progression possible, also appears to be crucial. For employers and enterprises it is important that VET contributes to better preparation of young people, not just in terms of hard skills but also soft skills, and that it provides support for their human resource development planning. It contributes to maintaining an up-to-date understanding of their sector and occupations through active participation in the development of standards. At systemic level, providing a better adapted and appreciated service to citizens and enterprises and increased transparency about provision and qualifications contributes to the attractiveness of VET. Good working relations with the key actors in the VET system, locally and nationally, can also contribute to a smoother transition from education to employment for young people.

5.2. Patterns of enrolment in VET

In most of the EU-15 and EEA/EFTA countries, VET is an attractive and respectable choice among young people, especially among male students. In these countries, enrolment in VET programmes ranged from 25.5% to 79.2% of all upper secondary education students. In 20 countries out of 35, more than 50% of the upper

Table 4. **Summary of the needs that the policies and measures are designed to fulfil for individuals, employers and systems**

Types of policies and measures	Individuals /families	Opportunities for employment are more	Systemic level
Improved guidance and counselling	<ul style="list-style-type: none"> • capacity to make better informed choices through having more, more recent and better presented information and guidance; • information in a lifelong learning perspective demonstrating further steps and not just next steps. 	clearly and correctly represented	<ul style="list-style-type: none"> • provides opportunities for cooperation between services for young people and adults. • should provide better matches between information and real opportunities
Open VET	<ul style="list-style-type: none"> • provides young people and adults with more and clearer opportunities to access learning and qualifications; • there is flexibility of access and delivery as well as permeability across the different parts of the system; • more options mixing general education and VET; • young people taking VET routes gain access to higher education; • adults without traditional entry requirements gain access to higher education. 	<ul style="list-style-type: none"> • more flexible and responsive VET systems should provide support for human resource development in enterprises; • young people with an education and training better corresponding to the needs of knowledge society. 	<ul style="list-style-type: none"> • provision better tailored to individual needs with no dead ends, structured pathways, a redesigned curriculum and mechanisms supporting local partnership and decision-making. • fewer low qualified young people achieving better levels and sustainability of labour-market entry.
Close links with working life, including responsiveness to the needs of individuals and the labour market and active partnership between different decision-makers and stakeholders nationally, regionally and locally.	<ul style="list-style-type: none"> • young people are trained for qualifications adapted to labour-market needs; • better transition from education to work. 	Local and sectoral partnerships	Local partnerships based on institutional autonomy and degrees of decentralisation
Promoting the recognition of non-formal and informal learning	More flexible access to learning qualifications	Supports enterprise investment in human resource development	Better reflection on the skills of the working population.
Highly qualified teachers and trainers	Quality of provision	Better trained applicants	Quality of VET teacher training
National quality assurance	Lifelong learning competence	Competences for occupational mobility	National qualification system
Increased transparency of VET systems	<ul style="list-style-type: none"> • portability of qualifications; • mechanism for recognising learning acquired in different manners. 	Better understanding of the content of different types of qualifications	European qualification framework

secondary education students were enrolled in VET in 2004. In all the country groups considered in the statistical analysis (EU-27, EEA/EFTA and in Japan), VET is, however, more popular among male students than among female students. The exceptions are Sweden and the UK where females chose VET more frequently than males. Ireland and the US, where there are only academically-oriented programmes at ISCED 3, have prevocational and vocational programmes at ISCED 4 (post-secondary non-tertiary programmes).

The main statistics concern upper secondary education (ISCED 3) enrolment, the turning point in young people's life as they enter into a more independent phase and make important decisions about their future. Table 5 examines enrolment by country and some of the prerequisites of attractiveness such as options available, access, progression, quality assurance and career guidance.

Vocational and general education and training programmes and courses offer different learning environments and experiences. Learning environments which include options meet the needs of a diverse student population and of their different learning styles better than one kind of programme, whether general or vocational.

Due to the cooperation between different educational institutions at local level, some countries (e.g. Austria and Finland) have made it possible for students to study both general and vocational courses, either for interest and variety or to obtain two diplomas. Most countries offer either general or vocational programmes to their students.

Access refers to the opportunities and rights of all citizens to study in upper secondary, tertiary and continuing education and training programmes, that is access to lifelong learning opportunities for all. Access includes a person's right to study VET programmes at upper-secondary education and higher education levels.

Progression indicates the chances to continue from VET to higher education at any point of the lifespan. Further education opportunities can be academic or occupational higher education. The organisation of higher education programmes varies in Europe. In certain countries, such as Germany, Austria and Finland there are parallel vocational and academic higher education tracks. In these countries progression opportunities may be better for vocational students graduating from vocational upper secondary education than in countries with only academic higher education degrees.

Table 5. **Summary of the measures of attractiveness in VET in ISCED 3**

Enrolment in VET (ISCED 3)	Countries	Options available to students
	Austria, Belgium, Bulgaria, Croatia, Czech Republic, Germany, Finland, France, former Yugoslav Republic of Macedonia, Liechtenstein, Luxembourg, Malta, the Netherlands, Norway, Romania, Slovakia, Slovenia, Switzerland, the UK	Both vocational and general
45-54%	Denmark, Poland, Sweden	Double qualifications in some countries
10-44%	Cyprus, Estonia, Greece, Hungary, Iceland, Italy, Latvia, Lithuania, Portugal, Spain	Both vocational and academic
0-9%	Ireland, the US	Mostly general, some vocational General/liberal

5.3. Attractiveness of VET and parity of esteem between vocational and general education

Direct access from initial vocational education to higher education has improved in many European countries, helping to promote parity of esteem between vocational and academic education. Some countries are trying to improve access for those on vocational courses through a unified system of higher education (such as Sweden and the UK). Others are seeking to diversify their higher education system (or to expand an already diversified system) by developing vocational higher education for graduates of initial vocational education (e.g. Germany, Austria, Finland). In Finland, upgraded polytechnics⁽¹³⁾ are also designed to attract those graduating from general upper secondary schools. This can be seen as another way of promoting parity of esteem of vocational and general upper secondary education. Four different European systemic patterns of organising higher vocational education can be identified (Lasonen, 2003):

- (a) gradual integration has led to a unification pattern and to a single higher education system (e.g. the UK);
- (b) the coexistence of university and non-university sectors with different status refers to a diversifying pattern (e.g. Germany);
- (c) upgrading existing tertiary VET for a separate, but equal, non-university sector indicates two parallel higher education systems, vocational and academic higher education (e.g. Finland);
- (d) establishing a new vocational non-university sector again represents a diversifying pattern in Austria. The Austrian model of vocational higher education differs from the two previous ones in that it was created from an earlier stage than the others. The Austrian higher vocational colleges share a common feature with Germany and Finland: local community economics have inspired the development of colleges.

Dunkel and Le Mouillour (in Cedefop, Dunkel et al., forthcoming) explored the phenomenon of vocational drift in higher education. The Bologna process emphasises occupational relevance and employability as two of the quality aspects of higher education programmes. Academic programmes are being redesigned better to meet the demands of the labour market. In the long term it seems that vocational and academic higher education programmes may be coming closer (or even, in some cases, unified in their purposes and structures). Behind these changes, the role of funding systems in providing the necessary support to the different routes to higher education qualifications is an essential aspect of attractiveness.

5.4. An agenda for change

An increasing number of occupations involving VET training are seen as high-skilled or expert work. Distinctions between different occupations, and between the related responsibilities, are no longer permanent or clearly defined but call for continuous professional adaptation and development. This increases the pressures on VET systems to be responsive to many different agendas at the same time. The structures of society and work communities have become less hierarchical, although higher education is still likely to lead to a higher rank and to better-paid employment. Cultural origin, family background and gender still bear significant influence on employment, and society is still reproducing itself to the extent that even unemployment is 'passed down' from one generation to another. Female-dominated fields and occupations still lack the higher appreciation that would show in higher status and/or better pay. Some occupational fields or groups that used to be central, such as agriculture, whereas information technology and related industries continue growing. It could be assumed that fields of education that only take a small number of students and are hard to enter would have high status, but this does not always seem to be the case. Art-associated fields, for example, do not compete well in terms of salary.

⁽¹³⁾ Although the Finnish polytechnic system does not have a particular international model it resembles the German *Fachhochschule* and the Dutch HBO [*middlebar beroepsonderwijs*], now BOL4 [*beropleidende leerweg*] system.

Data show that the European education and training policy goal of improving the attractiveness of VET, based on the needs of the economy and towards better employability for citizens, is making progress in the EU-15; this is based on enrolment averages, though numbers remain quite steady from one year to another. However, the attractiveness of VET appears to have decreased in the 10 newer Member States since 2000, especially among females. The challenges are educational and economic, as summarised below:

- (a) the aim of current measures to improve guidance is to equip young people and adults better understand and assess their learning and career opportunities in order to make more informed choices on the pathways to take. It will take considerable time before it is possible to assess properly how effective recent measures prove to be; monitoring data at European level would be useful;
- (b) developing better structured pathways for students taking VET courses in secondary education and providing them with more and better opportunities for transfers and progression, have been among the key approaches to making VET more attractive over the last 20 years. Countries have increasingly sought to reduce or eliminate barriers to progression. Access to higher education for VET students has contributed to increasing the percentage of the age group which obtains full secondary qualifications and of those who obtain a higher education award;
- (c) there are issues concerning the specific contribution of individualising provision and making it more flexible, whether for mainstream students in initial VET or for adults and specific groups of the population. This study has asked the question whether the technical measures are, in themselves, sufficient to increase the attractiveness of VET or whether they need to be reinforced by approaches that increase student choice in content and the possibility of mixing vocational and general courses. In other words, to what extent is the possibility of self-organisation a factor that needs to be taken into account and an element of added value in making VET more attractive?
- (d) with strong encouragement from EU policy, decentralisation and regionalisation are playing an increasingly important role in most Member States. One argument is that local needs and requirements can be fully taken into consideration in designing and implementing VET provision. The implication is that this will, in turn, raise the attractiveness of VET. However this type of approach raises issues for VET financing and is an area in which monitoring effects and difficulties would be welcome;
- (e) the recognition of prior learning and experience, of non-formal and informal learning is increasingly high on national agendas. For the moment this type of recognition remains largely experimental, both in countries in which it is part of a national and systemic approach established by legislation and in the cases where it is being tested locally or is used by institutions for entry and progression. There subsists a need to change attitudes in the world of learning, especially in higher education. This could prove to be a hindrance to increasing the practice of full accreditation for a qualification, as opposed to giving candidates entry to education and training courses. There is a need to reach a balance between establishing procedures which ensure credibility and reliability while remaining accessible in terms of the time needed and the input for individuals;
- (f) reforms in VET teacher training are emphasising standards, recruitment and higher education. However, other aspects are likely to increase in importance and will play an essential role in raising and then maintaining the attractiveness of VET. In this respect it is essential to investigate and understand the extent to which the current training of VET teachers is integrating the consequences for the learning environment of moving towards individualised learning plans, individual choice, modularisation, local autonomy, and workplace learning, not forgetting the immense potential of, and transformations brought by, ICTs, e-learning and b-learning. These factors, along with broader questions about the futures of learning which address the locus of learning, inter-generational transfer of information, the 'digital divide' between young people seen as 'digital natives' and adults seen as 'digital

- immigrants', will also become crucial in the coming years (Carneiro et al., 2007);
- (g) though quality undeniably contributes to the attractiveness of VET provision, it is difficult to assess its exact contribution. With a view to filling this gap, it would be very useful to envisage European studies investigating links from quality assurance measures (including institutional self-evaluation) to institutional development, VET enrolments and the numbers and types of awards obtained.

5.5. Implications for future research

Vocational education is a generic term which contains particular features related to different VET fields (business and economics education, technical education, agricultural education, health and social care, etc.). It is the part of education which takes a scientific look at prerequisites and conditions, aims, possibilities of gaining a qualification and competences for humane, gainful employment and for living life in society, taking on one's full societal and ecological responsibility. Vocational education research should explore the conditions, processes, procedures and consequences of gaining professional qualifications, as well as personal and social attitudes which seem to be significant for fulfilling of work processes and developing occupational profiles. Research on VET, formal and informal that qualifies people for work, still tends to have a marginal status compared to higher education research (except perhaps in Germany, to some extent).

The human and social capital gained at home supports and contributes to later achievement at school and also directs future choices so that students who master theoretical content and, therefore, do better at school tend to opt for academic studies and higher education programmes. In some cases VET may be more valued by parents who themselves have received this type of education. Naturally, student counselling at school plays an essential role with respect to the kind of picture they build of their own opportunities and potential and how they see the position of different occupations both now and in the future. Longitudinal research

is needed to analyse motivation and aspirations linked to the construction of human and social capital in different families.

Further in-depth research on the following areas would be beneficial to monitoring improvements in the attractiveness of VET. The first group of proposals concerns the learning environment:

- (a) the extent to which teacher training currently integrates the consequences for the VET learning environment of moving towards more individualised and personalised learning, local autonomy, workplace learning and the full range of changes to the learning environment introduced through technology-enhanced learning;
- (b) it is assumed that the quality of teaching and learning make VET more attractive. However, the assumption requires more research concerning VET pedagogy and the need and role of skills and competence;
- (c) the role played by choice for students in making VET options more attractive to young people. To what extent does choice and being able to take control over one's pathway contribute to the attractiveness of different routes for young people?
- (d) vocational teacher pre- and in-service training as well as VET teachers' work and expertise has not been sufficiently researched.

Going beyond the design of the learning environment and the curriculum, two further areas are recommended for research:

- (a) the effects of decentralisation on funding;
- (b) the governance of VET systems. Relatively little information is available through reporting on Lisbon about this aspect but it is one of the key Helsinki recommendations. Therefore, to obtain a clearer vision of how governance is being adapted to delivering the prioritised VET agenda, more specific studies would be useful to provide data on:
 - (i) institutional reorganisation and restructuring;
 - (ii) changes in ministerial supervision of schools, apprentice training centres and colleges in line with decentralisation;
 - (iii) the changing institutional and provision landscape;
- (iv) changes in approaches to institutional management and leadership.

Improving the attractiveness of VET and promoting esteem is likely to remain on the agenda of education systems in the coming future. Despite the multitude of policies and measures developed and implemented in recent decades there is still work to be done. The most crucial measures appear to be those that strengthen the possibilities of pathways, progression, flexibility and relevance as well as access and quality. Part of ensuring relevance comes through learning in the workplace, whether through formal apprenticeship or well-structured work placements. Many countries are still challenged to increase the delivery of quality VET programmes. Europe is in a unique position among its partners and competitors in being able to harness a broad range of VET cultures, histories and experiences jointly develop and implement research and policy development strategies in this field through structured exchanges and peer learning. If these opportunities are fully grasped they should

provide a firm basis for rising to the challenges of the coming period, with high quality VET teaching and learning experiences for young people and adults. Finally, research is also needed in the following areas:

- (a) mobility within and between different ISCED categories (ISCED 2, ISCED 3, ISCED 4 and ISCED 5 and 5B);
- (b) indication of attractiveness of different VET options.

There are a wide variety of education and training options in each ISCED category. And the countries offer various mixtures of school-based, company-based and combined VET learning in different levels. Today it is difficult to get detailed statistics of student progression from one level to another and on enrolment in higher studies or jobs accessed and progressed from one type of training to another type.

Annex

Table 6. General education students at ISCED 3: trends in enrolment in 2000-04 (%), ranked by percentage of general education students in 2004

	2000			2001			2002			2003			2004		
	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females
EU-27															
Ireland	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Portugal	93.0	91.9	94.0	71.7	67.3	75.7	71.2	67.1	75.1	91.2	89.8	92.5	90.9	89.6	92.0
Hungary	89.7	86.7	92.8	88.5	85.6	91.4	87.2	84.6	89.8	87.2	84.4	90.1	87.9	85.2	90.6
Cyprus	85.8	75.8	95.6	85.7	76.0	95.3	86.2	77.2	95.3	86.3	77.6	95.2	86.6	78.1	95.3
Lithuania	60.4	52.1	68.6	67.7	60.9	74.3	71.8	66.0	77.5	73.9	68.3	79.5	75.3	70.0	80.6
Italy	75.4	74.2	76.8	74.1	72.2	76.1	73.2	71.2	75.3	74.0	72.3	75.8	74.5	72.8	76.3
Estonia	67.5	56.6	77.7	68.2	57.0	78.9	68.5	57.3	79.3	70.7	59.9	80.8	70.1	59.2	80.5
Greece	67.9	62.7	72.8	64.8	59.9	69.7	60.0	54.4	65.8	64.0	58.4	69.8	66.0	59.9	72.5
Latvia	61.4	52.1	70.2	61.7	53.0	70.0	60.9	52.7	69.1	62.2	54.6	69.9	63.2	55.4	71.2
Spain	66.5	65.4	67.5	64.4	62.5	66.1	62.0	59.6	64.1	62.8	59.3	66.0	61.3	57.8	64.5
Denmark	45.3	40.0	50.4	45.7	39.9	51.2	47.0	41.1	52.7	46.7	41.0	52.2	53.2	45.3	60.1
Poland	35.7	26.2	45.8	37.9	28.6	47.9	39.1	30.1	48.9	45.7	36.6	55.8	50.5	41.8	60.1
Sweden	51.2	50.7	51.6	48.3	47.6	48.8	50.4	49.4	51.1	47.1	43.9	49.7	46.6	49.5	44.3
Malta	75.2	68.9	80.8	73.7	67.9	80.0	67.2	56.0	79.4	76.3	67.5	86.4	45.0	32.2	63.3
Bulgaria	44.3	31.1	57.8	44.2	31.9	56.7	44.5	33.1	56.2	45.0	33.8	56.5	44.8	33.9	56.3
France	42.6	37.0	48.5	43.3	37.5	49.1	43.7	37.9	49.7	43.6	37.9	49.3	43.5	38.0	49.1
Finland	44.7	39.8	49.0	43.3	39.1	46.9	42.8	38.6	46.5	41.2	37.1	44.8	39.9	36.2	43.2
Germany	36.8	31.4	42.8	36.7	31.2	42.7	37.0	31.6	42.9	37.8	32.2	44.1	38.8	33.1	45.1
Luxembourg	36.5	34.0	39.0	36.2	33.4	38.8	36.0	32.9	38.9	35.3	31.7	38.9	36.1	32.5	39.5
Romania	37.5	29.2	45.8	36.1	27.9	44.4	36.0	28.0	43.9	35.6	27.8	43.4	35.2	27.5	42.9
Belgium	33.2	31.3	35.1	30.8	29.2	32.4	30.3	28.6	31.9	29.7	27.8	31.5	31.8	29.6	33.9
Slovenia	27.7	22.6	32.8	27.7	23.0	32.4	29.7	24.2	35.2	30.6	24.6	36.8	31.4	25.3	37.8
Netherlands	31.7	28.7	34.9	29.9	27.3	32.6	30.8	28.2	33.5	30.9	28.9	32.9	30.9	29.1	32.8
United Kingdom	32.7	35.6	30.3	33.1	36.4	30.4	27.9	31.9	24.8	30.8	35.3	27.2	28.5	32.3	25.5
Austria	28.9	24.5	33.9	28.2	24.2	32.8	27.7	23.6	32.5	28.2	23.9	33.1	27.6	24.1	31.7
Slovakia	21.4	18.3	24.3	22.4	18.9	25.8	23.6	19.7	27.6	24.6	20.2	29.1	25.9	21.1	30.7
Czech Republic	19.8	15.6	24.0	20.1	15.7	24.4	19.8	15.1	24.4	20.7	15.7	25.6	20.7	15.9	25.6
Candidates countries															
Turkey	51.0	54.1	60.0	60.3	63.4	68.2	60.6	64.9	69.6	62.0	65.4	71.0	62.7	58.6	69.3
former Yugoslav Republic of Macedonia	35.3	29.1	42.2	37.0	30.9	43.7	38.1	32.0	44.7	38.6	32.7	45.0	39.5	33.9	45.6
Croatia	-	-	-	-	-	-	-	-	-	25.8	19.5	32.1	25.7	19.2	32.1
EEA/EFTA countries															
Iceland	67.7	57.5	77.5	64.8	55.0	74.2	63.0	54.2	71.3	66.0	56.3	74.9	62.8	55.9	69.2
Norway	42.7	36.7	48.7	42.4	36.7	48.3	42.0	36.4	47.8	40.8	35.4	46.3	39.5	34.2	44.7
Switzerland	-	-	-	-	-	-	35.4	29.4	42.7	35.0	29.0	42.4	35.2	28.8	42.9
Liechtenstein	-	-	-	-	-	-	-	-	-	26.0	19.5	35.9	22.3	15.8	32.2
Non-European countries															
United States	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Japan	74.7	72.6	76.8	74.9	72.8	77.0	75.1	73.0	77.2	75.3	73.1	77.6	76.2	73.8	78.7
Others															
Albania	85.9	80.8	91.2	85.2	79.6	90.9	-	-	-	84.9	85.2	84.6	83.1	78.8	88.0

Source: Eurostat online database.

Table 7. Vocational education students at ISCED 3: trends in enrolment in 2000-04 (%), ranked by percentage of vocational education students in 2004

	2000			2001			2002			2003			2004		
	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females	Total	Males	Females
EU-27															
Ireland	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Portugal	7.0	8.1	6.0	28.3	32.7	24.3	28.8	32.9	24.9	8.8	10.2	7.5	9.1	10.4	8.0
Hungary	10.3	13.3	7.2	11.5	14.4	8.6	12.8	15.4	10.2	12.8	15.6	9.9	12.1	14.8	9.4
Cyprus	14.2	24.2	4.4	14.3	24.0	4.7	13.8	22.8	4.7	13.7	22.4	4.8	13.4	21.9	4.7
Lithuania	39.6	47.9	31.4	32.3	39.1	25.7	28.2	34.0	22.5	26.1	31.7	20.5	24.7	30.0	19.4
Italy	24.6	25.8	23.2	25.9	27.8	23.9	26.8	28.8	24.7	26.0	27.7	24.2	25.5	27.2	23.7
Estonia	32.5	43.4	22.3	31.8	43.0	21.1	31.5	42.7	20.7	29.3	40.1	19.2	29.9	40.8	19.5
Greece	32.1	37.3	27.2	35.2	40.1	30.3	40.0	45.6	34.2	36.0	41.6	30.2	34.0	40.1	27.5
Latvia	38.6	47.9	29.8	38.3	47.0	30.0	39.1	47.3	30.9	37.8	45.4	30.1	36.8	44.6	28.8
Spain	33.5	34.6	32.5	35.6	37.5	33.9	38.0	40.4	35.9	37.2	40.7	34.0	38.7	42.2	35.5
Denmark	54.7	60.0	49.6	54.3	60.1	48.8	53.0	58.9	47.3	53.3	59.0	47.8	46.8	54.7	39.9
Poland	64.3	73.8	54.2	62.1	71.4	52.1	60.9	69.9	51.1	54.3	63.4	44.2	49.5	58.2	39.9
Sweden	48.8	49.3	48.4	51.7	52.4	51.2	49.6	50.6	48.9	52.9	56.1	50.3	53.4	50.5	55.7
Malta	24.8	31.1	19.2	26.3	32.1	20.0	32.8	44.0	20.6	23.7	32.5	13.6	55	67.8	36.7
Bulgaria	55.7	68.9	42.2	55.8	68.1	43.3	55.5	66.9	43.8	55.0	66.2	43.5	55.2	66.1	43.7
France	57.4	63	51.5	56.7	62.5	50.9	56.3	62.1	50.3	56.4	62.1	50.7	56.5	62.0	50.9
Finland	55.3	60.2	51.0	56.7	60.9	53.1	57.2	61.4	53.5	58.8	62.9	55.2	60.1	63.8	56.8
Germany	63.2	68.6	57.2	63.3	68.8	57.3	63.0	68.4	57.1	62.2	67.8	55.9	61.2	66.9	54.9
Luxembourg	63.5	66.0	61.0	63.8	66.6	61.2	64.0	67.1	61.1	64.7	68.3	61.1	63.9	67.5	60.5
Romania	62.5	70.8	54.2	63.9	72.1	55.6	64.0	72.0	56.1	64.4	72.2	56.6	64.8	72.5	57.1
Belgium	66.8	68.7	64.9	69.2	70.8	67.6	69.7	71.4	68.1	70.3	72.2	68.5	68.2	70.4	66.1
Slovenia	72.3	77.4	67.2	72.3	77.0	67.6	70.3	75.8	64.8	69.4	75.4	63.2	68.6	74.7	62.2
Netherlands	68.3	71.3	65.1	70.1	72.7	67.4	69.2	71.8	66.5	69.1	71.1	67.1	69.1	70.9	67.2
United Kingdom	67.3	64.4	69.7	66.9	63.6	69.6	72.1	68.1	75.2	69.2	64.7	72.8	71.5	67.7	74.5
Austria	71.1	75.5	66.1	71.8	75.8	67.2	72.3	76.4	67.5	71.8	76.1	66.9	72.4	75.9	68.3
Slovakia	78.6	81.7	75.7	77.6	81.1	74.2	76.4	80.3	72.4	75.4	79.8	70.9	74.1	78.9	69.3
Czech Republic	80.2	84.4	76.0	79.9	84.3	75.6	80.2	84.9	75.6	79.3	84.3	74.4	79.3	84.1	74.4
Candidates countries															
Turkey	49.0	-	-	39.7	-	-	39.4	-	-	38.0	34.6	29.0	37.3	41.4	30.7
former Yugoslav Republic of Macedonia	64.7	70.9	57.8	63.0	69.1	56.3	61.9	68.0	55.3	61.4	67.3	55	60.5	66.1	54.4
Croatia	-	-	-	-	-	-	-	-	-	74.2	80.5	67.9	74.3	80.8	67.9
EEA/EFTA countries															
Iceland	32.3	42.5	22.5	35.2	45.0	25.8	37.0	45.8	28.7	34.0	43.7	25.1	37.2	44.1	30.8
Norway	57.3	63.3	51.3	57.6	63.3	51.7	58.0	63.6	52.2	59.2	64.6	53.7	60.5	65.8	55.3
Switzerland	-	-	-	-	-	-	64.6	70.6	57.3	65.0	71.0	57.6	64.8	71.2	57.1
Liechtenstein	-	-	-	-	-	-	-	-	-	74.0	80.5	64.1	77.7	84.2	67.8
Non-European countries															
United States	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Japan	25.3	27.4	23.2	25.1	27.2	23.0	24.9	27.0	22.8	24.7	26.9	22.4	23.8	26.2	21.3
Others															
Albania	14.1	19.2	8.8	14.8	20.4	9.1	-	-	-	15.1	14.8	15.4	16.9	21.2	12.0

Source: Eurostat online database.

Table 8. Graduates in ISCED 4: trends in 2000-04 (N)

	ISCED_4 (total)					ISCED_4 (general)					ISCED_4 (vocational)				
	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
Austria	0	22 483	0	23 363	-	0	0	0	-	-	0	22 483	0	23 363	-
Belgium	22 586	21 122	21 456	20 573	23 242	110	102	84	58	47	22 476	21 020	21 372	20 515	23 195
Cyprus	0	-	-	-	-	0	-	-	-	-	0	-	-	-	-
Czech Rep.	15 080	13 008	22 175	38 788	41 411	0	-	-	12 703	13 074	15 080	13 008	22 175	26 085	28 337
Denmark	196	526	-	643	592	194	526	-	643	592	2	-	-	-	-
Estonia	2 901	4 501	4 629	4 360	3 775	-	-	-	-	-	2 901	4 501	4 629	4 360	3 775
Finland	1 660	2 313	3 003	2 919	-	-	-	-	-	-	1 660	2 313	3 003	2 919	-
France	9 783	9 904	-	9 338	-	5 295	5 295	-	4 850	-	4 488	4 488	-	4 488	-
Germany	134 495	138 041	132 567	138 338	151 692	19 032	20 145	19 951	22 277	27 586	115 463	117 896	112 616	116 061	124 106
Greece	23 102	-	-	-	14 011	-	-	-	-	-	23 102	-	-	-	-
Hungary	49 206	52 177	46 220	35 270	36 149	9 367	11 379	12 258	4 858	-	39 839	40 798	33 962	30 412	36 149
Ireland	19 855	21 819	13 645	12 561	17 205	0	0	0	-	-	19 855	21 819	13 645	12 561	17 205
Italy	23 545	27 828	32 914	0	37 193	-	-	-	0	-	23 545	27 828	32 914	0	37 193
Latvia	2 906	3 463	3 401	3 175	2 779	633	614	454	379	-	2 327	2 849	2 947	2 796	2 779
Lithuania	2 470	2 766	3 111	3 355	3 344	-	-	-	-	-	2 470	2 766	3 111	3 355	3 344
Luxembourg	157	168	215	199	188	-	0	-	-	-	157	168	215	199	188
Malta	-	-	0	0	-	-	-	0	0	-	-	-	0	0	-
Netherlands	1 834	1 983	2 518	2 278	2 300	-	-	-	-	-	1 834	1 983	2 518	2 278	2 300
Poland	80 717	73 403	70 314	80 542	87 143	0	-	-	-	-	80 717	73 403	70 314	80 542	87 143
Portugal	-	-	0	423	681	-	-	0	-	-	-	-	0	423	-
Slovakia	2 117	2 760	4 213	3 317	2 540	-	0	-	-	-	2 117	2 760	4 213	3 317	2 540
Slovenia	138	149	711	1 027	1 298	42	106	232	404	640	96	43	479	623	658
Spain	53 283	30 597	19 160	-	-	0	0	0	-	-	53 283	30 597	19 160	-	-
Sweeden	549	-	362	385	591	-	-	-	-	-	549	396	362	385	591
The UK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bulgaria	4 721	2 647	1 963	2 574	1 623	-	-	-	-	-	4 721	2 647	1 963	2 574	1 623
Romania	39 166	33 469	28 456	25 337	22 636	-	-	-	-	-	39 166	33 469	28 456	25 337	22 636
Croatia	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Turkey	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Albania	-	0	-	-	-	-	0	-	-	-	-	0	-	-	-
former Yugoslav Republic of Macedonia	136	521	226	261	489	-	-	-	-	28	136	521	226	261	489
Iceland	254	191	235	299	305	0	0	0	-	-	254	191	235	299	-
Lichtenstein	-	-	-	-	28	-	-	-	-	28	-	-	-	-	-
Norway	6 475	4 442	3 636	3 063	2 777	2 728	1 526	1 295	850	602	3 747	2 916	2 341	2 211	2 175
Switzerland	-	-	19 275	18 246	13 713	-	-	2 841	3 288	3 845	-	-	16 434	14 958	9 868
United States	260 401	288 301	-	-	-	-	-	-	-	-	260 401	288 301	-	-	-
Japan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	757 733	758 582	434 405	430 634	467 705	37 401	39 693	37 115	50 310	46 414	720 386	719 164	397 290	380 322	406 599

Source: Eurostat online database.

Table 9. **Structure of enrolment in tertiary programmes with academic orientation (ISCED 5A) in 2004. % - Total (N) = 100%**

	ef14	ef2	ef3	ef4	ef5	ef6	ef7	ef8	unk	Total (N)
EU-25	10.0	13.1	34.9	11.2	14.3	1.9	9.8	3.1	1.5	12 838 541
EU-15	9.0	14.6	33.3	12.6	14.4	1.8	11.4	2.2	0.6	9 700 356
NMS-10	13.2	8.4	39.9	7.0	14.3	2.4	4.8	5.7	4.2	3 138 185
EU-27										
Austria	9.5	13.7	40.1	12.8	11.8	1.5	8.9	1.6	0.1	197 627
Belgium	18.0	7.4	32.2	5.4	12.1	2.3	21.0	1.6	0.0	185 273
Bulgaria	8.5	9.0	42.0	5.2	21.7	2.4	4.8	6.2	0.2	207 340
Cyprus	27.6	21.0	27.3	22.3	1.8	0.0	0.0	0.0	0.0	3 908
Czech Republic	16.8	9.7	28.1	8.9	21.3	3.7	6.8	3.9	0.8	262 530
Denmark	12.0	18.2	23.5	8.3	9.6	1.1	26.4	0.9	0.0	184 227
Estonia	9.6	14.7	37.8	11.1	12.5	3.7	5.6	4.9	0.0	39 605
Finland	5.2	14.5	22.2	11.4	26.8	2.3	13.0	4.6	0.0	278 522
France	-	-	-	-	-	-	-	-	-	-
Germany	7.3	19.1	29.4	17.2	15.4	1.3	8.6	1.7	0.0	1 981 373
Greece	10.3	17.6	36.3	22.3	8.3	3.0	1.5	0.8	0.0	374 591
Hungary	13.7	7.8	42.3	5.4	13.0	3.4	8.0	6.5	0.0	394 021
Ireland	6.8	21.0	22.6	13.7	9.8	1.2	12.7	1.5	10.6	120 782
Italy	6.6	14.2	38.4	7.5	16.2	2.3	12.1	2.5	0.3	1 926 956
Latvia	14.6	7.4	53.0	7.3	9.0	1.7	3.7	3.4	0.0	111 040
Lithuania	15.8	8.6	36.2	7.5	19.5	2.1	8.3	2.1	0.0	127 914
Luxembourg	-	-	-	-	-	-	-	-	-	-
Malta	14.5	12.9	40.5	6.7	10.4	0.1	15.0	0.0	0.0	6 707
Netherlands	14.9	7.7	40.9	7.7	8.3	1.7	15.8	2.7	0.3	536 342
Poland	12.0	8.3	41.5	6.7	13.4	2.1	3.2	6.2	6.6	1 989 889
Portugal	10.2	8.2	31.8	7.4	21.9	2.1	13.0	5.3	0.0	372 521
Romania	1.1	11.8	46.8	4.8	20.7	2.9	5.8	3.0	3.1	621 501
Slovakia	17.2	5.5	28.3	9.0	17.5	3.4	12.0	7.1	-	150 037
Slovenia	16.8	14.6	37.4	6.9	14.2	2.9	5.4	1.9	0.0	52 534
Spain	9.4	9.9	35.2	12.7	17.3	2.7	8.6	4.1	0.0	1 507 520
Sweden	16.4	13.6	27.3	8.8	16.2	0.6	15.8	1.2	0.0	389 390
United Kingdom	8.5	17.4	32.0	15.9	8.9	0.8	13.3	0.7	2.6	1 645 232
Candidate countries										
Croatia	1.0	14.3	38.1	8.7	18.1	4.3	7.6	7.8	0.0	81 949
former Yugoslav Republic of Macedonia	13.9	12.6	32.6	9.0	15.5	4.3	7.5	4.6	0.0	43 720
Turkey	19.0	6.0	46.7	8.2	9.3	2.7	6.5	1.6	0.0	1 385 094
EEA/EFTA countries										
Iceland	18.4	15.4	35.6	8.5	7.0	0.6	12.7	1.8	0.0	13 960
Liechtenstein	0.0	8.3	63.7	0.0	28.0	0.0	0.0	0.0	-	532
Norway	15.1	11.2	32.3	10.1	6.3	0.8	19.1	3.3	1.7	205 142
Switzerland	10.3	15.1	38.8	10.5	12.8	1.1	9.8	1.1	0.6	140 984
Non-European countries										
Japan	6.117.9	37.0	3.6	17.1	2.6	5.9	1.9	7.8	2 976	974
United States	-	-	-	-	-	-	-	-	100.0	12 950 801
Others										
Albania	17.0	13.3	41.1	4.3	8.2	7.7	6.8	1.7	-	51 903

NB: unk unknown or not specified
 ef8 services
 ef7 health and welfare
 ef6 agriculture and veterinary
 ef5 engineering, manufacturing and construction
 ef4 science, mathematics and computing
 ef3 social sciences, business and law
 ef2 humanities and arts
 ef14 teacher training and education science
 NMS10 (CZ, EE, CY, LV, LT, HU, MT, PL, SI, SK)

Source: Eurostat online database.

Table 10. **Structure of enrolment in tertiary programmes with occupational orientation (ISCED 5B) in 2004. % - Total (N) = 100%**

	ef14	ef2	ef3	ef4	ef5	ef6	ef7	ef8	unk	Total (N)
EU-25	7.8	9.4	22.9	7.2	13.8	2.5	25.0	5.9	5.5	1 917 526
EU-15	7.1	10.3	20.4	7.6	14.0	2.5	26.8	5.1	6.2	1 675 090
NMS-10	13.2	2.9	40.7	4.0	12.8	2.0	12.8	11.0	0.6	242 436
EU-27										
Austria	49.1	3.3	2.9	2.8	18.3	0.0	19.5	4.0	0.0	25 370
Belgium	11.0	13.1	34.2	12.2	10.8	1.8	15.2	1.8	0.0	193 823
Bulgaria	4.8	1.2	34.6	0.0	26.3	2.5	19.3	11.3	0.0	16 294
Cyprus	5.9	4.7	44.2	10.0	4.6	0.1	5.3	22.6	2.7	16 739
Czech Republic	1.4	6.0	29.9	5.3	8.5	3.0	34.1	8.9	2.7	33 046
Denmark	0.0	4.1	55.0	12.8	13.6	3.5	1.8	9.3	0.0	27 810
Estonia	9.2	5.3	40.0	7.0	11.0	0.2	14.7	12.6	0.0	24 401
Finland	11.3	25.8	19.5	0.0	37.1	0.0	1.9	4.4	0.0	159
France	-	-	-	-	-	-	-	-	-	-
Germany	7.1	1.1	17.5	1.7	16.0	1.7	48.8	5.7	0.3	349 084
Greece	0.0	2.3	28.7	3.7	28.0	12.1	17.4	7.9	0.0	203 509
Hungary	0.0	0.2	55.2	5.1	11.8	0.4	3.5	23.7	0.0	20 321
Ireland	0.6	11.1	17.2	7.8	13.0	1.6	5.4	7.9	35.4	63 194
Italy	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	21 933
Latvia	3.7	4.7	63.7	3.5	13.8	1.3	1.2	8.2	0.0	15 191
Lithuania	7.0	3.1	46.7	2.3	19.4	3.3	12.3	5.8	0.0	52 119
Luxembourg	-	-	-	-	-	-	-	-	-	-
Malta	15.3	1.7	43.0	1.7	0.1	1.8	34.3	2.1	0.0	1 143
Netherlands	-	-	-	-	-	-	-	-	-	-
Poland	100.0	-	-	-	-	-	-	-	-	22 355
Portugal	0.0	10.8	26.8	9.6	17.0	2.6	25.5	7.7	0.0	5 097
Romania	23.3	0.7	20.9	5.0	29.7	4.7	8.4	4.9	2.4	46 172
Slovakia	4.1	8.6	8.1	1.3	2.0	1.3	64.3	10.3	-	5 259
Slovenia	2.7	0.1	49.1	3.3	19.4	3.1	8.2	14.0	0.0	51 862
Spain	4.8	10.8	23.0	15.3	22.3	0.6	10.8	12.5	0.0	255 488
Sweden	0.1	12.2	25.7	15.3	23.0	3.5	7.6	12.7	0.0	16 792
United Kingdom	9.2	15.2	12.5	7.6	4.3	0.8	34.1	0.6	15.7	512 831
Candidate countries										
Croatia	13.4	0.9	33.8	2.7	15.1	2.3	7.6	24.1	0.0	43 832
former Yugoslav Republic of Macedonia	0.0	0.0	1.4	0.0	54.4	0.0	38.2	6.0	0.0	2 917
Turkey	0.0	6.6	44.4	5.0	26.4	4.2	5.5	7.9	0.0	562 677
EEA/EFTA countries										
Iceland	31.9	7.9	36.3	23.3	0.0	0.0	0.0	0.6	0.0	699
Liechtenstein	-	-	-	-	-	-	-	-	-	0
Norway	2.3	2.8	64.8	8.0	5.7	0.0	7.9	8.4	0.0	4 347
Switzerland	9.8	2.6	42.6	8.6	17.6	1.3	6.1	11.5	0.0	39 113
Non-European countries										
Japan	9.8	11.9	6.5	0.0	15.7	0.5	26.6	22.1	6.9	983 241
United States	-	-	-	-	-	-	-	-	100.0	3 574 028
Others										
Albania	-	-	-	-	-	-	100.0	-	-	706

NB: unk unknown or not specified

ef8 services

ef7 health and welfare

ef6 agriculture and veterinary

ef5 engineering, manufacturing and construction

ef4 science, mathematics and computing

ef3 social sciences, business and law

ef2 humanities and arts

ef14 teacher training and education science

NMS10 (CZ, EE, CY, LV, LT, HU, MT, PL, SI, SK)

Source: Eurostat online database.

Table 11. Unemployment rates between 15 and 24 years old by gender: trends in 2000-05, ranked by unemployment rate in 2005

	2000			2001			2002			2003			2004			2005		
	total	M	F	total	M	F	total	M	F	total	M	F	total	M	F	total	M	F
EU-25	18.1	17.2	19.1	17.0	16.4	17.7	17.5	17.2	17.8	18.1	18.1	18.1	18.5	18.4	18.7	18.7	18.7	18.6
EU-15	16.1	15.1	17.2	14.1	13.4	14.9	14.7	14.4	15.1	15.5	15.6	15.4	16.2	16.0	16.4	16.7	16.7	16.6
EEA	16.0	15.0	17.1	14.0	13.3	14.9	14.7	14.3	15.0	15.5	15.6	15.4	16.1	16.0	16.3	16.6	16.6	16.6
EU-27																		
Poland	35.7	34.3	37.2	39.2	38.0	40.6	41.6	41.0	42.4	41.4	40.3	42.8	40.1	38.9	41.5	38.6	37.9	39.5
Slovakia	36.9	40.0	33.3	38.9	42.6	34.5	37.7	38.8	36.3	32.9	34.8	30.7	32.8	34.8	30.4	28.3	29.7	26.4
Sweden	9.5	10.8	8.1	11.7	12.7	10.6	12.9	13.4	12.4	14.3	15.5	13.1	18.5	19.8	17.2	28.0	28.1	27.8
Finland	28.4	27.5	29.2	26.6	25.7	27.5	28.2	28.6	27.8	27.8	27.8	27.9	27.5	27.9	27.2	27.0	27.9	26.1
Greece	29.2	21.9	38.0	28.0	20.9	36.3	26.1	19.0	34.7	25.7	18.0	35.2	26.5	18.8	35.6	25.3	17.5	34.7
Italy	31.5	28.4	35.3	27.8	24.8	31.6	27.1	23.7	31.5	26.8	23.7	30.9	24.6	21.2	29.0	22.9	20.9	25.7
Bulgaria	33.3	36.1	29.6	39.3	42.8	35.4	35.6	39.0	31.5	27.1	29.4	24.1	24.5	25.0	23.8	22.6	24.2	20.6
Spain	25.3	19.6	32.1	20.7	16.4	26.3	21.6	16.9	27.9	22.3	19.1	26.4	22.4	19.3	26.4	20.4	17.4	24.1
Belgium	15.2	12.9	18.2	15.3	14.3	16.6	15.7	16.0	15.2	19.0	20.1	17.5	17.5	15.8	19.5	19.9	20.6	19.1
France	-	-	-	-	-	-	-	-	-	18.4	16.9	20.2	19.5	17.9	21.6	19.6	18.4	21.2
Estonia	23.5	24.6	21.8	24.5	17.4	34.0	17.3	14.2	22.0	24.2	20.5	30.4	23.5	23.4	23.7	19.5	21.8	16.7
Hungary	12.3	13.7	10.4	10.7	11.6	9.5	11.4	12.3	10.2	12.9	13.5	12.1	14.4	14.6	14.2	19.2	20.2	17.9
Latvia	21.3	21.0	21.7	22.9	24.0	21.4	25.6	25.1	26.2	17.5	13.8	23.0	19.3	14.9	25.8	19.0	16.3	22.3
Romania	17.8	19.3	15.9	17.6	18.1	17.1	22.2	22.4	22.0	19.5	19.2	20.0	22.3	25.1	18.7	18.8	20.2	16.9
Czech Republic	17.0	17.4	16.4	16.3	16.4	16.2	15.4	15.7	15.0	16.8	16.2	17.5	19.9	21.4	17.9	17.9	17.6	18.3
Malta	11.8	13.1	10.4	17.6	20.3	14.5	15.3	16.5	14.0	17.4	15.6	19.4	18.3	18.8	17.7	17.5	16.6	18.5
Lithuania	28.6	29.5	27.3	31.6	36.6	24.6	20.4	19.6	21.6	26.9	22.2	32.8	21.2	23.6	17.1	16.5	16	17.2
Germany	8.5	9.5	7.4	7.8	9.0	6.4	9.3	11.1	7.2	11.0	13.7	8.1	13.0	15.4	10.2	15.5	17.1	13.7
Portugal	8.2	5.4	11.7	8.9	6.5	12.0	10.4	9.1	12.1	13.4	10.6	16.7	14.0	12.5	15.9	15.3	13.6	17.6
Luxembourg	6.4	5.7	7.3	6.3	7.1	-	7.0	5.3	9.0	10.9	9.7	12.2	16.9	12.1	22.5	13.7	11.7	16.2
Slovenia	16.4	14.8	18.5	15.7	15.0	16.6	14.8	13.5	16.7	15.3	13.1	18.4	14.0	11.2	17.7	12.9	11.0	15.5
Cyprus	10.2	6.7	13.3	8.2	6.0	10.2	7.7	8.0	7.6	8.9	9.0	8.8	8.7	7.9	9.5	12.7	11.8	13.7
United Kingdom	12.0	13.4	10.4	10.3	11.8	8.7	10.9	12.8	8.8	11.4	13.1	9.5	10.8	11.8	9.7	11.7	13.2	9.9
Austria	4.3	3.6	5.1	5.2	5.9	4.4	5.5	5.8	5.1	6.1	6.1	6.1	8.6	8.0	9.2	10.9	10.9	10.8
Netherlands	5.3	4.7	5.9	4.4	4.2	4.5	4.6	4.3	4.8	6.6	6.7	6.5	8.0	7.9	8.1	8.6	8.4	8.7
Ireland	6.5	6.2	6.9	6.2	6.5	5.8	7.8	8.8	6.6	8.1	9.0	7.1	8.3	8.9	7.5	8.2	9.1	7.9
Denmark	6.7	6.5	7.0	8.3	7.3	9.3	7.1	8.8	5.2	9.8	10.6	9.0	7.8	8.5	7.1	7.9	6.1	9.8
Candidate countries																		
Croatia	-	-	-	-	-	-	36.3	34.3	38.9	35.8	33.8	38.5	32.8	29.5	37.3	32.8	30.5	36.1
EEA/EFTA countries																		
Norway	11.1	10.8	11.4	12.2	12.3	12.0	13.0	13.8	12.3	11.9	12.4	11.3	12.8	14.0	11.7	13.3	13.6	12.9
Switzerland	5.0	5.8	4.1	5.6	5.8	5.5	5.6	7.1	3.9	8.4	8.2	8.7	7.7	8.1	7.3	8.8	8.5	9.1
Iceland	4.4	-	-	5.1	-	-	6.4	9.5	-	12.5	12.7	12.2	12.1	16.2	-	8.7	9.4	7.9

NB: M = Males, F = Females

Table 12. Unemployment rates between 25 and 64 years old by gender: trends in 2000-05; ranked by unemployment rates in 2005

	2000			2001			2002			2003			2004			2005		
	total	M	F	total	M	F	total	M	F	total	M	F	total	M	F	total	M	F
EU-25	18.1	17.2	19.1	16.4	17.0	17.7	17.5	17.2	17.8	18.1	7.2	8.8	8.1	7.4	9.0	7.9	7.2	8.7
EU-15	16.1	15.1	17.2	13.4	14.1	14.9	14.7	14.4	15.1	15.5	6.5	8.0	7.3	6.7	8.2	7.2	6.6	7.9
EEA	16.0	15.0	17.1	13.3	14.0	14.9	14.7	14.3	15.0	15.5	6.4	8.0	7.3	6.6	8.1	7.1	6.5	7.9
EU-27																		
Poland	13.8	12.0	15.9	15.4	13.9	17.1	16.9	16.2	17.8	16.4	15.8	17.1	16.4	15.8	17.0	15.5	14.4	16.7
Slovakia	15.7	15.7	15.8	15.9	16.0	15.7	15.4	15.2	15.7	14.6	14.1	15.1	16.5	15.1	18.0	14.7	13.7	15.9
Sweden	5.1	5.5	4.7	3.8	4.1	3.5	4.0	4.4	3.6	4.5	5.0	3.9	5.2	5.6	4.8	5.9	6.1	5.6
Finland	8.1	7.4	8.8	7.5	7.2	7.7	7.4	7.7	7.1	7.6	8.3	6.8	7.6	7.4	7.7	6.8	6.7	6.9
Greece	8.9	5.8	13.9	8.4	5.4	13.0	8.1	5.2	12.7	7.7	4.9	11.9	8.6	5.2	13.5	8.3	4.9	13.2
Italy	8.4	6.2	12.0	7.7	5.8	10.7	7.4	5.5	10.5	7.1	5.4	9.9	6.3	5.0	8.2	6.2	4.8	8.2
Bulgaria	14.4	14.4	14.5	17.7	18.4	16.9	16.3	16.6	15.9	12.6	12.8	12.3	10.9	11.2	10.6	8.8	9.0	8.7
Spain	12.0	8.1	18.2	8.8	6.1	13.1	9.7	6.6	14.5	9.8	6.7	14.3	9.6	6.8	13.7	7.9	6.0	10.5
Belgium	5.7	4.5	7.2	5.2	4.8	5.9	6.0	5.2	7.0	6.5	6.1	7.1	6.3	5.8	7.0	6.9	6.1	7.9
France	-	-	-	-	-	-	-	-	-	7.3	6.4	8.4	7.5	6.7	8.4	7.4	6.6	8.2
Estonia	12.1	13.5	10.6	11.1	11.2	11.0	8.8	9.9	7.7	9.3	9.9	8.8	8.6	9.9	7.5	6.8	8.3	5.3
Hungary	5.7	6.1	5.1	5.0	5.6	4.3	4.9	5.3	4.5	5.1	5.3	4.7	5.1	5.0	5.1	6.1	5.7	6.5
Latvia	13.6	14.4	12.7	12.1	13.4	10.7	11.8	13.6	9.9	9.8	10.1	9.4	8.8	8.6	9.0	7.8	8.6	7.0
Romania	6.1	6.4	5.8	5.7	6.1	5.2	6.7	7.1	6.3	5.7	6.2	5.2	6.1	7.1	4.8	6.1	6.2	6.0
Czech Republic	7.6	5.9	9.7	6.9	5.5	8.7	6.0	4.6	7.8	6.6	4.8	8.8	7.1	5.6	8.9	6.9	5.1	9.1
Malta	4.7	4.9	4.4	3.8	3.6	4.3	4.5	4.2	5.4	4.7	4.5	5.2	4.4	4.6	3.8	5.3	5.5	5.0
Lithuania	14.7	16.9	12.5	15.5	17.7	13.4	12.4	12.7	12.2	11.5	11.6	11.4	10.5	9.8	11.3	7.9	7.8	8.0
Germany	7.9	7.5	8.4	7.9	7.7	8.0	8.5	8.5	8.4	9.7	9.9	9.5	10.6	10.9	10.2	10.9	11.1	10.7
Portugal	3.4	2.9	4.0	3.3	2.5	4.2	3.9	3.3	4.7	5.6	4.8	6.4	5.8	5.1	6.6	6.7	6.0	7.5
Luxembourg	2.0	1.5	2.7	1.4	1.1	1.8	2.2	1.6	3.1	3.1	2.5	4.0	4.2	3.1	5.8	3.8	2.9	5.0
Slovenia	5.9	5.9	5.9	4.6	4.3	5.0	5.0	4.7	5.3	5.6	5.3	6.0	5.2	5.1	5.2	5.1	4.9	5.3
Cyprus	4.4	3.0	6.4	3.5	2.3	5.1	2.9	2.2	3.7	3.7	3.4	4.0	3.9	3.1	4.9	4.6	3.6	5.8
United Kingdom	4.5	4.9	3.9	3.7	4.1	3.3	4.0	4.4	3.6	3.7	4.2	3.1	3.5	3.8	3.2	3.3	3.6	3.0
Austria	3.0	2.6	3.5	3.1	2.8	3.6	3.3	3.4	3.2	3.8	3.6	4.0	4.3	3.8	4.8	4.3	4.2	4.5
Netherlands	2.2	1.7	2.9	1.7	1.4	2.1	2.2	1.9	2.5	3.0	2.8	3.2	4.0	3.8	4.3	4.1	3.9	4.3
Ireland	3.9	4.1	3.6	3.2	3.3	3.0	3.5	3.8	3.1	3.8	4.1	3.3	3.8	4.4	3.1	3.5	3.9	3.1
Denmark	4.1	3.6	4.6	3.5	3.1	4.1	3.9	3.6	4.2	4.8	4.3	5.3	4.9	4.6	5.2	4.4	3.9	4.9
Candidate countries																		
Croatia	-	-	-	-	-	-	12.3	10.3	14.8	11.3	9.8	13.2	11.6	10.3	13.1	10.9	10.1	11.8
EEA/EFTA countries																		
Norway	2.2	2.4	1.9	2.3	2.5	2.1	2.6	2.5	2.7	3.0	3.3	2.7	2.9	3.2	2.6	3.3	3.5	3.1
Switzerland	2.3	1.8	3.0	2.0	1.1	3.1	2.5	2.2	3.0	3.5	3.2	3.8	3.8	3.4	4.4	3.8	3.3	4.5
Iceland	1.3	-	2.2	1.2	-	1.8	2.3	2.2	2.5	2.2	2.2	2.3	2.4	2.9	1.8	1.7	-	2.1

NB: M = Males, F = Females

Table 13. **Unemployment among those who have emigrated from non-EU countries and among EU citizens by EU-25 countries in 2004 (%)**

Country	Non-EU citizens	EU citizens
Belgium	33.0	7.0
Czech Republic	8.0	7.0
Denmark	13.5	4.5
Germany	23.0	10.5
Estonia	15.0	6.0
Greece	8.0	9.5
Spain	12.0	9.0
France	25.0	8.0
Ireland	7.5	4.0
Cyprus	4.0	5.0
Latvia	7.5	9.0
Lithuania	8.0	8.0
Luxembourg	12.5	4.0
Hungary	4.5	6.5
Malta	6.5	7.5
Netherlands	18.0	4.0
Austria	14.0	4.5
Poland	5.0	18
Portugal	13.0	7.0
Slovenia	6.0	5.5
Slovakia	6.0	16.0
Finland	28.0	9.0
Sweden	25.5	8.0
United Kingdom	9.0	4.0
EU-25	17.0	8.5

Source: Eurostat online database.

List of abbreviations

EEA	European economic area
EFTA	European free trade association
EU-15	European Union of 15 Member States
NMS-10	10 newer Member States
NQF	National qualification frameworks
VET	Vocational education and training

References

- Brown, A.; Manning, S. *Qualifications for employment and higher education: a collaborative investigation across Europa*. Hämeenlinna: University of Tampere, 1998 (Ammattikasvatussarja 18).
- Carneiro, R. et al. (guest ed.). Futures of learning: a compelling agenda. *European Journal of Education*, June 2007, Vol. 42, No 2.
- Cedefop. *The shift to learning outcomes – Policies and practices in Europe*. Luxembourg: Publications Office, 2009 (Cedefop Reference series; 72).
- Cedefop; Béduwé, C. et al. New and emerging issues in vocational education and training research beyond 2010. In Cedefop; Descy, M.; Tessaring, M. (eds). *Modernising vocational education and training: fourth report on vocational training research in Europe: background report, volume 2*. Luxembourg: Publications Office, [forthcoming] (Cedefop Reference series).
- Cedefop; Dunkel, T. et al. 'Through the looking-glass': diversification and differentiation in vocational education and training and higher education. In Cedefop; Descy, M.; Tessaring, M. (eds). *Modernising vocational education and training: fourth report on vocational training research in Europe: background report, volume 2*. Luxembourg: Publications Office, [forthcoming] (Cedefop Reference series).
- Cedefop; Grootings, P.; Nielsen, S. Policy learning: applying the changing learning paradigm for policy advice on VET reforms in transition countries. In Cedefop; Descy, P.; Tessaring, M. (eds). *Modernising vocational education and training: fourth report on vocational training research in Europe: background report, volume 2*. Luxembourg: Publications Office, [forthcoming] (Cedefop Reference series).
- Cedefop; Lasonen, J.; Manning, S. How to improve the standing of vocational compared to general education: a collaborative investigation of strategies and qualifications across Europe. In Cedefop; Descy, P.; Tessaring, M. (eds). *Training in Europe: second report on vocational training research in Europe 2000: background report, volume 1*. Luxembourg: Publications Office, 2001 p. 115-167 (Cedefop Reference series).
- Cedefop; Parsons, D. et al. The training and development of VET teachers and trainers in Europe. In Cedefop; Descy, M.; Tessaring, M. (eds). *Modernising vocational education and training: fourth report on vocational training research in Europe: background report, volume 2*. Luxembourg: Publications Office, [forthcoming] (Cedefop Reference series).
- Cedefop; Preston, J.; Green, A. The role of vocational education and training in enhancing social inclusion and cohesion. In Cedefop; Descy, M.; Tessaring, M. (eds). *Modernising vocational education and training: fourth report on vocational training research in Europe: background report, volume 1*. Luxembourg: Publications Office, 2008 (Cedefop Reference series).
- Cedefop; Tsakarissianos, G. Social mobility and VET. In Cedefop; Descy, M.; Tessaring, M. (eds). *Modernising vocational education and training: fourth report on vocational training research in Europe: background report, volume 1*. Luxembourg: Publications Office, 2008 (Cedefop Reference series).
- Cedefop; Viertel E. et al. From project to policy evaluation in vocational education and training – possible concepts and tools. Evidence from countries in transition. In Cedefop; Descy, P.; Tessaring, M. (eds). *The foundations of evaluation and impact research: third report on vocational training research in Europe: background report*. Luxembourg: Publications Office, 2004, p. 191-236 (Cedefop Reference series, 58).
- Colardyn, D.; Bjørnåvold, J. Validation of formal, non-formal and informal learning: policy and practices in the EU Member States. *European Journal of Education*, March 2004, Vol. 39, No 1, p. 69-89.
- Council. Education and training 2010: the success of the Lisbon strategy hinges on urgent reforms: joint interim report of the Council and the Commission on the implementation of the detailed work programme on the

- follow-up of the objectives of education and training systems in Europe. *Official Journal of the European Communities*, 30 April 2004, C104, p. 1-19. Available from Internet: http://eur-lex.europa.eu/LexUriServ/site/en/oj/2004/c_104/c_10420040430n00010019.pdf [cited 4.10.2007].
- Council resolution of 19 December 2002 on the promotion of enhanced European cooperation in vocational education and training. *Official Journal of the European Communities*, 18 January 2003, C13, p. 2-4. Available from Internet: http://eur-lex.europa.eu/LexUriServ/site/en/oj/2003/c_013/c_01320030118en00020004.pdf [cited 19.9.2007].
- du Toit, P. Parity of esteem: a conceptual framework for assessing peace processes, with a South African case study. *International Journal of Comparative Sociology*, 2004, Vol. 45, No 3-4, p. 195-212.
- European Commission. *Declaration of the European Ministers of Vocational Education and Training, and the European Commission convened in Copenhagen on 29 and 30 November 2002, on enhanced European cooperation in vocational education and training*. Brussels: European Commission, 2002. Available from Internet: http://ec.europa.eu/education/copenhagen/copenhagen_declaration_en.pdf [cited 17.4.2007].
- European Commission. *Helsinki communiqué on enhanced European cooperation in vocational education and training*. Communiqué of the European Ministers for Vocational Education and Training, the European social partners and the European Commission, convened in Helsinki on 5 December 2006 to review the priorities and strategies of the Copenhagen process. Brussels: European Commission, 2006. Available from Internet: http://ec.europa.eu/education/policies/2010/doc/helsinkicom_en.pdf [cited 1.10.2007].
- European Commission. *Maastricht communiqué on the future priorities of enhanced European cooperation in vocational education and training (VET) (Review of the Copenhagen declaration of 30 November 2002)*. Brussels: European Commission, 2004. Available from Internet: http://ec.europa.eu/education/news/ip/docs/maastricht_com_en.pdf [cited 14.5.2007].
- European Commission. *Report from the Commission: the concrete future objectives of education systems*. Luxembourg: Publications Office, 2001 (COM(2001) 59 final). Available from Internet: http://eur-lex.europa.eu/LexUriServ/site/en/com/2001/com2001_0059en01.pdf [cited 1.10.2007].
- European Commission. *Progress towards the Lisbon objectives in education and training: 2005 report*. Brussels: European Commission, 2005b (Commission staff working paper SEC(2005)419). Available from Internet: <http://europa.eu.int/comm/education/policies/2010/doc/progressreport05.pdf> [cited 5.10.2007].
- European Commission. *Annex to the communication from the Commission - Modernising education and training: a vital contribution to prosperity and social cohesion in Europe. Draft 2006 joint progress report of the Council and the Commission on the implementation of the education and training 2010 work programme*. Luxembourg: Publications Office, 2005a (Commission staff working document, SEC(2005)1415).
- Erikson, R.; Goldthorpe, J.H. *The constant flux: a study of class mobility in industrial societies*. Oxford: Clarendon, 1992.
- Eurostat. *Database in population and social conditions: education and training*. Available from Internet: http://epp.eurostat.ec.europa.eu/portal/page?_pageid=0,1136184,0_45572601&_dad=portal&_schema=PORTAL [cited 27.9.2007].
- Eurydice. *Quality assurance in teacher education in Europe*. Brussels: Eurydice, 2006. Available from Internet: http://www.eurydice.org/ressources/eurydice/pdf/0_integral/062EN.pdf [cited 27.9.2007].
- Featherman, D.L.; Hauser, R.M. Prestige or socioeconomic scales in the study of occupational achievement? *Sociological Methods and Research*, May 1976, Vol. 4, No 4, p. 403-422.
- Ganzeboom, H.B.G. et al. A standard international socio-economic index of occupational status. *Social Science Research*, 1992, Vol. 25, p. 1-56.
- Ganzeboom, H.B.G.; Treiman, D.J. Internationally comparable measures of occupational status for the 1988 international standard classification of

- occupations. *Social Science Research*, 1996, No 25, p. 201-239.
- Gordon, J. (guest ed.). Trends in lifelong learning: improving opportunities for adult learning. *European Journal of Education*. March 2004, Vol. 39, No 1.
- Helsingin Sanomat. *Putkimies tienaa enemmän kuin korkeakoulutettu* [A plumber earns more than a university graduate]. Sanoma: Sanoma Cooperation, 12.11.2006.
- Hennessey, T.; Wilson, R. *With all due respect: pluralism and parity of esteem. Report No 7* Belfast: Democratic Dialogue, 1997. Available from Internet: <http://cain.ulst.ac.uk/dd/report7/report7.htm> [cited 1.10.2007].
- Hope, K. A liberal theory of prestige. *American Journal of Sociology*, 1982, Vol. 87, No 5, p. 1011-1031.
- Huggins, R.; Harries, S. The skills economy and workforce development: a regional approach to policy intervention. *European Journal of Education*, March 2004, Vol. 39, No 1, p. 47-68.
- Iannelli, C. Parental education and young people's educational and labour market outcomes. In Kogan, I.; Müller, W. (eds). *School-to-work transitions in Europe: analyses of the EULFS 2000 ad hoc module*. Mannheim: Mannheimer Zentrum für Europäische Sozialforschung, 2002, p. 5-29.
- ILO. *Key indicators of the labour market. 4th edition*. [CD-rom]. Geneva: International Labour Office, 2005.
- Kalter, F.; Kogan, I. Ethnic inequalities at labour market entry in Belgium and Spain. In Kogan, I.; Müller, W. (eds). *School-to-work transitions in Europe: analyses of the EU LFS 2000 ad hoc module*. Mannheim: Mannheimer Zentrum für Europäische Sozialforschung, 2002, p. 121-147.
- Lamont, M. *The dignity of working men: morality and the boundaries of race, class, and immigration*. Cambridge: Harvard University Press, 2000.
- Lasonen, J. (ed.). *Ammatillisen koulutuksen arvostus Euroopassa ja Suomessa* [Esteem for and quality of initial vocational education in Finland and in Europe – Pathways from upper secondary education to employment and further training]. Jyväskylä: Institute for Educational Research, 1999.
- Lasonen, J. Vocational higher education in Finland. *International Journal of Vocational Education and Training*, 2003, Vol. 11, No 2, p. 43-60.
- Leney, T. et al. *Achieving the Lisbon goal: the contribution of VET: executive summary*. Summary of the study prepared for the European Commission in preparation for the conference 'Strengthening European cooperation in VET: the way forward', Maastricht, 15 December 2004. London: QCA – Qualifications and Curriculum Authority, 2004a. Available from Internet: http://ec.europa.eu/education/policies/2010/studies/maastrichtexe_en.pdf [cited 27.9.2007].
- Leney, T. et al. *Achieving the Lisbon goal: the contribution of VET: annex to the report*. London: QCA – Qualifications and Curriculum Authority, 2004b. Available from Internet: http://www.refernet.de/documents/Maastricht_final_report_annexes.pdf [cited 13.11.2007].
- M.E.N. *La validation des acquis dans l'enseignement supérieur en 2005*. Paris: M.E.N. – Ministère de l'Éducation Nationale, l'Enseignement Supérieur et de la Recherche, 2007 (Note d'Information, 7.2.2008).
- M.E.N. *Repères et références statistiques sur les enseignements, la formation et la recherche*. Paris: Ministère de l'éducation nationale, l'enseignement supérieur et de la recherche, 2006 (Repère et références statistiques).
- Manning, S (ed.). *Qualifications with a dual orientation towards employment and higher education: a collaborative investigation of selected issues in seven European countries. Inequal Report II*. Berlin: WIFO – Wissenschaftsforum Bildung und Gesellschaft, 1997.
- Manning, S. (ed.). *Qualifications with a dual orientation towards employment and higher education: a comparative investigation of innovative schemes in seven European countries. Inequal Report I*. Berlin: WIFO – Wissenschaftsforum Bildung und Gesellschaft, 1996.
- OECD. *Education at glance: OECD indicators 2006*. Paris: OECD, 2006.
- OECD. *Education at glance: OECD indicators 2005*. Paris: OECD, 2005a.
- OECD. *Promoting adult learning*. Paris: OECD, 2005b.
- Pont, B. Improving access to and participation in adult learning in OECD countries. *European*

- Journal of Education*, March 2004, Vol. 39, No 1, p. 31-45.
- Raffe, D. et al. Participation, inclusiveness, academic drift and parity of esteem: a comparison of post-compulsory education and training in England, Wales, Scotland and Northern Ireland. *Oxford Review of Education*, 2001, Vol. 27, No 2, p. 173-202.
- Smyth, E. Gender differentiation and early labour market integration across Europe. In Kogan, I.; Müller, W. (eds). *School-to-work transitions in Europe: analyses of the EU LFS 2000 ad hoc module*. Mannheim: Mannheimer Zentrum für Europäische Sozialforschung, 2002, p. 31-60.
- Thompson, S. Parity of esteem and the politics of recognition. *Contemporary Political Theory*, 2002, Vol. 1, No 2, p. 203-220.
- Treiman, D. *Occupational prestige in comparative perspective*. New York: Academic Press, 1977.
- Wolbers, M. Job mismatches and their labour market effects among school-leavers in Europe. In Kogan, I.; Müller, W. (eds). *School-to-work transitions in Europe: analyses of the EU LFS 2000 ad hoc module*. Mannheim: Mannheimer Zentrum für Europäische Sozialforschung. 2002, p. 61-90.
- Wolf, A. Some final thoughts: vocational education policy in a European context. *European Journal of Education*, Vol. 28, No 2, 1993.
- Young, M. National qualification frameworks: their feasibility for effective implementation in developing countries. *InFocus programme on skills, knowledge and employability, skills*. Geneva: ILO, 2005 (Working paper, No 22).

Legibility of qualifications: an issue as long-standing as Europe

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Summary

The readability or transparency of qualifications – both terms are equivalent – has been a European concern since the Treaty of Rome was signed. The aim is to bring about a better match between the supply and demand for skills, making it possible to transcend the particular situation of individual countries, to foster the movement of workers in a European labour market. The proposed European qualifications framework (EQF), the encouragement given to the different Member States to develop national systems and frameworks, is the most recent form of modernisation proposed to meet this concern. One of the aims of this article is to review this historic dimension, partly to prepare a European project and partly to set up national systems for Member States which are in a very different situation and have different options regarding building and developing their own vocational training systems.

For Europe, the question of the transparency/readability of qualifications has given rise to many different types of proposals, as shown in the first part of this text. It is also clear that this is not part of a linear progression and that several approaches expressing the different concepts of the role of vocational training and the working of the labour market have been developed and are running in parallel.

States have been considering the aims of their initial and continuing vocational training systems, in more or less detail, and the role to be played by qualification. None of these really proposes a stabilised model and all are constantly evolving; any coherence between these models necessarily involves the search for converging dynamics. This question is considered from two different angles in the second part of the article, by:

- (a) identifying certain stages that appear to follow on from each other fairly systematically in all national qualification systems, and by describing them in greater detail for certain illustrative cases;
- (b) evaluating to what extent the European objectives can be part of the convergence of the dynamics mentioned above.

The definition of the Lisbon objectives or the Maastricht priorities were not the start of this process, but they did provide a new impulse by stating the priority role of helping society to advance and putting education and training in the spotlight. How has this new impulse taken account of existing dynamics? What forms of friction and friction appear? That is the subject of part three of this work, which seeks to draw conclusions. It examines the conditions for setting up new instruments and observes that this question leads us to rethink some of the main principles governing the building of a European vocational training policy.

Table of contents

1. Introduction	92
1.1. Systemic design of vocational training systems	92
1.2. Qualifications: providing structure to the system	93
1.3. Towards transparency of qualifications and certifications?	94
2. The Europe of certifications	95
2.1. The directives	95
2.2. Education and training	97
2.2.1. The European Social Fund	97
2.2.2. An institutional development in several stages	97
2.3. Correspondence and transparency of qualifications	99
2.4. The education and training 2010 objectives	101
2.4.1. Knowledge society	101
2.4.2. European framework and credits	102
2.5. The university sector: precursor and inspiration?	103
2.6. Where are we now?	106
3. National point of view	107
3.1. Data and methods	107
3.2. National qualifications systems and frameworks	107
3.2.1. A process over time	107
3.2.2. On certain uses of levels	108
3.2.2.1. Germany	109
3.2.2.2. Spain	110
3.2.2.3. Scotland	112
3.2.3. Conclusions to be drawn from these particular cases	112
3.3. Towards a European system and framework?	112
3.3.1. Mobilising European objectives	113
3.3.2. European objectives that are not very unifying	113
3.3.3. A fragmented consensus	114
3.4. Conclusion	115
4. From free movement to the knowledge society	116
4.1. Readability/transparency and circulation of knowledge	116
4.2. What do we mean by mobility?	117
4.3. Back to the EQF	118
4.3.1. Imposing a conceptual apparatus	118
4.3.2. Links between the qualifications framework and the training system	120
4.3.3. An arguable design of professional knowledge	120
4.3.4. Coexistence with alternative systems	121
5. Back to modernisation	122
Annex 1: Presentation of the questionnaire to the Directors-General (I)	124
Annex 2: Presentation of the questionnaire to the Directors-General (II)	125
Annex 3: To anticipate what may be the outcomes of aspects of your national strategy and policies for VET in the year 2010	133
List of abbreviations	136
References	137

List of tables, figure and boxes

Tables

1. Stages of development of national qualification	108
2. Classification of professional qualifications	109
3. Coherence between national and EU policies	113

Figure

1. Community level initiatives on training qualifications and certifications	105
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Boxes

1. Treaty of Rome – Article 57	95
2. Treaty of Rome – Article 128	97
3. Maastricht Treaty – Article 3B	98

1. Introduction

The fourth Cedefop research report invites the reader to consider the link between ‘modernisation’ and ‘qualifications systems and frameworks’. A relatively in-depth bibliographical analysis has shown that the term ‘*modernisation*’ was widely used, without users feeling the need to provide a more precise definition. Proof of this can be seen in the Communication from the European Commission, *Modernising education and training: a vital contribution to prosperity and social cohesion in Europe* (European Commission, 2005a). This communication lists a series of objectives to be attained – including the establishment of a European qualifications framework (EQF) – and provides no other indications as to the meaning to be attached to the term ‘modernise’. Without prejudging the debate that will surround this word in the following pages, but merely to make clear the spirit underlying it, we would like to quote Catherine Grémion in the conclusion she made to the colloquium *Le service public en recherche: quelle modernisation?*: ‘all things considered, modernising is therefore essentially about producing meaning. But how can we be sure that the change that is brought about is going in the right direction? Any change in meaning involves risks, hence the importance of becoming aware, of taking the time to stop and reflect along the way’ (Grémion, 1996).

For decades now, both at EU level and in most EU Member States individually, and more broadly at global level for the developed countries, there has been a renewal of the formulation of the relationship between training, work and employment which is manifested in two ways:

- (a) a systemic concept of vocational training;
- (b) the organisation of qualification as an element providing structure to this systemic design.

Various countries have made different proposals according to their different times, political intentions, and national contexts. The OECD has assessed their contribution to the development of lifelong learning. Since the Treaty of Rome, the European Community, which later became the European Union, has employed different

approaches, the most recent of which was to set up an EQF (European Commission, 2004) which promotes the creation of a knowledge society.

1.1. Systemic design of vocational training systems

The world of vocational training has undergone far-reaching changes over the last 50 years. Increasing importance has been attached to such training, and this has progressively led to its being structured as an autonomous system, which we shall briefly outline below. This is how most European countries and the EU institutions have affirmed the need to provide professional qualifications to all young people, leading to considerations of the link between general and vocational training, both in terms of defining the contents of programmes and organising pathways. Today this link is an important subject of debate, especially in the light of parity of esteem. In a different connection, the measures taken to foster vocational training and lifelong learning have led to a diversification of the target groups, ways of responding to their needs and providers of training and certification. Several subsystems have been set up or reinforced, aimed at specific target groups, or have been created by regions, sectors, professions, and so forth. These have led to issues of comparability, readability and quality on both a national and a European level, with the challenges inherent in that approach. As Rogers says: ‘It is especially important to resolve the tensions between the concern to create certification and qualification structures within a coherent, credible and practical overall system open to everyone, and those supporting the promotion of quality improvement’ (OECD, 1996, p. 133). More recently, questions on the nature and acquisition of professional experience have led to observation of the existence of several modes of access to learning, generally categorised as formal, non-formal and informal.

This triad has been criticised, as in its day was the distinction between knowledge, know-how and skills, considered as the constitutive parts of competence (Winterton et al., 2005). However, both of these categorisations raise questions as to the nature of professional knowledge, in terms of its status, which is more than mere applied theoretical knowledge, its acquisition, which cannot be reduced to the traditional teaching relationship, and its assessment, which cannot be dealt with under the arrangements for academic knowledge. This is why emphasis has been placed on skills-based assessments and, more recently, on learning results, and experiments on the outcomes of prior learning.

A series of different elements has thus helped to define the identity and specificity of vocational training, with encouragement provided by EU bodies for countries in which it was poorly structured (Imaginario, 1996; Masson, 2003). At the same time, the debate has gradually focused on certification. Much has been said about the decoupling of training and certification, considered innovative by some and risky by others, with special emphasis placed on setting up national vocational qualifications (NVQ) in England. However, that seems rather excessive, and should be studied in a new perspective of the analysis of the relationship between training and employment, bearing in mind the diversification of the sites and modes of training (Cedefop; Boudier et al., 2001).

1.2. Qualifications: providing structure to the system

For many years they were considered to be the natural result of training characterised by the duration of learning, to which they did not provide any added value; by analogy with the theory of human capital, qualifications have now acquired a specific status. Akin to the economic thinking that identified and expressed this development using theories of filter, investment in forms and signals, sociological theories on the relationship between qualifications and posts have flourished, followed by debates on falling educational standards and overeducation (Teissier and Rose, 2006).

We can explain the emergence of this phenomenon through three factors. First, in light of the developments described above, certification is now the only stable manifestation of the recognition of professional qualities, regardless of the way in which they were acquired. In a system of vocational training subject to powerful tensions, in the face of different teaching concepts and practices, the increasing number of training bodies, and the large population groups concerned, certification is like an anchor, or even a lifejacket, making it possible to compare an individual's skills in a labour market spread over an increasingly wide area and to evaluate the efforts made by each country in this domain.

In terms of the readability of the relationship between training and employment, certification is a nodal point, in that it represents the interface – the transcoder – between skills acquired through training, whatever formal shape such training entails, and the skills required to perform a job. This is becoming increasingly important because the effects of tertiarisation and the flexibility of organisations are making the contents of employment increasingly difficult to prescribe. They should, therefore, lie outside a narrowly-specialised approach and should be cross-cutting and transferable, clearly defined by certification, which should also lay down the conditions for portability (Colardyn, 1996) of qualifications within a perspective of occupational mobility. This can be done either by stating the professional targets to be attained, corresponding to several jobs, or by listing the skills acquired, which can be transferred to several jobs. The supply of certification can be considered to contribute in an increasingly significant way to organising the demand for qualifications or skills. As for the representation of a labour market that defines which qualifications need to be created, we would be moving towards an inverse model in which certification would contribute to structuring the contents of the activity.

Finally, from a more pragmatic standpoint, certification for Europe could be taken as a sort of bridgehead for harmonising training systems in the Member States, to the extent that it makes it possible to circumvent the subsidiarity principle governing these systems. This is why one of the aims behind the setting up of an EQF is to serve

as a model and an incentive to countries seeking to establish their own national framework, in order to bring about supranational convergence. In sum, vocational training would be a matter to be decided by each Member State, in accordance with the particularities of each society, but certification would be a European issue to allow the construction of a single labour market and to foster the movement of workers within this market.

1.3. Towards transparency of qualifications and certifications?

The search for transparency of qualifications can be considered as the general goal pursued by the movements mentioned above, which are thus part of the principle of modernisation in the sense proposed by Grémion (Commissariat Général du Plan, 1996, p. 1). Qualifications systems, therefore, bring about a dual readability:

- (a) with regard to increasingly complex vocational training systems, allowing individuals to define their certification route by juggling with the combination of formal, non-formal and informal learning;
- (b) with regard to the labour market, by ensuring the translation of qualifications acquired by the individual into skills making up his/her job.

This links to the ideal of free movement of workers within a single European market. We could even include the idea of the free movement of students in a unified supply of certification. This is what emerges strongly from the OECD study mentioned above, which highlights a number of convergences in different countries: 'most of the member countries of the OECD follow a certain number of common guidelines. This is especially the case in the search for greater flexibility in the training system, which has led several countries to set up more modular qualifications systems, the will to base vocational training on broader foundations and [...] the trend further to decentralise responsibilities for training and to develop adult training' (OECD,

1996, p. 8). Nevertheless, the same document is somewhat reserved about a natural trend towards harmonisation: 'the characteristics of certification mechanisms are closely dependent on the overall design of the training system and the aims assigned to it. Following countries and the place of vocational training throughout the system, the role of certification is rather to recognise a qualification with regard to a job (valid therefore for the labour market and especially for companies). Certification can also seek to recognise a specific professional level or knowledge' (OECD, 1996, p. 8).

In this context, the draft EQF emerges as a sort of process accelerator, a catalyst to convergence, with a drive belt effect: 'envisaged as a meta-framework that will enable qualifications frameworks at national and sectoral level to relate and communicate to each other thus developing transparency at the European level. The framework will facilitate the transfer, transparency and recognition of qualifications as learning outcomes assessed and certified by a competent body at national or sectoral level [...]. While an EQF should be implemented on a voluntary basis and would not entail any legal obligations, its role would be to foster change by supporting and informing reform at national and sectoral level' (European Commission, 2005b, p. 7).

This perspective lies at the heart of the questioning behind the following text. Indeed, if the question of transparency of qualifications in Europe has acquired a new dimension and a greater importance since the 2000 Lisbon Council, it is worth remembering that it already had a long and chaotic history, if only to show that tools are never neutral, rather like the notion of transparency. However, different Member States are using different approaches and are at different stages in building their vocational training and qualifications systems, offering a wide range of situations and projects which would be extremely difficult to bring together. This fact especially justifies the need to put Community action principles into perspective in vocational training and certification, especially with regard to establishing a knowledge society.

2. The Europe of certifications

Since the first Treaty of Rome, Europe has focused on qualification and its recognition, even if the concept of certification appeared relatively late on. This led to the setting up of very different measures and processes: these currently coexist and are embodied in different systems of certification corresponding to contrasting models that define the relationship between training and employment and the working of the labour market. This was also visible in the changes in the structures set up to deal with these questions and the methods used to bring them about. In short, these past 50 years have seen many great leaps forward and changes in direction showing:

- (a) hesitations, trial and error, false starts, resurgences and interlacing in an attempt to find a single concept of progression that can be programmed to reach a single system;
- (b) that we are still finding our way forward, still writing this story and implicitly bring to the fore the question of whether it is not sometimes better to manage contradiction rather than seeking compromise at any price.

The following presentation identifies four movements corresponding to the arrangements mentioned above. In order of appearance they are: directives; education and training; correspondence and transparency; and the education and training 2010 objectives. For each of these, we will indicate the mode of governance that applies and the measures that it mobilises. Higher education will be covered separately because, traditionally in Europe, there has always been much attention focused on this area.

2.1. The directives

The story begins with the signing in 1957 of the Treaty of Rome setting up the European Economic Community and the Common Market. As far as the issues covered in this article are concerned, the most important element is contained in the chapter on 'freedom of establishment' and concerns very particularly

'diplomas, certificates and other evidence of formal qualifications' (Art. 57, see Box 1).

From this treaty onwards, the certification of professional qualifications has been covered by rules that are mandatory in the Member States, as they flow from Directives.

These texts of Community law aim to ensure 'mutual recognition of diplomas, certificates and other evidence of formal qualifications', initially for unsalaried activities. They specifically targeted the liberal professions. Following the logic of a common market, lack of mutual recognition of qualifications concerning these professions and their use was a contravention of the freedom of

Box 1. Treaty of Rome – Article 57

- (a) In order to make it easier for persons to take up and pursue activities as self-employed persons, the Council shall, on a proposal from the Commission and after consulting the Assembly, acting unanimously during the first stage and by a qualified majority thereafter, issue directives for the mutual recognition of diplomas, certificates and other evidence of formal qualifications.
- (b) For the same purpose, the Council shall, before the end of the transitional period, acting on a proposal from the Commission and after consulting the Assembly, issue directives for the coordination of the provisions laid down by law, regulation or administrative action in Member States concerning the taking up and pursuit of activities as self-employed persons. Unanimity shall be required on matters which are the subject of legislation in at least one Member State and measures concerned with the protection of savings, in particular the granting of credit and the exercise of the banking profession and with the conditions governing the exercise of the medical and allied, and pharmaceutical professions in the various Member States. In other cases, the Council shall act unanimously during the first stage and by a qualified majority thereafter.
- (c) In the case of the medical and allied and pharmaceutical professions, the progressive abolition of restrictions shall be dependent upon coordination of the conditions for their exercise in the various Member States.

establishment ⁽¹⁾, therefore hindering freedom of the market. They should, therefore, be dealt with in a particular way and could not be circumvented. Within the European Commission, the Directorate-General for the Internal Market was granted responsibility for preparing and monitoring these directives, a responsibility which it still exercises.

The Directives concerning the liberal professions are the best known, as are the difficulties and delays involved in their adoption. Although freedom of establishment was formally acquired for architects in 1965, it was only granted to doctors in 1976, nurses, dentists and lawyers in 1979, and pharmacists in 1987 – 30 years after the Treaty was signed.

In fact, some 15 Directives were adopted over the years, including all the professions regulated in some countries even if they are not in others (for example ‘master craftspeople’ which do not cover the same specialities from one country to the next, a whole series of professions in maritime transport, etc.). The successive extensions of the scope of the Directives have also included wage-earning professions. Most of them require ‘recognition on the basis of coordination of minimum training conditions’ (European Parliament and Council, 2005, p. 35).

The Directive on the general system for the recognition of qualifications was published in 1999. It stipulates that ‘a Member State may not, on the grounds of inadequate qualifications, refuse to permit a national of another Member State to take up or pursue any of the activities listed in Part One of Annex A on the same conditions as apply to its own nationals, without having first compared the knowledge and skills certified by the diplomas, certificates or other evidence of formal qualifications obtained by the beneficiary with a view to pursuing the same activity elsewhere in the Community with those required under its own national rules’ (EP and Council, 1999). The activities concerned cover nearly all economic activities. Here again, training and its contents are at the very heart of the definition of certification, leading

to the corresponding amendments in national contents.

Since September 2005 a single Directive (European Parliament and Council, 2005) has consolidated all the mandatory rules applicable in this field. Its title refers to the ‘recognition of professional qualifications’ and, in line with all the previous versions, these professional qualifications are defined on the basis of the duration and/or contents of the training programmes that allowed them to be obtained. A list is generally included of the bodies that are authorised to issue the diplomas or qualifications to be recognised in this framework.

The Directive uses a scale of five training levels to classify the different types of training, diplomas and qualifications. These five levels are first defined on the basis of the certification attributed (attestation of competence; certificate or diploma) and refer to the organisational structures of the education and training systems (primary, secondary, post-secondary, higher education). For each level, they specify equivalence between general, technical and professional teaching.

The first way of approaching transparency of qualifications was, therefore, the rule of law. It bases Europeanised certification on a foundation of training content and on the renown – the quality – of the (national) players who provide it and are expressly mentioned. These two pillars are also the foundation upon which the trust of the States in terms of certification and qualification rests. The Directives approach lays down the first principle of European regulation, known as the ‘Community method’ of integration through law ‘which transfers sovereign powers to supranational bodies with the right to legislate, but also the power to sanction States that do not respect the rules’ (Georgopoulos, 2005, p. 1). The European Court of Justice deals with complaints concerning non-respect of the texts.

The Directives on the recognition of professional qualifications fit into a professional market pattern. Regulated professions are the symbol of this and act as a filter for qualifications and their certification in the labour market. As regards the issues

⁽¹⁾ Part 2, Title III, Chapter 2 of the treaty.

discussed in this article, the Directives were an important instrument in bringing together training contents linked to the awarding of evidence of formal qualifications. Certification skills represented the lever that made this convergence necessary.

During this time, Community concerns about education and vocational training were diversifying. None the less, all the work done within the Directives has long been considered as something set apart from the concerns of most training experts: this work concerned legal and legislative engineering and the fact that they have an influence on the contents and modes of organisation of education and training systems was not taken into account. Thus, initiatives in the specific field of education and training rapidly developed at Community level in almost total ignorance of the work done in a Directorate General whose named purpose had little to do with them. The nearly simultaneous publication of the last Directive that defined five levels and the EQF proposing eight such levels is the most recent example of this phenomenon.

2.2. Education and training

2.2.1. The European Social Fund

An analysis of the history of Community education and training policy brings us up against another kind of paradox. The Treaty of Rome clearly excluded education and educational policies from the scope of Community powers and recognised them as falling exclusively under national sovereignty. However, vocational training was governed by employment policy and, therefore, Community powers under the responsibility of the ministers responsible for it⁽²⁾. That is why the implementation of Article 123 of the Treaty of Rome creating the European Social Fund and Article 128 which opens Community powers to vocational training comes under the responsibility of the Directorate-General for Employment and Social Affairs.

From 1961, Commission documents mention '[...] the creation of a European information,

Box 2. Treaty of Rome – Article 128

The Council shall, acting on a proposal from the Commission and after consulting the Economic and Social Committee, lay down general principles for implementing a common vocational training policy capable of contributing to the harmonious development both of the national economies and of the common market.

documentation and research centre whose terms of reference were to disseminate documentation and information on vocational training, and to study, as directed by the Commission, technical questions associated with the realisation of a common policy' (Petrini, 2004, p. 47). This aim is reiterated in 1972 in the form of a 'European institute for the scientific study on vocational training' (p. 52). However, Cedefop was not effectively set up until 1975 (Section 2.3). A common vocational training policy never saw the light of day. For the European Social Fund, vocational training was understood at the time as the professional retraining of employees ('re-education' was the term used at the time). However, the European Social Fund became the chosen instrument for the different waves of new Member States for setting up their initial and continuing training policies, and particularly for learning. In fact, the bulk of European investment in vocational training actions is made by the European Social Fund and mainly concerns sectors of the public most at risk in the labour market, especially young unqualified school-leavers. In this context, it is not a matter of certification.

2.2.2. An institutional development in several stages

In parallel, a number of initiatives were introduced to bring together the practices and systems of the Member States. The education ministers met for the first time in 1974 without a legal base, driven only by political aims. The previous year, in 1973, the Directorate-General responsible for research had begun to include educational matters among its activities and it was this Directorate-General that implemented the very first decisions taken

⁽²⁾ For countries like France, in which initial vocational training was organised under the auspices of the national education ministry, this meant that until the end of the 1990s this ministry was absent from Community decisions on vocational training, because it was not invited.

in this field. Initially ⁽³⁾, there was cooperation on four themes:

- (a) 'cooperation among universities with particular reference to student exchanges;
- (b) equal opportunities for girls in secondary education;
- (c) the education of second-generation immigrant children;
- (d) the transition of young people from school to adult and working life' (Sellin, 1999, p. 18).

In 1981, responsibility for education and training actions was passed to the Directorate-General for Employment and Social Affairs, where it gave rise to the setting up of a specific Directorate within the Directorate-General for Employment and Social Affairs, different to the unit responsible for managing the European Social Fund. Other areas for cooperation were also added at that time: 'new technologies, the promotion of occupational and management training in small and medium-sized enterprises and new local employment initiatives, continuing training and alternating training' (Sellin, 1999, p. 18). These diverse and fragmented actions from 1985 onwards led to the creation of other, no less diverse and fragmented European programmes in education and vocational training: PETRA, for the transition from school to working life; FORCE, for the development of vocational training in companies; Eurotectnet, for the promotion of innovation in vocational training as a result of technological changes; IRIS, for promoting equal opportunities for women in vocational training; Erasmus, Comett, Lingua, etc. In 1989, Education and Vocational Training DG became a Human Resources Task Force responsible for managing all these programmes. The organisational structure of the Task Force provided greater operational facilities to the activities as it came under the direct authority of the Commissioner and the Director General.

This retrospective study shows how Community responsibility for education and training became progressively institutionalised. However, concerns about qualifications and certification are hardly mentioned as such. They are sometimes included in certain of the projects financed by the different programmes. One of the most striking examples from the early 1990s was the Euroqualification

project, jointly financed by the European Social Fund. It brought together the bodies responsible for adult vocational training in 11 of the 12 Member States of the time. A large number of its activities were aimed at common validation/certification of different training specialities.

A quantum leap was achieved with the Maastricht treaty. Signed in February 1992 and entering into force more than one year later, in November 1993, the treaty was decisive for two reasons: it defined a new element of political governance – the subsidiarity principle – and it included education and training in the various policies to which this new subsidiarity would thenceforth apply.

In education and training, the content of the actions in which the Commission could be involved was covered by Articles 126 and 127 of the Treaty. Certification appeared in the domain of education, when it involved encouraging 'the academic recognition of diplomas and study periods', but that does not concern vocational training *stricto sensu*.

Box 3. Maastricht treaty – Article 3B

According to the subsidiarity principle 'the Community shall take action [...] only if and in so far as the objectives of the proposed action cannot be sufficiently achieved by the Member States and can therefore, by reason of the scale or effects of the proposed action, be better achieved by the Community'.

A significant institutional change consecrated the new importance of education and training in EU policies very soon after the Treaty entered into force – a new Directorate-General was created in 1995. It was the 22nd and was named Education, Training and Youth Directorate-General. The Task Force was dissolved, and the new initiatives in education and training would henceforth emanate from this Directorate-General. A new Community legitimacy was born. The Directorate-General was to change name in 2000 (Directorate-General for Education and Culture – DG EAC) while maintaining the same powers, notably responsibility for the application of subsidiarity within its field.

⁽³⁾ The rest of this section is broadly based on the work of Sellin (1999)

The new Directorate-General would gradually lay the foundations of a certain kind of European communication in education and training. When it was set up in 1995, it was responsible for rationalising the different programmes, grouped together or recast into two main ones: Leonardo da Vinci (for vocational training and Article 127 of the Maastricht treaty) and Socrates (for education and Article 126).

Through these programmes – using its annual programme and the choice of the themes of its calls for tender – it would bring forth new initiatives in certification, education and training. A number of projects aiming to gather together the contents of existing training and qualifications, but also to build new qualifications, were born and died.

The main player in this subgroup was the European Commission, which proposed areas for experimentation to the decentralised players. These areas concern both training and certification and, more recently, validation of outcomes. Their validity was limited to the partners involved and, despite significant efforts to publicise and publish them, their impact on national measures was low-key. Several summaries were made of these works, but their implications for the national systems were not really considered and taken on board either upstream or downstream.

It is perhaps no coincidence that it was this same DG EAC which in 2004 made the proposal for an EQF, one of the aims of which, although perhaps not consciously expressed, seems to have been to push national systems forward through certification. Is this evidence of ‘tiredness’ of trying to generate developments ‘from within’ and trying subsequently to achieve this with the help of an external instrument?

2.3. Correspondence and transparency of qualifications

This strand of European effort on certification was launched under the responsibility of the European Centre for the Development of Vocational Training (Cedefop). This body was created in 1975, at the same time as the European Foundation for the

Improvement of Living and Working Conditions (Eurofound). The institutional life of Cedefop and its developing relationships with the various services, Directorates and Directorates-General of the Commission have been marked by a certain amount of hesitation and some negotiation concerning the sharing of responsibilities (Varsori, 2004). These two bodies legitimately set up to act in the field of vocational training were to abide by different principles and modes of action.

This section covers two of the processes that were initiated and led mainly by Cedefop. In fact, they both follow very similar principles of action which consist of explaining the contents of training and/or employment included in the qualifications held by individuals.

Subsequent to its three-year work programme adopted in 1985, the centre brought into ‘its regular fields of intervention [...] new issues as well, for example the harmonisation of workers’ qualifications in the various Member States and the use of new technologies in vocational training, in particular information technology. The first objective gave rise to a detailed study in which many Cedefop officials were to be involved [...]’ (Varsori, 2004). We shall start with that one.

The correspondence operation consisted of comparing, term by term, the contents of working activity expected from the different professions defined by their title. In this exercise, the term training content is no longer used, and is replaced by activity content: what one should know how to do (‘job descriptions for occupations or groups of occupations’ (Council Decision of 16 July 1985 ...)). In different countries, this depends on the ways in which employment is organised, the results of collective bargaining and the professional classifications resulting from them. This was a highly controversial and long-winded exercise that did not provide many advantages in practice. It concerned professions at ‘qualified worker’ level ⁽⁴⁾ in 19 sectors.

It was then that a five-level scale was drawn up. Each level is defined on the basis of two dimensions: the nature of the training providing access to the level and the professional activity generally reserved for the holders of such training. It is not a question of certification *stricto*

(4) Assimilated to European level 2.

sensu, but there is an underlying hypothesis of a correspondence between training and employment. Despite the title ‘activity content’, one of the main benchmarks is the organisation of school curricula. Even though it is considered to hold them back, the organisation of education and vocational training systems is still the basic reference for understanding qualifications levels.

‘The enormous work undertaken to draw up this correspondence system may appear disproportionate in view of the results achieved. [...] the search for a common definition leads to establishing a sort of lowest common denominator among countries and requires a great many notes to be taken on the peculiarities of each country [...]. The definitions achieved do/did not correspond either to a European situation, which (was) in any case purely abstract, nor to any real national situation’ (Merle and Bertrand, 1993).

The operation itself was abandoned, owing to the lack of any real prospect of implementing it ⁽⁵⁾. The results led to the preparation of a standard information sheet, which should be especially useful to migrant workers who need to have their qualifications better recognised. The last correspondence tables were published in the Official Journal of the European Communities in December 1993. The possibility should not be ruled out that its principles of action, including the ‘information sheet’ and especially the level grids, may have inspired certain later activities, including that of the Transparency forum. This forum also sought to complete the certification signal and to influence its form. Indeed, adopting a new approach, Cedefop set up the European Forum on the transparency of professional qualifications with the agreement of the European Commission in 1998. It brought together the social partners and national authorities responsible for education and vocational training and aimed to find new solutions to make the content of professional qualifications easier to understand. Two documents were drafted from the existing material which completed and commented on individual pathways and all forms of qualifications held by individuals: the European

curriculum vitae and the descriptive supplement of the certificate. This was essentially an investment in form, which does not in any way change the signal itself but clarifies it somewhat. Qualification is understood to cover training, whether or not it has led to the awarding of a certificate, professional experience and a whole range ‘of personal skills and competences’ acquired in the course of everyday or professional life. At this point, the aim was not to create a super framework to define categories in which to place these different qualifications and competences. The proposal was to classify them by explaining what they were.

This work was then assessed by the ministers of education and vocational training in their Copenhagen Declaration of November 2002: they were to take the material as the basis for requesting the setting up ‘of a single framework for the transparency of qualifications and competences’ (European Parliament and Council, 2004). To achieve this, the forum was replaced by a technical working group responsible for establishing a link between the previous work, other international efforts (diploma supplement and language passport ⁽⁶⁾) and the ‘Europass training’ courses.

In its current form, Europass, which was adopted in December 2004, can be considered to be the ‘child’ of these approaches. It is based on an approach involving a portfolio of skills including qualifications, among other information. Instead of putting all the contents of education or professional activities into perspective, the certificate supplement (for professional education) or the diploma supplement (for university education) lists the ‘elements of competence’ acquired through the training followed. These act as the link with the job by listing the sectors of activity or types of job accessible to the holder of the document.

This sets up a ‘practice’, which does not follow such formal principles of regulation as a Directive, but is nonetheless rendered mandatory for all players. It may be tempting to think that this was sufficient with regard to the aims of transparency and readability. Subsequent developments would seem to indicate that this was not the case.

⁽⁵⁾ This was despite a resolution from the November 1990 Council which ‘decided on extending the work [...] to the other professions on all levels of vocational training’.

⁽⁶⁾ Developed by Unesco and the Council of Europe.

2.4. The education and training 2010 objectives

2.4.1. Knowledge society

A new qualitatively significant stage was reached in March 2000 at the Lisbon European Council. From this date, Community initiatives increased in the field of education, training and, slightly later, in certification. Everything was happening very fast, and we could be forgiven for wondering whether this haste did not tend to compromise the content.

Supporting a new strategic aim set in Lisbon ‘to become the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth with more and better jobs and greater social cohesion’⁽⁷⁾ education and training were granted a vital mission: ‘to adapt both to the demands of the knowledge society and to the need for an improved level and quality of employment’⁽⁸⁾. Three priorities were set, one of which was to improve the transparency of qualifications.

The Commission was asked to present a series of proposals setting out future aims for education and training and a work programme for achieving them. These proposals were then adopted by the Barcelona European Council in 2002, as was the more detailed programme baptised Education and training 2010. The subtitle ‘Diverse systems, shared goals’ is important because it acts as a bridge to a new mode of European governance – the open method of coordination – unveiled in Lisbon. This method aims to transcend national and societal differences by setting a series of guidelines and common aims that all of the parties undertake to attain. These aims are accompanied by indicators and a Community timetable, with each Member State undertaking to take the necessary national or regional measures to achieve the common goal. Each Member State is free to choose how to do this as long as the common goal is reached. A process of assessment, monitoring and peer review makes it possible to make any

necessary adjustments to the guidelines and objectives. ‘This mutual exchange of information on the basis of common denominators should lead to a progressive convergence among the States in the fields concerned by the experiment’ (Georgopoulos, 2005).

The open method of coordination (OMC) is synonymous with institutional rebalancing. ‘Within the OMC [...] the Commission is not the driving force of integration. The centre of gravity is shifted towards the European Council (Georgopoulos, 2005), an eminently political body. [...]. It is surely not by chance that these alternative modes of regulation appear in domains where it is especially difficult to convince the Member States to give up their power to the Community, whilst the convergence of national policies seems indispensable for the advancement of European integration’ (Georgopoulos, 2005).

These domains include vocational training and education. The Education and training 2010 programme set out a list of 13 operational aims, which eight and then 12 working groups were responsible for specifying and later for putting into practice. A series of indicators accompanies the list. In March 2002, certification proper was still not covered by any of what were known as the Lisbon objectives or indicators.

Professional teaching and training were hardly touched by the process of rapprochement at work. However, when the Directors-General for vocational training met in Bruges in November 2001, they started a process to consider the way in which professional teaching and training could also benefit from closer cooperation. This is how certification found its way to the heart of the discussions.

The proposals of the working group were approved politically at the March 2002 Barcelona European Council. The Education and Vocational Training Council and the subsequent Copenhagen European Council, both in November 2002, laid down four more specific priorities linked to systems of vocational education and training (VET); strengthening the European dimension and

⁽⁷⁾ Presidency conclusions, point 5.

⁽⁸⁾ Idem, point 25.

cooperation between VET systems; transparency, information and guidance; recognition of competences and qualifications; quality assurance. The Bruges-Copenhagen process was born. Once established, it was placed within the broader framework of the Lisbon objectives for 2010.

Among the second and third of what are defined as the Copenhagen priorities is a very direct indication of the two opposing aspects of the interest in certification of qualifications: one of them establishes Europass (see above), an approach essentially based on a portfolio of skills that seeks to bring together job providers and job seekers; the other suggests the idea of creating 'reference levels, common principles for certification and common measures, including a credit transfer system for vocational education and training' (Council Resolution of 19 December 2002 ..., 2003, p. 4), which is part of a much more normative approach to organising a European system of qualifications. This second approach materialised around the proposal for an EQF and a system of credits that can be exchanged for vocational training (the ECVET).

2.4.2. European framework and credits

One of the working groups that emerged from the Bruges-Copenhagen process was responsible for developing a methodology for setting up a credit transfer system for vocational training. At the end of 2003 this group, via Cedefop, mandated -the UK's qualifications and curriculum authority to organise a group of experts to study the conditions under which a scale of levels of qualifications could generate areas of trust among European VET partners. This trust could be used to build an agreement on an, as yet, undefined European system of credits (Cedefop, Coles and Oates, 2005). A document proposing an eight-level scale was drawn up in the three months between December 2003 and March 2004. Such a level scale would not be sufficient in itself and that trust would depend on the existence of a complete framework explaining the levels through the use of descriptors ⁽⁹⁾; these the study proposed to define both from the use to which they could be

put by the labour market (learning expressed in terms of results) and from the training system (the study and training pathways followed previously). In addition to this was a concern for quality checks on the processes, which would not be carried out by this group.

In parallel, the Higher School for Commerce group in Toulouse undertook a study on the types of knowledge, skills and competences (Winterton et al., 2005) that should help in creating descriptors by levels. Its impact on the final shape of the official proposal from the Commission for an EQF was not clarified, as the European Commission took the initiative regarding the different working groups that emerged from Lisbon and Copenhagen Councils by tabling a proposal in November 2004 for an EQF. To a certain extent, this proposal overtook the work done hitherto on the transfer of credits: instead of completing them, which the group had been working to achieve, it preceded them by defining an EQF which sometimes appears to overlap the considerations of the group without actually matching them. Moreover, the group rejected the last-minute proposal for adoption made just before the presentation to the group of Directors-General for vocational training. While the plan had been for the levels to help to classify credits, the EQF began by defining levels without paying attention to their relationship with such credits. In fact, this equivalence has still not been established.

This EQF proposed to create a common reference stated in terms of learning outcomes expressed in 'knowledge, skills and competences', classified into eight levels, as a benchmark for comparing the different existing national qualifications. It would be left up to the Member States to classify the qualifications on this new scale. A peer review exercise would, however, serve to provide overall consistency in the new system.

At present, therefore, we have: a proposal for an EQF which was submitted for consultation at European level; a proposal for a European system for the accumulation and transfer of credits exchangeable for VET (ECVET), redrafted following the publication of the EQF, which should

⁽⁹⁾ One of the authors had previously been working for the OECD providing advice and monitoring their 'activity' on 'the role of the national systems of qualifications in promoting lifelong learning'. This summary report was published in 2005 under the title *Moving mountains – How can qualifications systems promote lifelong learning?* (OECD, 2005a).

be submitted for consultation at European level during 2006; and an initial reflection on the interpretation of the notions of knowledge, skills, and competences on an international level. There is still a great deal of confusion surrounding the process by which such proposals could be linked, because for the time being the groups are working separately. Cedefop's decision to join the virtual communities ⁽¹⁰⁾ dedicated to the first two dossiers could be a first step towards more general consideration. It posits the hypothesis that EQF and ECVET should be part of the same process, as exchangeable units and levels were the factors that brought together the forms of organisation of the European universities and their teachings (Sorbonne Declaration, 1998).

2.5. The university sector: precursor and inspiration?

The exemplary nature of the initiatives taken by university teaching has often been highlighted; they represent an additional strand that complements all of the initiatives already described.

The developments that took place in the university sector were started outside Community circles, and especially by the universities themselves. The universities then turned to Community policies as the basis for their project. From the outset, the legitimacy of a Community action was thus ensured by the main decentralised players. However, it should not be forgotten that European universities have been cooperating ever since they were first set up. More recently, before the Community became involved, other international organisations had already invested heavily in universities. The Member States of the Council of Europe signed a *European convention on the equivalence of diplomas leading to admission to universities* (Council of Europe, 1953) and in 1959 *the European convention on the academic recognition of university qualifications* (Council of Europe, 1959).

In September 1988, 80 European universities

signed the *Magna Charta Universitatum* in Bologna establishing the principles and means of cooperation among European universities. Among the resolutions taken was one on 'a general policy of equivalent status, titles, examinations (without prejudice to national diplomas)' ⁽¹¹⁾. From that year, a project organised within the Erasmus programme set a six-year period from 1988 to 1995 for testing the feasibility of a system of transferable credits between universities. Some 145 establishments took part and five pilot subjects were included: management, chemistry, history, mechanical engineering and medicine. The scope of this feasibility test was extended in 1995 to other specialities and establishments. There was an effort to include non-university establishments among these.

This 'snowball' process that was started and continued with the support of European programmes received its initial political approval with the Maastricht Treaty. At the Sorbonne in May 1998 and Bologna in June 1999, the initiative that emerged from the establishments became an entirely separate Community policy: 'Towards a European higher education area'. The foundations were laid for today's generalised system: '[...] two main cycles, undergraduate and graduate, should be recognised for international comparison and equivalences. Much of the originality and flexibility in this system will be achieved through the use of credits (such as in the ECTS scheme) and semesters' (Sorbonne Declaration, 1998). 'This will allow for validation of these acquired credits for those who choose initial or continued education in different European universities and wish to be able to acquire degrees in due time throughout life' (Bologna Declaration, 1999).

In 1997, the Council of Europe and Unesco joined forces in Lisbon to sign a joint *Convention on the recognition of qualifications concerning higher education in the European region* (Council of Europe, 1997a). Both initiatives gradually crossed and complemented each other. The Community initiatives tended to be more normative while the others were more diplomatic in nature. Thus, when the Bologna Declaration (1999) on the

⁽¹⁰⁾ Effective since 15 May 2006.

⁽¹¹⁾ Text of the Magna Charta is available from Internet: <http://www2.unibo.it/avl/charta/charta.htm> [cited 19.9.2007].

Community process demanded the generalised implementation of the diploma supplement ⁽¹²⁾ – a document attached to a higher education diploma explaining the contents and level of studies that led to its award – it takes on board an initiative and a document drawn up by Unesco. Likewise, ‘the ENIC network, established in June 1994, replaced the previous separate networks of the two organisations (Unesco and the Council of Europe). It cooperates closely with the NARIC network of the European Union’ ⁽¹³⁾ (Council of Europe, 1997b).

However, the Community and international work programmes were running in parallel rather than together.

At Community level, it was quality assurance that led to the most recent developments in certification. At the 2001 Prague conference of higher education ministers, closer cooperation between recognition and quality assurance networks was encouraged. This was repeated in 2003 at the Berlin conference (ENQA, 2001; 2003), and covered two approaches:

- (a) the European Association for Quality Assurance in Higher Education (ENQA) was mandated to set up a reference framework and spread good practice (ENQA, 2001);
- (b) a joint quality initiative was organised among countries with comparable quality assurance systems and, more precisely, accreditation agencies (Austria, Belgium, Denmark, Germany, Ireland, Italy, the Netherlands, Norway, Spain, Sweden, Switzerland and the UK) ⁽¹⁴⁾.

Work was carried out in these two frameworks in a fairly autonomous way with a certain ‘tension’ between different assessment cultures. One culture involves guaranteeing quality through peer review and the other through standardised assessment processes by external bodies. This gives rise to two kinds of product:

- (a) *Standards and guidelines for quality assurance in the European higher education area*, prepared by the ENQA and published in 2005 (ENQA, 2005);

- (b) a list of generic descriptors of qualifications corresponding to a bachelor’s, master’s and doctorate qualification applicable throughout Europe. They are commonly known as Dublin descriptors and were adopted in the joint quality initiative in 2002. This document regulates the competences that must be acquired to obtain a bachelor’s or master’s degree in a supradisciplinary way.

However, it was in Berlin in 2003 that it was first suggested ‘to elaborate a framework of comparable and compatible qualifications for their higher education systems, which should seek to describe qualifications in terms of workload, level, learning outcomes, competences and profile’. The Dublin descriptors should help in setting up the ‘overarching framework of qualifications for the European higher education area’ (Berlin communiqué, 2003, p. 4).

This higher education-specific process, developing at its own pace and with its own rules, was ‘caught up with’ by the processes emerging from Lisbon and Copenhagen. The choice to set up a single EQF for all forms of general and vocational education and training, defined in terms of results to be attained, led to the higher education cycles and their diplomas being included in the general system. However, the descriptors proposed for the EQF are different from the Dublin ones and the question remains as to why the Dublin descriptors were not used. Further, it still remains to be seen what the interface between real practice by establishments and the existence of this grid will be. In the meantime, it has mostly been added on to the real situations that had been set up in their absence. Advances in higher education are therefore cited both as examples and inspirations. But could they then be ‘threatened’ by external developments?

Higher education was the precursor of a concerted approach in terms of common levels and exchangeable transferable credits. However, to get as far as it did, it has had to build upon a long history of cooperation and dialogue, a shared

⁽¹²⁾ Cf. paragraph on Europass. This Diploma supplement, also covered in the Certificate supplement, recalls the ‘information file’ prepared during the ‘correspondence’ period mentioned above.

⁽¹³⁾ ENIC: European Network of Information Centres.
NARIC: National Academic Recognition Information Centres.

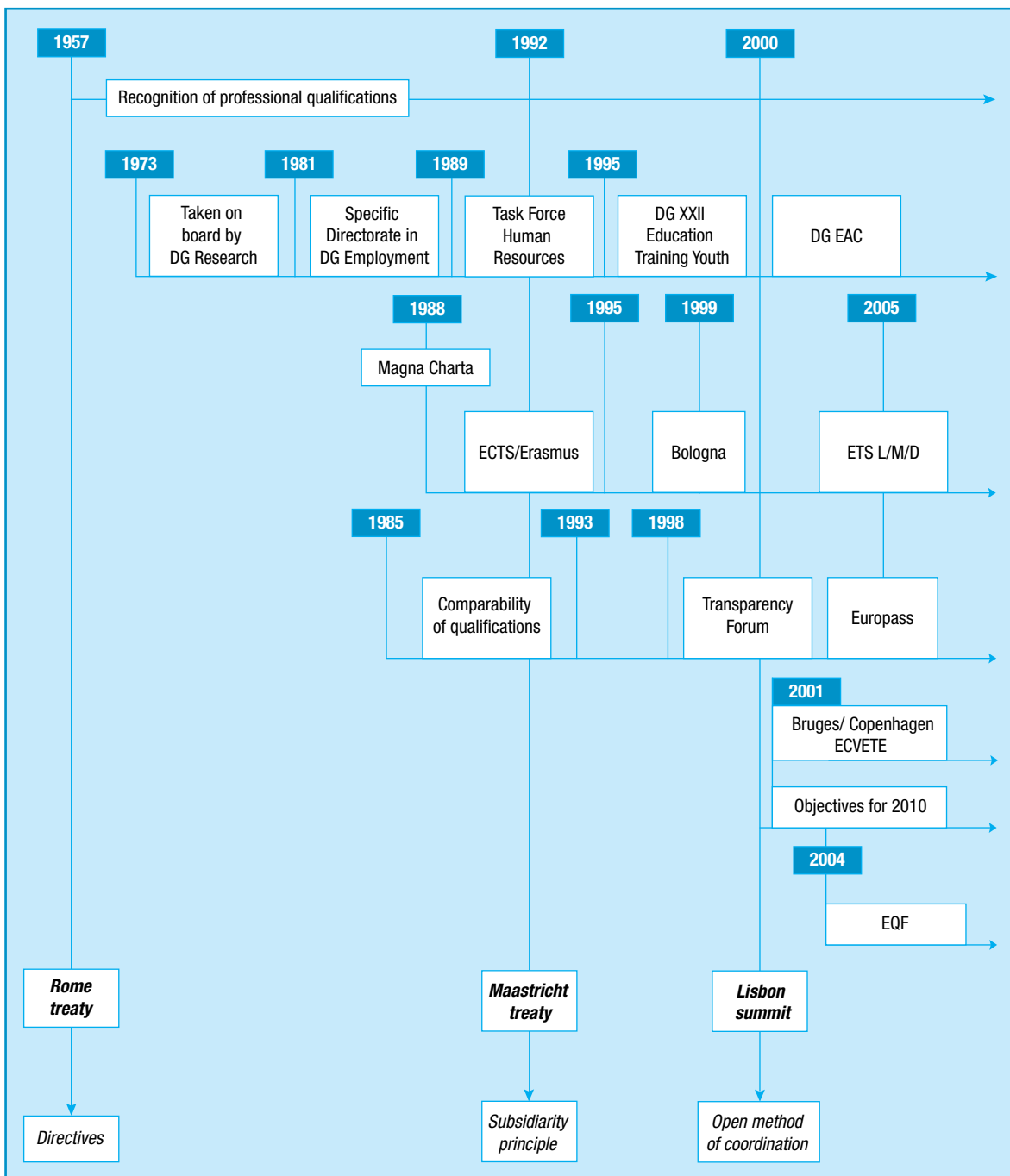
⁽¹⁴⁾ See in Internet: <http://www.jointquality.org> [cited 20.9.2007].

interest of organisations in the face of wider competition and material and cultural ‘survival tactics’; – this has given them their legitimacy. What about schools and vocational education? Are we not asking them to do in less than 10 years (by 2010) what higher education took nearly 50 years to achieve? The national VET systems are characterised by a high heterogeneity and less experience with international/European

cooperation at institutional level. The task is huge (Le Mouillour and Teichler, 2004).

Starting from these relatively fundamental differences, can we really expect the practices developed by higher education to serve as inspiration for what is being sought at the other levels of qualifications? If so, under what conditions? (Le Mouillour and Teichler, 2004).

Figure 1. **Community level initiatives on training qualifications and certifications**



2.6. Where are we now?

Figure 1 lists the different initiatives described and makes it possible to view all that are still active at EU level in training, qualification and certification, which are indicated with an arrow.

An attempt to introduce some transparency has led to mushrooming of concepts. We are left with a sense of fragmentation of different ideas: directives, correspondence, transparency, a common reference framework, accumulating credits, etc. These concepts can be explained, as outlined, by analysis of progression in modes of governance, but they are divergent in their content (training, professional activity, competences), the definition of their levels, the working of the labour market on which they are based, their European

'managers' and national partners, the degree of commitment of their players and the way in which these players are appointed.

On this last aspect, there is temptation to criticise European wastefulness, the regular scapegoat for everything that is wrong, blamed for imperialism and incompetence, either alternately or simultaneously. Another reading is to admit that the contradictions and uncertainties shown up in the previous analyses are the expression of a reality under construction, with all its contradictions and uncertainties. This latter analysis was chosen in the following development and is based on how the old, new or future Member States position themselves in setting up a system of vocational training, the nature of the frameworks that can encourage them to be built and the role played by certification.

3. National point of view

The following development aims to state clearly the national situations with regard to EU proposals on harmonising qualifications. It is based on two starting premises:

- (a) not all the States are at the same stage in building and designing their vocational training system. To what degree are they ready to adhere to the European proposals?
- (b) more particularly, one of the stated aims of the draft EQF is the 'pull effect' of such a framework for States that have still not set up their own national qualifications framework. We shall, therefore, try to find out how the countries concerned can and want to make the most of this proposal.

3.1. Data and methods

The task draws on the national experts' reports and the answers to the *Questionnaire for the European Directors-General for Vocational Training* (Annex 1) produced as part of the preparation work for the Maastricht conference of 14 December 2004, *Achieving the Lisbon goal: the contribution of VET* (Leney, 2004). These documents were addressed to 31 countries: the EU-25 plus Bulgaria, Iceland, Liechtenstein, Norway, Romania and Turkey. The response to the questionnaire is not available for the Czech Republic. This already points to limitations of national representativeness in vocational training: separate answers from Flanders and Wallonia means that a distinction can be made between them, but what of the UK, where it is acknowledged that Scotland has one concept of vocational training and a very different qualifications framework from England and Wales? Similarly, how can we deal with countries where the regional authorities have a broad degree of autonomy, such as Spain and Italy? As things stand, we can only raise the question, aware that this problem is not fundamental to our concerns. Finally, national monographs focusing on the setting up of qualifications systems were added to this basic material.

A question of method arose: was it necessary to use a restrictive definition of the terms 'qualifications systems and frameworks', like those proposed by the OECD (OECD, 2006) or to see the way in which each State understands these terms? The first solution would have had the advantage of simplicity but, unfortunately, it was inapplicable. In fact, available documents show a certain divergence in the definitions they propose (Section 4.3.1). The second solution was therefore adopted. The starting principle was that all countries had a system of certification, however incomplete, imprecise or implicit, that this certification system could be related to the system of vocational training of which it was a part, and was characterised by qualifications frameworks that specified the conditions for building and assessing these. We differ from the OECD work mentioned above, which defines a kind of 'ideal-typical' qualifications system; we consider national qualifications systems as products that are situated in space and time.

3.2. National qualifications systems and frameworks

3.2.1. A process over time

Training systems are not all at the same level in the different countries and the admission of the new Member States has only accentuated this phenomenon (Masson, 2003). The answers from the different countries reveal a sort of chronological model, with a series of principal stages that define what we can consider as an obligatory pathway followed by all the national systems:

- (a) the setting up of a national system of exams providing a guarantee of quality and cohesion and regularity of assessment;
- (b) the building of standards (frames of reference) that define both the objectives of training in terms of what the individual should know and the criteria and situations of assessment;
- (c) a 'permeability' phase that seeks to create pathways, diversify routes, establish gate-

ways. Worthy of note at this stage are the debates on the degree of generalisation and specialisation of vocational training and their modularisation;

- (d) the most specific debates on certification appear with the drawing up of national lists and considerations on the validation of prior learning and experience.

Table 4 illustrates this progression by indicating the countries that have put special emphasis on one or other dimension. It should be possible to refine these different phases, as there is a certain overlap between them. A degree of regularity observable is one area to be explored in order better to understand the phenomenon. This succession should be left open and not completed. Is the draft EQF the next stage? Only time will tell.

Each of these phases constitutes a kind of equilibrium that can be characterised by a system of certification organised around frameworks that are particular to it. Countries that mention levels simply refer to the ISCED nomenclature, without further comment. The questionnaire did not ask respondents to develop this issue, which makes it impossible to know the degree to which it is used in all the countries. Nonetheless, it is possible to approach this question by looking at fairly divergent national cases.

3.2.2. On certain uses of levels

All national systems involve a hierarchy of training pathways, accompanied by a hierarchy of qualifications which they are a means to achieve. VET is placed higher or lower in this hierarchy in accordance with the history of education systems, employment and professional relations (Dauty, 2006). Nevertheless, the formalisation of a nomenclature of qualification levels has not always been felt to be either useful or necessary.

However, since the progressive setting up of the European labour force surveys and the adoption in 1985 of a five-level nomenclature adapted from the United Nations ISCED (Section 2.3), the Member States have been obliged to take a stance regarding such classification of their education and training.

Later, the debates fuelled by the wave of reforms (including the NVQ) which swept through the qualifications systems of the English-speaking world (Australia, England/UK, Ireland, New Zealand, South Africa) in the 1990s increased the attention paid to these issues of levels. More recently, the decision to make greater and almost systematic use of benchmarking between countries to set up the open method of coordination (Section 2.4.1) concerning non-obligatory EU policies led to the need for such divisions into levels to make it easier to quantify 'education-leavers'.

Table 1. **Stages of development of national qualification**

Stages systems	Country examples
National examinations	Bulgaria, Poland
Setting up of standards (reference frameworks)	Bulgaria, Estonia, Hungary
Link upper secondary, initial training-vocational training	Austria, Finland, Iceland, Italy, Liechtenstein, Luxembourg, Norway, Portugal, Slovenia
Register of qualifications	Spain (<i>Catálogo nacional de cualificaciones profesionales</i>), France (<i>répertoire national des certifications</i>), Hungary (national register of qualifications), Austria, the UK (National qualifications framework)
Accreditation of prior and experiential learning	France, Slovenia, Finland.

Therefore, Member States have only begun specifically to classify their programmes and qualifications in the last 20 years. We shall now use three examples – Germany, Spain and Scotland, which are the three case studies in the comparison – to illustrate the ways in which national systems are modelled or remodelled around the notion of levels.

3.2.2.1. Germany

Qualification levels are the backbone of the German employment system in that, conventionally, qualifications and diplomas structure classifications. The links between qualifications and classifications are organised around two levels of qualification: an initial level corresponding to the dual training diploma and an advanced level corresponding to diplomas proving vocational training.

Revolving around these two levels are several systems of qualification that are distinguished in terms of the two or three management methods governing such qualifications: those regulated on federal, Länder or consular chamber level. These systems coexist but there is no horizontal link between them, which led the Germans to

consider that their system cannot constitute a framework in the European sense of the term (Cedefop, Westerhuis, 2001), as the subsystems are totally separate from each other.

Each of the systems grants the right to the use of qualifications (*Facharbeiter, Meister*) that link up to a hierarchy of responsibilities in employment. There is, therefore, a strong link both to the organisation of training and the organisation of the labour market, whoever manages the qualifications system concerned.

In 2001, Westerhuis proposed the following classification of professional qualifications granted by the three subsystems:

The strong debates that had preceded this classification by ISCED levels could be a foretaste of those surrounding a European common framework. The difficulties were linked to the fact that the ISCED nomenclature uses education duration to define its levels and the principles of organisation of the dual system did not stipulate any prerequisites in terms of education: only a mandatory school leaving certificate is required. There is, therefore, a difference in the level of education among the holders of a dual diploma ⁽¹⁵⁾.

Table 2. **Classification of professional qualifications**

	Qualifications regulated at federal (national) level	Qualifications regulated by the Länder (federal states)	Qualifications regulated at chamber level
ISCED level 3	State-recognised traineeship qualifications – <i>Facharbeiter</i>	Assistant qualifications (particularly in the services sector and for technical functions in scientific fields)	
	Qualifications in the health care sector	Qualifications in the health care and social services sector	
ISCED level 4	<i>Meister</i> qualification in the crafts, agriculture, institutional management or industry	State-certified, etc. (<i>Techniker, Betriebswirt</i> or <i>Gestalter</i> in conjunction with a specialism)	e.g. <i>Fachwirt</i> in banking, programmer, restoration mason, etc.
	Certified, etc. (e.g. <i>Fachwirt</i> in industry, social counsellor)	Advanced vocational qualifications in the health care and social services sector	

Source: Cedefop, Westerhuis, 2001.

⁽¹⁵⁾ In fact, in 2002, out of the 568 000 young people who completed their dual training, 31% had a primary school leaving certificate, 37% a 16+ secondary school certificate, and 14% a general or technological baccalaureate (*Berufsbildungsstatistik*, 2002).

However, the system considers that the acquisition of vocational training must be considered as a unit in itself, independent of what preceded it, especially as this is the cornerstone of the system of social and conventional relations. After many years of discussion, the end of training diploma is now classified under ISCED level 3.

This German example makes it possible to measure the societal importance of the certification of qualifications and thus the resistance to change that it can generate. This does not mean to say that new practices could not be set up as a result of internal or external pressures. Two recent examples directly linked to the notion of levels clearly show this: the definition of an ICT (information and communication technologies) pathway and the introduction of a level below that of the dual diploma:

In 1997, four new initial training professions and their respective qualifications were defined in the ICT sector when previously there had only been two, which had become obsolete (Reuling and Hanf, 2002). On this occasion, a long training and qualifications pathway was introduced that envisaged progression through vocational training in three stages known as specialists, operational professionals and strategic professionals. The first level defined 29 specialist profiles, one of which must be acquired to move towards one of the four profiles (qualifications) of the second level and then one of the two profiles (qualifications) of the third. This was the first time a long and differentiated progressive pathway had been defined that went beyond the traditional split into two levels. In addition, access to the 29 specialist profiles was not reserved for diploma holders in one of the four basic professions but was also open to people from different professional origins. It was now possible to enter the qualifications hierarchy laterally, which is consistent with the workings of a qualifications framework. Other sectors were to follow (Reuling and Hanf, 2002).

In 2003, a supplementary level was brought into initial training, targeting what were known as less theoretical professions or simple professions⁽¹⁶⁾. This training takes two years instead of three

and corresponds to unskilled or low-skilled jobs in companies, mainly small and medium-sized enterprises. The first cohorts of school-leavers are currently coming onto the labour market and their progress is being analysed.

If we add to all of this the schooling of the dual system⁽¹⁷⁾ authorised by the new law on vocational training, it is easy to see the pressures placed on a firmly-rooted and stabilised system that is attempting to respond to different internal and external demands: attempting to maintain the balance without staying still, knowing whether change always spells progress. What role would still be available to certification?

The fact remains that Germany is one of the first countries to have declared already that it intends to set up a national qualifications framework in the image and likeness of those recommended in the consultation for the EQF.

As for the progression grid presented in Section 3.2.1, Germany could be placed in c) and more than likely in d) as work is underway on the compatibility of a validation of outcomes using professional certification structures.

3.2.2.2. Spain

The starting situation⁽¹⁸⁾ for Spain is totally different. Its vocational training system is very fragmented, highly regionalised and was only formalised in terms of national qualifications very recently. In the early 1990s it was considered important to set up a national reference to act as a link and a form of regulation among different practices: at that time there was talk of 'building collective benchmarks in a system with a low level of professionalisation' (Lefresne, 2001).

When Incual, the *Instituto Nacional de las Cualificaciones* [national institute for qualifications] was set up in 1999, its main aim was to prepare a national system of professional qualifications based on a national catalogue of qualifications (CNCP). At that time three systems had just been set up: the national education ministry issued qualifications for initial training (vocational training qualifications); the labour ministry provided them for jobseekers (professional certificates); and the

⁽¹⁶⁾ Driver, dressmaker, qualified postal worker, etc.

⁽¹⁷⁾ Meaning exclusively school-based professional training, without work experience.

⁽¹⁸⁾ In 1986, when Spain joined the EEC.

social partners issued qualifications for continuing vocational training. The national catalogue of qualifications was made official through a law in 2002 followed by a decree in 2003. The first qualifications entered the catalogue through a decree of February 2004. In other words, these are very recent developments and, therefore, the Spanish system can only be described in terms of its potential. However, as far as the subject of this article is concerned, the processes followed and the choices made are important.

The first of these choices was not to try to make the existing qualifications systems correspond with each other; the Spanish framework does not adhere to the same principles of action as the Scottish one (Section 3.2.2.3). The Scots opted to have three blocks of qualifications in correspondence within one framework (Young, 2004). Here, new employment reference frameworks were created, with the help of a 'house methodology' drawn up by the Incual, which brings together definition of competence units and training modules under the definition of vocational qualification. In fact, the national qualifications catalogue is coupled with a modular vocational training catalogue. Each file defining a qualification includes the following headings: general competence, competence units, professional area and associated training. Competence units and associated training are then split into work experience and performance criteria, and the other into training modules. The training modules include a standardised definition of the professional profile of the trainer, specifying his/her minimum level of education and professional experience. This varies according to the level of qualification thus defined.

This very strong link between certification and training both contrasts with and contradicts the stated principles behind the setting up of an EQF-style framework. The possibilities for validating outcomes are not excluded but, for the time being, they are secondary in importance and will only be considered later in the process. As for the progression grid shown in Section 3.2.1, Spain would be at the end of b) and probably in c).

The units and modules thus defined must be applied to the qualifications already existing at the time the national catalogue was set up. These qualifications are supposed to use them to upgrade or redefine their own qualifications or certificates

and their training contents. It is uncertain whether vocational training for employees can be part of these mechanisms. Currently it is excluded from them and these mechanisms only concern qualifications issued by the national education ministry and the employment ministry.

Formalised use of levels in training and certification is not part of the Spanish culture. In social practice, there was a break around the holding of the *Bachillerato*, which determined the student's fate on the labour market and in subsequent studies. It is these vague European desires, like the ISCED, which led to the implementation of a structure on five levels, the real use of which still seems not to have stabilised. The catalogue rests on the definition of these five levels but, by the end of 2004, only the qualifications on the first three (the lowest) had been drawn up. The level descriptors work on the basis of professional activities that the individual must know how to perform. The level is, therefore, determined by links to employment and is different to the ISCED model that was announced.

The Spanish example is important because it describes the different functions of a system of certification. The fact that it was only recently created shows this even more clearly. In the words of one analyst of the system 'the national catalogue of qualifications and its annex, the modular catalogue of vocational training, join at the meeting place of three spheres – employment, education and economy' (Parra Abad, 2001).

We not only see the play between these three spheres but also between the central state and the autonomous regions, several of which had already set up their own qualifications system (e.g. the Basque country). Through its catalogue of professional qualifications, the central state thought it could be an obligatory reference, at least in the field of certification: according to the same analyst, the Spanish federal state, like the German federal state, could maintain its authority over the building of qualifications and reference frameworks while fully delegating the relevant theoretical and practical training to decentralised levels. Nevertheless, the question of levels and their capacity to regulate the labour market, or at least hiring arrangements, remains entirely unsolved. There is no guarantee or certainty concerning the social use of the system; its inclusion in collective

bargaining agreements, for example, which play a structuring role in the organisation of the labour market, is not ensured.

The Spanish experience should, therefore, be used as a test bed from which to draw lessons for a European system.

3.2.2.3. *Scotland*

The principles behind the organisation of qualifications in Scotland are clearly stated in their title: Scottish credit and qualifications framework. The choice was made to create a national framework using existing qualifications systems from elsewhere, and to organise them by levels and value of credits. This operation began in the mid-1990s and only concluded in late 2001.

The Scottish framework attempts neither to create new qualifications, nor to set about defining standards that would correspond to them. Its basic structure rests on an adaptation of the two existing main public systems: Scottish Qualifications Authority diplomas and higher education diplomas. To these were added Scottish vocational qualifications, which are the Scottish version of the English NVQs, relatively widely used in the regional system. Nonetheless, there are difficulties inserting these into the established framework in that the five levels of the Scottish vocational qualifications are broader than the 12 levels of the Scottish framework.

The 12 levels of the structure reflect the hierarchy of the education/training pathways. They bring together general and vocational teaching from secondary to higher level in a single hierarchy. They are designated by the qualifications (diplomas) to which they correspond. The definition of the levels provided by its managers is as follows: 'levels reflect the degree of complexity within a given group of results (to be acquired by) learning' (SQA, 2003). They are not linked to a given number of years of study.

The Scottish qualifications framework does not link up to training specialities. It is up to the professionals, in other instances and using other mechanisms, to make the link between generic level and specialised content descriptors of education or work experience.

An additional specificity of this Scottish framework is that it goes hand-in-hand with setting up a system of exchangeable credit units. The Scottish designers

of the system consider that the level attributed to the qualification is an important and reliable item of information for the employer, while the levels attributed to the units and the credits associated to them only have significance for the individuals and their training routes (SQA, 2003). The role of the framework is, therefore, twofold: to indicate the signal function of the qualification and to facilitate the progress of individuals.

To date, such a link between EQF and ECVET has never yet been made at European level, though the fact that the Scottish example is so often cited suggests that such a link is planned. Scotland could, therefore, be a two-pronged model pointing the way to future developments.

3.2.3. **Conclusions to be drawn from these particular cases**

These examples show at once how different countries have participated in a common approach to building a system of qualifications, pathways, gateways, and the particular way in which they participate. Although there is a certain convergence of the ways in which this process has occurred, the specific results are quite diverse. Good practice would concern the way in which this step was taken rather than the concrete results achieved.

It would be very instructive to develop a detailed mode of analysis following the example of the three countries mentioned above for all the States, and thence to monitor the way in which they bring these Community actions into practice.

3.3. **Towards a European system and framework?**

These three examples clearly show the diversity of the modes and conditions governing the way in which national systems adapt. There is nothing unusual about the gap between national situations and European objectives; it would be worrying if it were the other way around, as it is the role of the political instances to propose utopias, in the sense used by Henri Desroche: 'this form of criticism of existing society often provokes a kind of prospective imagination both to perceive the unknown possibilities in the present and to guide us towards a new future: it thus sustains the dynamics of society by the

trust it places in the inventive forces of human hearts and minds' (19). It remains to be seen what, in the current situation, can contribute to these dynamics, or oppose them.

3.3.1. Mobilising European objectives

One of the questions in the preparatory document to the Maastricht conference (Annex 1) sent to the national authorities is entitled *Coherence between national and EU policies*. It required to choose among the following statements the situation that best corresponds to ones country to describe the level of coherence between country policies and the Lisbon and Copenhagen processes:

- (a) there is coherence between the national policy and the European vocational training policy;
- (b) the Lisbon and Copenhagen processes have no direct influence on national policy. They are, however, broadly compatible;
- (c) the national policy and the Lisbon and Copenhagen priorities are divergent.

The answers are indicated in the Table 3. We can see immediately that no country mentions any divergence between its national policy and that of the EU. On the contrary, 21 of them insist on the coherence between both and the remaining 10 indicate a wide level of compatibility.

The 'coherence' column expresses the strongest convergence with the Lisbon and Copenhagen objectives and is the situation for the majority. Further, among the countries that indicated 'broad compatibility', the comments – some of which were better informed than others – show two types of reservations that do not concern the objectives themselves, but rather:

- (a) the way the EU works, and what we could call its ill-structured centralism;

- (b) the low degree of development of the vocational training system of certain countries, which currently feel unable to meet such objectives.

It would not be an exaggeration to say that the Lisbon and Copenhagen objectives are a mobilising force for the different Member States.

3.3.2. European objectives that are not very unifying

This overall agreement with the objectives of the EU policy by the representatives of the States nonetheless translates into a fairly different understanding of what vocational training systems should do. This is shown clearly by question 12 (Annex 1): 'the final question asks you to anticipate what may be the outcomes of aspects of your national strategy and policies for VET in the year 2010'. It was set out as follows: 'Below you will find a number of paired statements. They represent a range of planning priorities and outcomes. Please indicate for each pair of statements where – on a continuum – your country plans, realistically, to be in 2010 on the basis of current trends and expectations. If you give equal weight to both statements, your response will be on the middle point'.

Annex 2 lists the different expectations and illustrates the points on which there was agreement and the diversity of the national positions. Beyond a purely numerical description of the results, we can see that the position described as 'middle' is, exceptionally, the one with the most answers. The only quasi-Gaussian distribution concerns the question on the target and main aim of lifelong learning: to provide a good start for 'the young' or to provide continuing support for 'the old'. In the other

Table 3. **Coherence between national and EU policies**

Coherence	Broad compatibility	Divergence
Bulgaria, Denmark, Estonia, Finland, France, Germany, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Portugal, Romania, Slovenia, Spain, Sweden, the UK, Wallonia	Austria, Cyprus, Flanders, Greece, Liechtenstein, Malta, Norway, Poland, Slovakia, Turkey	

(19) Article on 'Utopia', Encyclopaedia Universalis.

cases, the trends that emerge do not correspond to differences in numbers with regard to an average making up a kind of centre of gravity, but express fairly opposing positions. This reinforces the value both of convergences and divergences and contradicts the representation of a common dynamics from which national variations would correspond to the speed at which they take part.

Aside from that, the points of agreement concern two subjects:

- (a) the unanimous recognition – to varying degrees – of the importance of the social partners in defining policy and decision making in vocational training;
- (b) the goal of fostering the acquisition of skills rather than knowledge that is attributed to vocational training.

There are divergences in other aspects. Slightly more countries consider that:

- (a) vocational training should respond to the needs of the labour market, rather than to general aims of society or individual development;
- (b) vocational training is mainly acquired from working life;
- (c) public bodies are the main agents of change in vocational training;
- (d) most teachers and trainers come from the world of work.

Finally, we can consider that the strongest opposition is expressed with regard to:

- (a) recourse to ICT, which most countries consider should be firmly rooted in the working and production process, rather than in simulated activities or long-distance learning;
- (b) European cooperation which, still for a majority, aims to create a flexible European labour market rather than protecting the groups or professions on the labour market.

It seems that each country can find something it likes, but with different presuppositions, and this hinders consensus and makes compromise difficult. Here is an example regarding the setting up of an EQF:

- (a) it is almost unanimously acknowledged that vocational training should foster the acquisition of skills rather than knowledge, which fits in with the spirit of this framework;

- (b) at the same time, training should respond to the general aims of society or of individual development;
- (c) the importance of the social partners in decision-making is stressed, but the draft framework is much less decisive on this matter;
- (d) there is continuing opposition between two concepts of the labour market, one based on flexibility, the other on the role of the professions, and the European framework attempts precisely to propose a third way.

3.3.3. A fragmented consensus

In order more precisely to assess the weight of a supposed European model, each country's position has been considered with regard to the corresponding situation for each opinion, coupled with the mode most frequently chosen by all the countries. The hypothesis is that the countries closest to this situation could be considered as the representatives and standard-bearers of this model ⁽²⁰⁾.

In that regard:

- (a) Lithuania, Malta and Slovenia are closest, with seven out of nine of their replies corresponding to it;
- (b) next come Finland, Flanders, Ireland, Liechtenstein, Luxembourg and Wallonia, with six answers agreeing out of nine;
- (c) Austria, Bulgaria, Cyprus (with one question unanswered), Hungary, the Netherlands, Norway, Poland, Romania and Sweden are closer to a higher degree than the average, with five answers agreeing out of nine;
- (d) Greece and Spain are further from the model, with four replies out of nine;
- (e) Denmark, Estonia, Germany, Iceland, Italy, Latvia, Portugal, Turkey and the UK have three out of nine;
- (f) France and Slovakia only have two out of nine.

Above and beyond this evidence of fragmentation, it is hard to find any strong connection between the countries within each group. Efforts to find any statistical proximity based on an analysis of the data do not provide any

⁽²⁰⁾ For the question on the origin of trainers and teachers, this led to two arrangements being maintained, corresponding to those mentioned most frequently and with the same number of answers.

conclusive results: the convergence between States is circumstantial rather than constant and the European objectives are sufficiently diversified to bring countries together without unifying them.

3.4. Conclusion

The Community objectives act to foster the development of national systems but they do not appear to draw these States close enough together for it to be possible to envisage the appropriation and implementation of a single qualifications framework at European level. This observation links with Michael Young's recommendations and warnings. Starting with an observation of the difficulties encountered when national qualifications frameworks, including those of countries outside the EU, such as Australia and New Zealand, were being set up, he insists on the need to adopt an 'incremental approach', stating: 'The countries that have tried to make a radical one-off break with their previous qualifications

systems have had the most acute difficulties. A radical break gives neither practitioners nor other stakeholders any benchmarks to test the new ideas about outcomes and levels against their experience. Incremental approaches minimise the likelihood that polarised positions are established' (Young, 2005).

It seemed that the Europeans wanted to advance as quickly as possible, but the decision-making process set up in September 2006, in the form of a draft recommendation, envisaged a staggered approach, setting a horizon of 2009 for implementing equivalences between the national systems and the EQF system. However, this new deadline shows a desire to lend some solidity to the Lisbon objectives, as interim reports have shown worrying delays in their execution (Leney et al., 2004): hence, the 2004 declaration of the European Council stating that a greater boost should be given to VET within the Education and training 2010 work programme. Above and beyond this desire for results, there is an underlying question of what this transition to a knowledge society really means.

4. From free movement to the knowledge society

By stating the need for a knowledge society in 2000, the Lisbon summit profoundly changed European orientations which, up to that time, had been guided by the objectives of the free movement of goods, people, services and capital, enshrined in the 1957 Treaty of Rome. That represents a possible break with the previous situation, which shows particularly clearly in the proposal for a new social model in which the place reserved for building, acquiring, spreading and using knowledge – in the broadest sense of the term – occupies a central role. We are therefore witnessing a sort of metamorphosis of European destiny and, paradoxically, this metamorphosis rests on one of the elements over which Europe has least control and power to act, education and training.

As with any metamorphosis, it involves painful upheavals, it requires changes that can only be understood after they have taken place, and it throws up questions about which elements should be kept, which changed, and which removed. It attempts to bring new principles into old rules, imagines hypothetical measures for an unknown future and sometimes, perhaps, it tries to slow down change. That was how the open method of coordination and the draft EQF were created, how calls for transparency and mobility in a totally different context were maintained, and how a whole host of proposals that sometimes overlap and sometimes contradict each other blossomed in many different places.

The following section interprets the current situation as a period of change, rather than of modernisation, unless we consider the two terms to be synonymous. To do this, it goes back to notions of readability, transparency and mobility whose evocative power progressively turns into a kind of litany. It also dwells upon the draft EQF which is the catalyst behind current debates.

4.1. Readability/transparency and circulation of knowledge

Three types of criticism are levelled at the notions of readability/transparency:

- (a) the presupposition that readability (or transparency) is something that everybody wants. This is not the case, however, and many companies, especially the more innovative ones, deploy great efforts to preserve their skills. There are also examples from the education system itself. For example, in France certain private paying bodies have refused to register the qualifications they issue in the national register of qualifications, because they would have to make public certain elements of the training they provide and assessments they carry out, allowing everyone to use them and thus aiding their competitors;
- (b) the complexity of the measures set up to ensure this transparency/readability. In the words of Bouder, transparency can be the mother of opacity (Bouder, 2005);
- (c) the different meanings covered by these terms, depending on what concept one has of the workings of the labour market and the relationship between training and employment. The developments in the first part of this text provide an illustration of this.

As for the aims of a knowledge society, are these terms 'recyclable'? The natural tendency would be to respond in the affirmative. From a semantic viewpoint, we should point out that the term 'readability' is preferable to 'transparency', as the latter term implies a desire for invisibility, while certification aims to be – indeed it must be – the most visible sign possible. If not, one of the characteristics of the knowledge society is to place the movement of knowledge on the same level as that of goods, people, services and capital. Individuals should have the best information possible to build a modular certification route within lifelong learning. Levels, ECTS and ECVET are especially important in this area.

However, with employment volatility, certification will play an increasingly important role in its link with professional classifications, with the employer aiming to build a pool of skills which can then be optimised under relatively uncertain production conditions. The implementation of lists of national qualifications in different countries proves this

need. It remains to be seen what principles of readability they mobilise and if such principles satisfy the needs of the different users, or whether different tools need to be developed according to these users. In as much as a knowledge society aims to foster the acquisition of knowledge, it seems necessary for these tools to be considered dynamically and to outline the possibilities that each qualification offers to move towards others.

4.2. What do we mean by mobility?

The work aimed at preparing systems of recognition, correspondence or comparability was initially based on the hypothesis of a development of occupational mobility between Member States. This hypothesis does not seem to be borne out either by the statistics on recent developments, or by the more qualitative investigations carried out in companies' (Bertrand, 1996, p. 85). The Lisbon objectives are part of a general continuity in designing a change in orientation that stresses mobility linked to initial or ongoing training, as they mention the desire to create, reinforce and facilitate the European labour market, to foster and facilitate mobility between Member States, which includes the perspective of continuing to study and encouraging and organising education and lifelong learning.

If we focus initially on professional mobility, Bertrand considers that it affects two categories of people: cross-border workers and executives. The movement of the first group is regulated by local systems in which the equivalence of qualifications plays no role. 'In most cases, cross-border workers are fairly low-qualified and the problem of the recognition of qualifications hardly ever arises. Nor is it a problem when there is a high demand for workers, as employers are less demanding about qualifications (this is the case of Luxembourg). The most important factor is wage levels, which are set according to specific data from the labour market, and

depends more on the employer's assessment of the competence and efficiency of the worker than on any formal evaluation. This is also the case for those professions in which mobility is traditionally strong, such as hotels and catering: foreign workers are considered on the basis of references on their previous experience and on the specific demonstration of their skills much more than on their diplomas' (Bertrand, 1996). For executives, problems of qualification equivalence arise with regard to the determination of salaries and so companies have drawn up their own progression scales. It is difficult to know whether these two categories will still be dominant in 10 years time, but the figures available ⁽²¹⁾ show that European mobility is extremely limited:

- (a) fewer than 2% of EU-25 citizens live and work in a different Member State from their country of origin, a proportion that has hardly changed for the last 30 years (Eurostat);
- (b) cross-border commuting between Member States (with no residence change) has been steadily increasing over recent years, but still remains quite low. Belgium has the highest rate, with 1.7% of its working residents working in neighbouring countries. On average only 0.2% of the EU-15 working population commutes between Member States (Update on mobility and migrations, 2001/0082, Employment and Social Affairs DG, Unit A1, 2002);
- (c) according to a European Commission report on the free movement of workers since the 2004 enlargement [...] mobility from central and eastern Europe has generally been lower than foreseen. In all countries, with the exception of Austria (1.4% in 2005) and Ireland (3.8% in 2005), nationals of the new Member States (EU-10) represented less than 1% of the population of working age (Report on the Functioning of the Transitional Arrangements set out in the 2003 Accession Treaty, February 2006)'.

This ideal of mobility has been seriously dented by the measures taken to restrict its application following enlargement. The different 'relaxation measures', allowing workers from the new Member

⁽²¹⁾ The statistics used above are from the website concerning European worker mobility year: http://ec.europa.eu/employment_social/workersmobility_2006/index.cfm?id_page_category=FF [cited 24.9.2007].

States to settle in other states, are specified in terms of professions or domains of activities that hark back to a professional working principle of the labour market that is identical to that underlying the Directives.

The reality of intra-European occupational mobility still needs to be put to the test, as does the way in which qualifications systems and frameworks can contribute to it: will the mere existence of the tool be able to generate the process?

Turning to student mobility, Bertrand states: 'it can be seen as an aim in itself (making Europe progress by intermingling its young population), but also as a prerequisite to occupational mobility (studying in several countries would help to overcome the psychological and practical obstacles to this mobility, if only for the language aspect)' (Bertrand, 1996, p. 86). It is also true that the different European exchange programmes have been quite successful, but no analysis has been made of their contribution to further mobility. Nevertheless, there is a considerable gap between higher education, in which the mobility principle seems to have been fully accepted and is part of a well-rooted tradition, and secondary education, especially vocational education, where there is still a great deal to be done: the setting up of the ECVET is just one example. Finally, the most recent phenomena of protests against the 'invasion' of certain university specialities, especially *numerus clausus*, by foreign students, shows that implementing this mobility on a large scale could be especially delicate.

However, there is one form of mobility that has little attention paid to it, but which should play an increasingly important role in lifelong learning: mobility from the workplace to the training site. It is true that this is an area that seldom involves cross-border movements, but its working rules should be as fair as possible for everyone.

Aside from the significance attributed to it and the space assigned to it, mobility, which was considered as something that would be intrinsically desirable for European citizens and culture, is more of a reality to be created, however necessary it is considered, than a desire to be satisfied, and

this changes the way that we refer to it when justifying the implementation of new mechanisms and measures.

4.3. Back to the EQF ⁽²²⁾

Bearing in mind what was said in the introduction to this section, the European framework can be considered as a continuing transition mechanism, which proposes a design for the future and should therefore reject or transform elements of the past, however arbitrary that may seem, to affirm the irreversible character of the change. In a way it is a matter of 'forcing destiny's hand', of exercising a 'symbolic violence' as Pierre Bourdieu might say. In this case, and in light of the previous developments, we can consider four essential points with regard to the chances of success:

- (a) normalisation of the notions of qualifications system, qualifications framework and the relations between them;
- (b) the choice to put training systems to one side and go deliberately into regulating the relationship between training and employment through the notion of certification in relation to the labour market;
- (c) the concept of professional knowledge expressed through an eight-level grid;
- (d) the coexistence of this system with others.

4.3.1. Imposing a conceptual apparatus

The distinction between qualifications systems and frameworks seems to be developing progressively. A number of points can be briefly mentioned in relation to this.

First are the proposals from Westerhuis, which remain fairly ambiguous. 'The scope of a classification system for qualifications can be described using three criteria: whether or not the application and use of the system is broader than purely for the identification and regulation of curricula and diplomas of formal VET programmes; whether or not a system is a comprehensive framework, incorporating qualifications of different levels while these levels are defined in a coherent way; whether or not the system is monopolistic in

⁽²²⁾ See Bohlinger and Münk in this volume.

the sense of comprising all obtainable qualifications and that no other system is being used' (Cedefop, Westerhuis, 2001, p. 17). 'Qualifications frameworks are, by definition, reference systems. Frameworks establish relationships between teaching and learning outcomes and performances demanded by business and industry, on the one hand, and general or vocational qualifications and diplomas delivered by a given education or training system on the other' (p. 91);

In 2003, the International Labour Office considered that a qualifications framework 'consists of appropriate, transferable, broad and industry-based and professional competency standards, established by the social partners, that reflect the skills required in the economy and public institutions, and vocational and academic qualifications; and a credible, fair and transparent system of assessment of skills learned and competencies gained, irrespective of how and where they have been learned, e.g. through formal and non-formal education and training, work experience and on-the-job learning; a credible system of certification of skills that are portable and recognised across enterprises, sectors, industries and educational institutions, whether public or private' (ILO, 2003);

In June 2005, the European Commission working document *Towards a European qualifications framework for lifelong learning* defines such a framework based on the work of the OECD: 'a qualifications framework is an instrument for the development and classification of qualifications according to a set of criteria for levels of learning achieved. This set of criteria may be implicit in the qualifications descriptors themselves or made explicit in the form of a set of level descriptors. The scope of frameworks may be comprehensive of all learning achievement and pathways or may be confined to a particular sector, for example initial education, adult education and training or an occupational area. Some frameworks may have more design elements and a tighter structure than others; some may have a legal basis whereas others represent a consensus of views of social partners. All qualifications frameworks, however, establish a basis for improving the quality, accessibility, linkages and public or labour market recognition of qualifications within a country and internationally' (European Commission, 2005b, p. 12);

At the same time, the OECD wrote 'several

countries have created national qualifications systems. In the UK, for example, the NVQ system covers a wide range of standards for professional skills for different sectors, which can serve as a 'currency' within a system based on outcomes. Apprentices and employers know the competences covered by each NVQ, which also cover smaller groups of outcomes (modules). Spain is currently following a similar approach: competences acquired through different channels – ordinary education system, work experience or training provided by the public employment service – will henceforth be recognised by means of a single qualifications framework [...]. An important initiative was taken recently in this domain by the EU when it created a European competences passport known as the Europass. It provides EU citizens with a single document containing all the information on the training they have completed, the competences acquired and the diplomas obtained. It can be used all over Europe. A more ambitious project is planned in this field with the setting up of an EQF to facilitate communication between the various existing systems and to provide a common reference for preparing national qualifications frameworks' (OECD, 2005a, p. 44-45);

At the end of 2005, Young examined the distinction between systems and frameworks: 'the main features that distinguish national qualification frameworks from existing qualifications systems can be summarised as follows. All qualifications are described in terms of a single set of criteria, ranked on a single hierarchy of levels, classified in terms of a single set of occupational fields, described in terms of learning outcomes (that are expressed independently of the site, institution and form of pedagogy curriculum), defined in terms of elements (sometimes referred to as units or unit standards) and ascribed a volume in terms of credit expressed as notional learning hours' (Young, 2005, p. 40-41);

Finally, according to the latest report from the OECD, 'qualifications systems include all the aspects of the activity of a country which leads to the recognition of a training outcome. These systems include resources (for developing and operationalising national or regional qualification policies, institutional processes, quality assurance processes, processes for assessing and attributing qualifications, recognising competences and the

other mechanisms that link education and training to the labour market and civil society. Qualifications systems can be more or less integrated and coherent. For example, a qualifications system may or may not be equipped with a qualification framework [...] (OECD, 2006, p. 9). The definition of the qualification framework has already been given above.

These definitions are convergent overall, but not really stabilised. The many articles written about them would suggest that disagreements have not yet been settled. For example:

- (a) why are frameworks with a legal base played off against those that reflect a consensus among social partners?
- (b) with regard to the OECD's 2006 report, is a framework so ethereal or independent that it should avoid certain contingencies of the systems? For example: 'operationalising [...] policies, institutional processes, quality assurance processes, processes for assessing and attributing qualifications, recognising competences'. A European framework will have to face all these issues, resolve them and organise solutions to them. Will it then become a system?

Is it the right time to build a durable system despite the uncertainties that still revolve around these notions, or should we continue the debate? The politicians have taken the initiative by setting the dates on which the decisions should be taken. Before long we shall be able to follow the way in which the positions of all the different players have evolved.

4.3.2. Links between the qualifications framework and the training system

This is one of the points over which those mentioned in the previous passage disagree. While Young favours maintaining links with the formal training system, its pathways and duration, the draft European framework states its wish to break with it. We can also see from the different versions of the project that these references were deliberately removed: certain previous versions proposed correspondence with the ISCED levels, others with the grid proposed by the 2005 Directive. A deliberate choice was taken to break with that system, arguing that these references are too heavily influenced by the formal training system. This is clearly a swing towards assessing a person's qualities according to the demands of the

labour market. At first sight, that represents major risks in terms of principle:

- (a) economic analyses strongly dispute the model of a single labour market. Such analyses coincide on the fact that there are already segmentations in this market at national level, and the principle of the Directives on a European level confirms this situation. In this context, certification can play the role of a filter, a signal, or have no function at all (Cedefop, Boudier et al., 2001);
- (b) current developments in working activities, marked by dematerialisation and tertiarisation, could be increasingly difficult to define if not expressed in terms of the knowledge which they mobilise;
- (c) users could be wrong-footed by this change of references, especially as no system of equivalence is proposed to help people to move from the old system to the new one. That could then lead people to turn against the system (making the old categories correspond to the new ones despite everything) or to feelings of inertia.

It is true that the proposed grid includes a 'knowledge' heading which could act as a safety lock and serve as a bridge to a more traditional view of qualification levels. However, it still seems very unwise to attach the greatest importance to the labour market while this market is itself increasingly subject to far-reaching changes, which will not cease to increase within a knowledge society. This was made even more patent in the answers to the national questionnaires (Section 3.3.1), where all the countries support the idea that by 2010 the aim of vocational training will be to foster the acquisition of skills rather than knowledge, and openly accept the principle of learning outcomes. It may be that the capacity of vocational training systems to change have been underestimated. This in turn leads to the labour market being singled out as the main factor of innovation, thus further opening a breach that would hinder the establishment of a knowledge society.

4.3.3. An arguable design of professional knowledge

The eight levels proposed by the EQF take up the commonly recognised distinction between knowledge, skills and competence. It would be too ambitious to try to summarise all the debates

around the principle and categories of this distinction but it is extremely formal: it is supposed that the higher the level of knowledge, the easier it is to acquire skills and the easier to acquire the capacity to adapt, take on responsibility, be autonomous, in other words, competence. Conversely, it would be hard to imagine skills being independent from competence when professional didactics insist on the passage from skills to knowledge (Savoyant, 1996). In a way this is reassuring, because quite probably the intervals between level assessments for each of the criteria could be relatively small. This is borne out by the results of certain experiments in France ⁽²³⁾. It remains to be seen whether it was necessary to follow this approach to achieve results close to those in the current situation.

On the other hand, there is no mention of professional fields or specialities to help place the diplomas. This is one of the concerns very often raised in the questionnaires provided for the Maastricht assessment: the implementation of qualifications lists, reflections on questions of the degree of professional specialisation, mainstreaming, building common curricula and specialisation modules are often raised. This may appear in the concept of skills, but a much more elaborate methodological tool than the one proposed in the grid would be required to identify them. This suggests that the proposed framework is deliberately theoretical, allowing users to develop it according to their own technical qualities. However, there is perhaps a risk of sidestepping the main aims of the project, i.e. fostering mobility and establishing closer links between qualifications to make it easier to pass from one to the other. The European framework proposes a strong hypothesis, according to which the closeness between qualifications rests more on the proximity of classification within a hierarchical grid, expressed in a very theoretical way, than on any closeness of content of activities within the professions or sectors of activity. That said, the hypothesis deserves to be put to the test, as we can observe significant gaps between training specialities and posts held, but this lack of

adaptation would not lead us to conclude that just anyone could go anywhere. Further, theoretical investigations mean attention must be paid to transferable competences linked to different specialities (Bruyère and Lemistre, 2006).

4.3.4. Coexistence with alternative systems

As shown in section 1, we are moving in a relatively unstable and constantly-shifting domain for which we should consider several possible developments. The quality of a system also lies in its capacity to tolerate the existence of other systems that may appear outdated or relatively unimportant. Turning to the different systems mentioned in this text:

- (a) the compatibility of the European framework with the recommendations of the Directives requires a harmonisation of the levels used in both approaches;
- (b) this European framework is not incompatible with multinational (including European) definitions of reference systems, insofar as these allow it to be applied, which does not seem very restrictive;
- (c) it can coexist with Europass without profoundly changing it, as certification is just one of several elements in this portfolio of competences;
- (d) it could clash with the setting up of sectoral measures or branches, especially if these are recognised internationally, via European social dialogue. One example would be qualifications for people working in transport, or sport, which have their own system of recognition and progression, and therefore would not be likely to be interested in being part of a European framework, especially as some of them are part of a worldwide framework.

In conclusion, this is a risky proposal. The decisions taken thus far do not indicate that this risk will decline, and it will neither be easy nor quick to apply. However, the consequences of failure would not be too serious, if we accept that the investment involved has paid off in terms of the debates, experiments and exchanges it has generated.

⁽²³⁾ While the French response was being prepared, efforts were made, in the systems of reference of professional activities of some diplomas, to distinguish those that referred to knowledge, skills and competences, and to assign them to one of the eight EQF levels. Overall, for a particular diploma, there was relative homogeneity between the levels assigned to the three headings, and the differences between them did not exceed one level. However, this was still very experimental.

5. Back to modernisation

The setting up of national or EQFs is part of a long-winded effort to harmonise qualifications, as described in Section 2. At the end of this exploration, which has revisited the origins of European action in this sphere and observed and analysed the hesitations, prevarications and U-turns involved, the first step in modernising is to remember. The Treaty of Rome dates from 1957. Europe no longer has the right to commit errors of youth; it has a past and a history. Qualifications frameworks are only a part of this history, but are not the end of it, and there is no way of knowing whether they will represent a determined step forward, an approach to be built on by others in the future, or a project that will never fully see the light of day.

It is true that they come at a particular moment in time, redefining the EU's objectives of creating a knowledge society and tackling vocational training which, up to now, has been relatively fragmented in the EU institutions and fiercely watched over by Member States strongly attached to their own prerogatives. This should make us wonder about reorganising structures and revising the powers that should quite logically flow from these new objectives. There may also be new uses for the Socrates and Leonardo programmes, which could be ideal for experimenting with modernisation and encouraging change.

Section 3 shows that if the European objectives mobilise nationally, they do not really unify. For the time being, each country seems to be following its progress and adhering in general terms to the main guidelines sketched out in Lisbon and Copenhagen, which they took part in defining, but applying different meanings and priorities to them. The harmonising role played by the setting up of national qualifications frameworks is not necessarily well regarded by the Member States. In fact, for those who already have such systems it would involve revising these, sometimes in great depth, proposing a model which, in a small number of Member States, is still at an experimental stage. The desire to put the guidelines provided by training systems to one side and to place more

attention on the signals provided by the labour market brings in a break that is all the more difficult to accept in light of the increasingly unstable and changing nature of this market.

The current state of the debate on the creation of an EQF leads to the question of readability of such qualifications will be solved by creating an instrument described as 'neutral' by its promoters. It is interesting to clarify what this neutrality needs to be in order to achieve its aims.

First, it must be assigned the function of an interface between education, training and the labour market. This exercise is all the more complicated because we also have to overcome the multiplicity of approaches surrounding recognition of qualifications in the national arenas, and – within such arenas – the weight of local and sectoral specificities.

Above and beyond these environmental constraints, the creation of such an instrument is part of a history that cannot be ignored and is expressed in at least two ways:

- (a) the meeting of two European Directorates-General – Internal Market and Education and Culture – whose aims seemed far enough from each other when they were set up for there not to be any overlapping of their prerogatives. It would be useful now to envisage such an occurrence and perhaps also to extend that to other units concerned by these questions (for employment, for example);
- (b) the ideals – the 'utopias' – which they brought forth. Since the Treaty of Rome, the notions of transparency and readability of qualifications, mobility of people, and the single labour market have been mentioned frequently, and their power to mobilise has progressively dwindled until it is nothing more than a ritual incantation.

Perhaps it is now time to go back to more fundamental considerations of these aims, especially when the setting up of a knowledge society considerably changes their scope and meaning. Three ways forward are possible:

- (a) to consider the diversity of the labour markets,

the reality of which is clearly shown by the different modes of recognition mentioned above. It would be possible to bring together Directives and labour markets, Europass and the desire to match the supply and demand for skills, EQF and an intermediary mode of regulation between the previous two. For these three situations, the notions of readability and mobility correspond to very different realities;

- (b) a return to the debate on the relationship between training and employment, where we can see a sort of reversal of the paradigm. While training, especially vocational training, was considered as a response to the needs of the labour market, which was more or less well-adapted and rapid, it seems to be called to play an increasing role as a structuring element with regard to this market. An economist would say that supply has an increasing influence over demand, and we could even wonder whether this separation will still remain valid, as the distinction between training systems and production systems will diminish;

- (c) it would be interesting to check whether there is any sort of 'genetic' development of the qualifications systems and frameworks, to find out whether it is more beneficial to foster an incremental development, in the words of Young, or to encourage the simultaneous adoption of a common framework.

As always, it is when changes are most profound that the search for something to hold onto becomes most pressing, and this is true for this period. That is why it is such a propitious time for the emergence of a flood of new proposals. However, the feeling of urgency to make these proposals public involves a risk of likening their conceptual foundations and the ways in which they can be applied. These are three uncertain situations involved in the building of history; we must learn how to observe developments, accept hesitations and share hopes.

One essential point is to allow the systems we want to set up to be as open-ended as possible, which could also be seen to fit in with the characteristics of modernisation, if we bear in mind the words of Ernst Jünger: 'snakes are blind when they shed their skin'.

Annex 1: Presentation of the questionnaire to the Directors-General (I)

Part A: Successful aspects of your national system of VET, innovation and challenges

Question 1: Successful aspects of your current VET system

Please indicate up to five aspects of your current VET provision that you consider to be successful in terms of your national objectives.

Question 2: Current priorities for VET reforms and innovations in your country.

Please identify up to five current reforms or innovations that you expect to have an impact on the effectiveness or efficiency of VET in your country. You should refer here to policies and innovations whose implementation has begun over the last 4 years, and to any reforms/innovations that are currently at the planning stage.

Question 3: Challenges

Please provide a brief outline of one or two reform(s) in VET over the past few years that have not yet achieved the expected aims.

Part B: The relationship between national processes and the Lisbon priorities

Question 4a: Coherence between national and EU VET policies

Please identify in the boxes below the level of coherence that exists between your national policy for VET and the EU Lisbon and Copenhagen processes.

Question 4b: Comment

Question 4c: Consultation and collaborative mechanisms

Part C: Key VET objectives that are identified in the Lisbon process

Please give a brief indication of specific policies that are being considered or used in your country in relation to European priorities for VET. Each policy area mentioned below corresponds to an objective for VET that is identified in the Lisbon or Copenhagen agreement.

Question 5: Increasing the flexibility of VET routes/the VET system for young people, adult learners and industry (e.g. vertical and horizontal flexibility, individual education pathways, modularisation).

Question 6: Recognition of non-formal and informal learning (learning resulting from daily life activities related to work, family or leisure) as a measure to improve the national VET system.

Question 7: Measures to improve the professionalisation and competences levels of VET teachers and trainers (Pedagogy, expertise, assessment, etc.)

Question 8: Making best use of private and public funding, so as to improve the efficiency and effectiveness of VET (e.g. employers' contributions and training, division of roles between government and localities, co-financing schemes combining public-private resources, delegation of financial responsibilities to schools).

Question 9: Enhancing the involvement of firms, sectors and branches of industry in order to improve VET system's ability to develop skills and qualifications (e.g. sector/regional partnerships, shift in emphasis from supply to demand side).

Question 10: Developing measures (such as credit transfer systems) to increase the comparability, recognition and transferability of skills and qualifications between different countries and levels, with a view to promote a European labour market.

Question 11: Forecasting and anticipating future labour market needs for skills in an uncertain economic climate.

Part D: Outcomes in 2010?

Question 12: The final question asks you to anticipate what may be the outcomes of aspects of your national strategy and policies for VET in the year 2010.

Annex 2: Presentation of the questionnaire to the Directors-General (II)



Qualifications and
Curriculum Authority

Achieving the Lisbon Goals:

The contribution of VET

Questionnaire for the European Directors General for Vocational Training

Please complete and return this questionnaire by email to:

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Please save the questionnaire on your hard drive, complete and return.
Although the writing boxes are expandable, please keep your answers brief.
To answer a particular question: click on the left hand side of the writing box.
To go to the next question: use your mouse or your 'page down' button.

The deadline for return of the completed questionnaire is 25 May 2004.

Part A: Successful aspects of your national system of VET, innovation and challenges

Question 1: Successful aspects of your current VET system

Please indicate up to five aspects of your current vocational education and training (VET) provision that you consider to be successful in terms of your national goals.

Notes: For each successful aspect, please indicate the following:

Aspect of the system: an indication or name, with a one or two sentence description

Indicators of success: verifiable indicators (quantitative or qualitative) that can provide evidence of success

Further references: publication, website or email address where further information can be obtained

i.

A. Aspect of the system:	
B. Indicators of success:	
C. Further reference(s):	

ii.

A. Aspect of the system:	
B. Indicators of success:	
C. Further reference(s):	

iii.

A. Aspect of the system:	
B. Indicators of success:	
C. Further reference(s):	

iv.

A. Aspect of the system:	
B. Indicators of success:	
C. Further reference(s):	

v.

A. Aspect of the system:	
B. Indicators of success:	
C. Further reference(s):	

Question 2: Current priorities for VET reforms and innovations in your country.

Please identify up to five current reforms or innovations that you expect to have an impact on the effectiveness or efficiency of VET in your country. You should refer here to policies and innovations whose implementation has begun over the last 4 years, and to any reforms/innovations that are currently at the planning stage.

Notes:

In B, please indicate whether the reform is at planning or implementation stage. Please also indicate under C the intended aims or objectives of the reform

i.

A. Name or title:	
B. Stage of development:	<input type="checkbox"/> Planning <input type="checkbox"/> Implementation
C. Aims:	
D. Indicators of success	
E. Reference(s) to documents/ websites	

ii.

A. Name or title:	
B. Stage of development:	<input type="checkbox"/> Planning <input type="checkbox"/> Implementation
C. Aims:	
D. Indicators of success	
E. Reference(s) to documents/ websites	

iii.

A. Name or title:	
B. Stage of development:	<input type="checkbox"/> Planning <input type="checkbox"/> Implementation
C. Aims:	
D. Indicators of success	
E. Reference(s) to documents/ websites	

iv.

A. Name or title:	
B. Stage of development:	<input type="checkbox"/> Planning <input type="checkbox"/> Implementation
C. Aims:	
D. Indicators of success	
E. Reference(s) to documents/ websites	

v.

A. Name or title:	
B. Stage of development:	<input type="checkbox"/> Planning <input type="checkbox"/> Implementation
C. Aims:	
D. Indicators of success	
E. Reference(s) to documents/ websites	

Question 3: Challenges

Please provide a brief outline of one or two reform(s) in VET over the past few years that have not yet achieved the expected aims.

i.

A. Name/ title	
B. Brief description and reference	

ii.

A. Name/ title	
B. Brief description and reference	

Please explain briefly why the expected aims have not been achieved so far, and which approaches are being used to remedy this.

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Part B: The relationship between national processes and the Lisbon priorities

Question 4a Coherence between national and EU VET policies

Please identify in the boxes below the level of coherence that exists between your national policy for VET and the EU Lisbon and Copenhagen processes.

Please click the box that, in your view, in general describes your national situation most accurately

- Coherence exists between the EU and national policies for VET.
- The Copenhagen or Lisbon processes do not directly influence national policies. But they are, nevertheless, broadly compatible.
- National priorities and policies and the Lisbon and Copenhagen priorities are divergent.

Question 4b Comment

The degree of coherence between European and national policies for VET may differ in different policy areas. Please comment on the relationship between European and national policies in areas that you consider to be particularly important.

--

Question 4c Consultation and collaborative mechanisms

A key aim for VET is described in the Copenhagen Declaration as:

'We aim to increase voluntary cooperation in vocational education and training, in order to promote mutual trust, transparency and recognition of competences and qualifications, thereby establishing a basis for increasing mobility and facilitating access to lifelong learning'.

Do you consider that the consultation and/ or collaborative mechanisms involving the different actors (public authorities, social partners, sectoral bodies, industries etc.) that operate in your country help or impede the realisation of this aim?

Note: Please specify favourable and impeding mechanisms at the regional or sector, national and European level

Favourable mechanisms

Regional or sector level	National level	European level

Mechanisms that impede:

Regional or sector level	National level	European level

How can any of these mechanisms be improved at the regional or sector, national and European levels?

--

Part C: Key VET objectives that are identified in the Lisbon process

Please give a brief indication of specific policies that are being considered or used in your country in relation to European priorities for VET. Each policy area mentioned below corresponds to an objective for VET that is identified in the Lisbon or Copenhagen agreement.

Note: These questions also ask you to comment on 'drivers'. 'Drivers' are the actors or pressures that create and inhibit change.

Question 5:

Increasing the flexibility of VET routes / the VET system for young people, adult learners and industry. (E.g. vertical and horizontal flexibility, individual educational pathways, modularisation)

Key policy:	
Stage of development:	<input type="checkbox"/> Planning <input type="checkbox"/> Implementation
Key drivers:	
Indicators of success:	
Further reference(s):	
Comments (if any):	

Question 6:

Recognition of non-formal and informal learning (learning resulting from daily life activities related to work, family or leisure) as a measure to improve the national VET system.

Key policy:	
Stage of development:	<input type="checkbox"/> Planning <input type="checkbox"/> Implementation
Key drivers:	
Indicators of success:	
Further reference(s):	
Comments (if any):	

Question 7:

Measures to improve the professionalisation and competence levels of VET teachers and trainers. (Pedagogy, expertise, assessment etc.)

Key policy:	
Stage of development:	<input type="checkbox"/> Planning <input type="checkbox"/> Implementation
Key drivers:	
Indicators of success:	
Further reference(s):	
Comments (if any):	

Question 8:

Making best use of private and public funding, so as to improve the efficiency and effectiveness of VET (E.g. employers' contributions and training, division of roles between government and localities, co financing schemes combining public-private resources, delegation of financial responsibilities to schools)

Key policy:	
Stage of development:	<input type="checkbox"/> Planning <input type="checkbox"/> Implementation
Key drivers:	
Indicators of success:	
Further reference(s):	
Comments (if any):	

Question 9:

Enhancing the involvement of firms, sectors and branches of industry in order to improve VET system's ability to develop skills and qualifications (E.g. sector/ regional partnerships, shift in emphasis from supply to demand side)

Key policy issues/ strategy:	
Stage of development:	<input type="checkbox"/> Planning <input type="checkbox"/> Implementation
Key drivers:	
Indicators of success:	
Further reference(s):	
Comments (if any):	

Question 10:

Developing measures (such as credit transfer systems) to increase the comparability, recognition and transferability of skills and qualifications between different countries and levels, with a view to promoting a European labour market.

Key policy:	
Stage of development:	<input type="checkbox"/> Planning <input type="checkbox"/> Implementation
Key drivers:	
Indicators of success:	
Further reference(s):	
Comments (if any):	

Question 11:

Forecasting and anticipating future labour market needs for skills in an uncertain economic climate.

Key policy:	
Stage of development:	<input type="checkbox"/> Planning <input type="checkbox"/> Implementation
Key drivers:	
Indicators of success:	
Further reference(s):	
Comments (if any):	

Part D. Outcomes in 2010?

Question 12: The final question asks you to anticipate what may be the outcomes of aspects of your national strategy and policies for VET in the year 2010.

Note:

Below you will find a number of paired statements. They represent a range of planning priorities and outcomes. Please indicate for each pair of statements where – on a continuum – your country plans, realistically, to be in 2010 on the basis of current trends and expectations. If you give equal weight to both statements, your response will be on the mid point.

	<<	<	<>	>	>>	
VET focuses on equipping learners with competences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VET focuses on equipping learners with subject knowledge
Lifelong learning has as its first priority meeting the needs of 'older learners'	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	As its first priority LLL provides a 'strong start' (early childhood up to 16)
Meeting specific labour market goals is the dominant focus in current VET policies	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Meeting broader societal and personal development goals is the dominant focus in current VET policies
ICT in vocational learning mainly involves simulated activities or distance learning	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ICT in vocational learning is embedded into work and business processes
VET is provided mainly in school-based pathways	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VET is provided mainly in work-based pathways
Most VET teachers and trainers come straight from an educational background	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Most VET teachers and trainers come from working life
A social partnership model is the norm for VET policies and decisions	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	VET policies and decisions mainly depend on single players (state, employers etc.)
Multinationals and actors in the private sector are the main agents of change in VET policy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Public actors (government, ministries, agencies) are the main agents of change in VET policy
National VET policy protects specific groups or professions in the domestic labour market	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	European cooperation means that that a flexible European labour market is becoming a reality

Annex 3: To anticipate what may be the outcomes of aspects of your national strategy and policies for VET in the year 2010

	<<	<	<>	>	>>	
A social partnership model is the norm for VET policies and decisions	Denmark Estonia Germany Hungary Iceland Italy Luxembourg Netherlands Norway Poland Spain Wallonia	Bulgaria Cyprus Finland Flanders Greece Ireland Latvia Malta Romania Slovakia Slovenia Sweden Turkey	Austria France Liechtenstein Portugal UK			VET policies and decisions mainly depend on single players (state, employers, etc.)
VET focuses on equipping learners with competences	Denmark Germany Finland Ireland Netherlands Romania Slovakia	Austria Bulgaria Cyprus Estonia Flanders Greece Hungary Iceland Italy Latvia Lithuania Luxembourg Malta Norway Poland Portugal Slovenia Spain Sweden Wallonia	France Liechtenstein Turkey UK			VET focuses on equipping learners with subject knowledge
Meeting specific labour market goals is the dominant focus in current VET policies	Estonia	Denmark Germany Hungary Iceland Lithuania Portugal Slovakia Spain Turkey UK	Austria Bulgaria Finland Flanders France Greece Ireland Latvia Malta Romania Slovenia Wallonia	Cyprus Italy Liechtenstein Luxembourg Norway Poland	Netherlands Sweden	Meeting broader societal and personal development goals is the dominant focus in current VET policies

	<<	<	<>	>	>>	
Lifelong learning has as its first priority meeting the needs of 'older learners'	Iceland	Cyprus Denmark Estonia Hungary Italy Latvia Portugal Romania Wallonia	Bulgaria Finland Flanders Greece Ireland Lithuania Luxembourg Netherlands Spain Sweden Turkey UK	Austria France Germany Liechtenstein Malta Norway Poland Slovenia	Slovakia	As its first priority LLL provides has 'strong start' (early childhood up to 16)
VET is provided mainly in school-based pathways	Sweden Slovakia	Cyprus Estonia Flanders Greece Italy Lithuania Spain	Austria Bulgaria Finland France Iceland Ireland Latvia Portugal Slovenia UK	Denmark Hungary Liechtenstein Luxembourg Malta Netherlands Norway Poland Romania Turkey Wallonia	Germany	VET is provided mainly in work-based pathways
Multinationals and players in the private sector are the main agents of change in VET policy		Flanders Greece Hungary Romania UK	Denmark Estonia Finland France Germany Italy Liechtenstein Malta Netherlands Slovakia Turkey Wallonia	Austria Bulgaria Cyprus Iceland Ireland Latvia Lithuania Luxembourg Norway Poland Portugal Slovenia Spain	Sweden	Public players (government, ministries, agencies) are the main agents of change in VET policy
Most VET teachers and trainers come straight from an educational background		Bulgaria Greece Slovakia Spain Turkey	Estonia Flanders France Ireland Italy Latvia Luxembourg Portugal Romania Slovenia UK Wallonia	Austria Cyprus Denmark Finland Germany Hungary Liechtenstein Lithuania Malta Norway Netherlands Poland	Iceland Sweden	Most VET teachers and trainers come from working life

	<<	<	<>	>	>>	
ICT in vocational learning mainly involves stimulating activities or distant learning*		Flanders Slovakia Turkey	Austria Bulgaria Denmark Estonia France Greece Ireland Iceland Italy Portugal Romania Spain	Finland Germany Hungary Latvia Lithuania Luxembourg Malta Norway Netherlands Poland Slovenia Sweden UK	Liechtenstein	ICT in vocational learning is embedded into work and business procedures
National VET policy protects specific groups as professions in the domestic labour market		France Greece	Bulgaria Cyprus Lithuania Norway Portugal Spain Turkey UK	Wallonia Austria Denmark Estonia Finland Flanders Germany Hungary Iceland Ireland Italy Latvia Liechtenstein Malta Netherlands Romania Slovakia Slovenia Sweden Wallonia	Luxembourg Poland	European cooperation means that a flexible European labour market is becoming a reality

NB: *No reply from Cyprus

List of abbreviations

DG EAC	Directorate-General for Education and Culture
ECTS	European credit and transfer system (higher education)
ECVET	European credit system for vocational education and training
ENQA	European association for quality assurance in higher education
EQF	European qualifications framework for lifelong learning
Incuat	Instituto Nacional de las Cualificaciones [National Qualifications Institute] ES
ISCED	International standard classification of education
NVQ	National vocational qualifications
OECD	Organisation for Economic and Cooperation Development
ICT	Information and communication technologies
Unesco	United Nations educational, scientific and cultural organisation
VET	Vocational education and training

References

- Berlin communiqué. *Realising the European higher education area*. Communiqué of the Conference of Ministers responsible for higher education in Berlin on 19 September 2003. Available from Internet: <http://www.bologna-berlin2003.de/pdf/Communique1.pdf> [cited 21.9.2007].
- Bertrand, O. Comparabilité et reconnaissance des qualifications: l'expérience européenne. In OECD. *Qualifications et compétences professionnelles dans l'enseignement technique et la formation professionnelle: évaluation et certification* [Assessing and certifying occupational skills and competences in vocational education and training]. Paris: OECD, 1996, p. 73-91.
- Bologna declaration. European higher education area. Joint declaration of the European Ministers of Education. Convened in Bologna on the 19 June 1999. Available from Internet: <http://www.wg.aegee.org/ewg/bolognadeclaration.htm> [cited 19.9.2007].
- Bouder, A. La transparence des qualifications et son articulation avec la construction des diplômes en France et en Europe. In Commission Professionnelle Consultative. *CPC Info 40: le point sur ... la formation professionnelle et la mobilité en Europe*. Paris: MEN-DESCO, 2005, p. 33-36.
- Bruyère, M. Lemistre, P. La spécialité de formation: un 'signal' de compétences spécifiques et générales. Toulouse: LIRHE, 2006. (Les Notes du LIRHE, 430). Available from Internet: <http://lirhe.univ-tlse1.fr/publications/notes/430-06.pdf> [cited 14.9.2007].
- Cedefop; Bouder, A. et al. Certification and legibility of competence. In Cedefop; Descy, P.; Tessaring, M. (eds.). *Training in Europe, second report on vocational training research in Europe 2000: background report. Volume 1*. Luxembourg: Publications Office, 2001, p. 169-212 (Cedefop Reference series). Available from Internet: <http://www2.trainingvillage.gr/download/publication/reference/3008EN/3008EN114Bouder.pdf> [cited 18.9.2007].
- Cedefop; Coles, M.; Oates, T. *European reference levels for education and training: promoting credit transfer and mutual trust: study commissioned by the Qualifications and Curriculum Authority*. Luxembourg: Publications Office, 2005 (Cedefop Panorama series; 109). Available from Internet: http://libserver.cedefop.europa.eu/vetelib/eu/pub/cedefop/pan/2005_5146_en.pdf [cited 14.9.2007].
- Cedefop; Westerhuis, A. *European structures of qualification levels: a synthesis based on reports on recent developments in Germany, Spain, France, the Netherlands and in the United Kingdom (England and Wales): Volume 1*. Luxembourg: Publications Office, 2001 (Cedefop Reference series, 20).
- Colardyn, D. *La gestion des compétences*. Paris: PUF, 1996.
- Commissariat Général du Plan – Secrétariat d'État à la Recherche. *Le service public en recherche. Quelle modernisation?* Paris: La Documentation Française, 1996.
- Council Decision of 16 July 1985 on the comparability of vocational training qualifications between the Member States of the European Community. *Official Journal of the European Communities*, 31 July 1985, L 199, p. 56–59.
- Council of Europe. *European convention on the equivalence of diplomas leading to admission to universities*. Strasbourg: Council of Europe, 1953 (European Treaty series, ETS No 015). Available from Internet: <http://conventions.coe.int/Treaty/Commun/QueVoulezVous.asp?NT=015&CM=8&DF=9/20/2007&CL=ENG> [cited 20.9.2007].
- Council of Europe. *European Convention on the academic recognition of university qualifications*. Strasbourg: Council of Europe, 1959 (European Treaty series, ETS No 032). Available from Internet: <http://conventions.coe.int/Treaty/Commun/QueVoulezVous.asp?NT=032&CM=8&DF=9/20/2007&CL=ENG> [cited 20.9.2007].
- Council of Europe. *Convention on the recognition of qualifications concerning higher education in the European region*. Strasbourg: Council of Europe, 1997a (European Treaty series, ETS No 165). Available from Internet: <http://conventions.coe.int/Treaty/Commun/QueVoulezVous.asp?NT=165&CM=8&DF=9/20/2007&CL=ENG>

- coe.int/Treaty/Commun/QueVoulezVous.asp?NT=165&CM=8&DF=9/20/2007&CL=ENG [cited 20.9.2007].
- Council of Europe. *Convention on the recognition of qualifications concerning higher education in the European region. Explanatory report*. Strasbourg: Council of Europe, 1997b (European Treaty series, ETS No 165). Available from Internet: <http://conventions.coe.int/Treaty/en/reports/html/165.htm> [cited 20.9.2007].
- Council Resolution of 19 December 2002 on the promotion of enhanced European cooperation in vocational education and training. *Official Journal of the European Communities*, 18 January 2003, C 13, p. 2-4. Available from Internet: http://eur-lex.europa.eu/LexUriServ/site/en/oj/2003/c_013/c_01320030118en00020004.pdf [cited 19.9.2007].
- Dauty, F. Relations entre niveaux de formation, certifications et diplômes. In Teissier, J.; Rose, J. (eds). *La certification, nouvel instrument de la relation formation-emploi: un enjeu français et européen*. Marseille: Céreq, 2006, p. 49-64 (Relief .16, Échanges du Céreq).
- Dauty, F. et al. *Le sens, la portée et le devenir de la nomenclature des niveaux de formation*, Paris: AFDET, 2006 (CPC documents No 2).
- European Commission. *Developing common reference levels to underpin a European qualifications framework*. Brussels: European Commission, Directorate-General for Education and Culture, 24 September 2004. Available from Internet: <http://www.e2-vet.org/typo/fileadmin/docs/EQF.pdf> [cited 18.9.2007].
- European Commission. *Communication from the Commission: modernising education and training: a vital contribution to prosperity and social cohesion in Europe*. Draft 2006 joint progress report of the Council and the Commission on the implementation of the Education and training 2010 work programme (SEC(2005)1415). Luxembourg: Publications Office, 2005a (COM (2005) 549 final).
- European Commission. *Towards a European qualifications framework for lifelong learning*. Brussels: European Commission, 2005b (Commission staff working document SEC(2005)957). Available from Internet: http://ec.europa.eu/education/policies/2010/doc/consultation_eqf_en.pdf [cited 14.9.2007].
- ENQA. *Follow up on the Bologna declaration: a European quality assurance system*. Statement to the conference of European Ministers for Education held in Prague, 19 May 2001. Helsinki: ENQA, 2001. Available from Internet: <http://www.enqa.eu/files/ENQA%20position%20paper2001.doc> [cited 20.9.2007].
- ENQA. *Statement of the European network of quality assurance in higher education (ENQA) to the conference of European Ministers of Education in Berlin 18-19 September 2003*. Helsinki: ENQA, 2003. Available from Internet: http://www.enqa.eu/files/030918-19STATEMENT_ENQA.pdf [cited 20.9.2007].
- ENQA. *Standards and guidelines for quality assurance in the European higher education area*. Helsinki: ENQA, 2005.
- European Parliament; Council. Directive 1999/42/EC of the European Parliament and of the Council of 7 June 1999, establishing a mechanism for the recognition of qualifications in respect of the professional activities covered by the Directives on liberalisation and transitional measures and supplementing the general systems for the recognition of qualifications. *Official Journal of the European Communities*, 31 July 1999, L 201, p. 77-81. Available from Internet: http://eur-lex.europa.eu/LexUriServ/site/en/oj/1999/l_201/l_20119990731en00770093.pdf [cited 18.9.2007].
- European Parliament; Council. Decision No 2241/2004/EC of the European Parliament and of the Council of 15 December 2004 on a single Community framework for the transparency of qualifications and competences (Europass). *Official Journal of the European Communities*, 31 December 2004, L 390, p. 6-9. Available from Internet: http://eur-lex.europa.eu/LexUriServ/site/en/oj/2004/l_390/l_39020041231en00060020.pdf [cited 18.9.2007].
- European Parliament; Council. Directive 2005/36/EC of the European Parliament and of the Council of 7 September 2005 on the recognition of professional qualifications. *Official Journal of the European Communities*, 30 September 2005, L 255, p. 22-52. Available from Internet: http://eur-lex.europa.eu/LexUriServ/site/en/oj/2005/l_255/l_25520050930en00220142.pdf [cited 18.9.2007].

- Georgopoulos, T. *La Méthode ouverte de coordination européenne: 'en attendant Godot'?* Montreal: Institut d'Études Européennes, 2005 (Note de recherche No 01/05).
- Grémion, C. Crise des moyens ou crise des fins? Quelques enseignements d'un séminaire. In Commissariat Général du Plan – Secrétariat d'État à la Recherche. *Le service public en recherche. Quelle modernisation?* Paris: La Documentation Française, 1996, p. 385-396.
- Imaginario, L. Le problème de la certification: l'expérience du Portugal et la discussion européenne. In OECD. *Qualifications et compétences professionnelles dans l'enseignement technique et la formation professionnelle: évaluation et certification* [Assessing and certifying occupational skills and competences in vocational education and training]. Paris: OECD, 1996, p. 99-109
- ILO. *Conférence internationale du travail, 91^{ème} session. Rapport IV: apprendre et se former pour travailler dans la société du savoir*. Geneva: International Labour Office, 2003.
- Le Mouillour, I.; Teichler, U. Making European credit transfer work: ECTS and ECVET. In *Actes du symposium Construction des qualifications européennes*. Strasbourg: Béta-Céreq, 2004, p. 93-102.
- Lefresne, F. Compétences et enjeux sociaux dans les pays européens. *Formation Emploi*, 2001, No 74, p. 5-20.
- Leney, T. et al. *Achieving the Lisbon goal: the contribution of VET: final report to the European Commission*. Brussels: European Commission, 2004. Available from Internet: http://ec.europa.eu/education/policies/2010/studies/maastricht_en.pdf [cited 17.9.2007].
- Masson, J.R. *Treize ans de coopération et de réformes en matière d'enseignement et de formation professionnels dans les pays adhérents et les pays candidats*. Turin: European Training Foundation, 2003.
- Merle, V.; Bertrand, O. Comparabilité et reconnaissance des qualifications en Europe. Instruments et enjeux. *Formation Emploi*, 1993, No 43, p. 41-56.
- OECD. *Assessing and certifying occupational skills and competences in vocational education and training*. Paris: OECD, 1996.
- OECD. *Moving mountains: how can qualifications systems promote lifelong learning?* Paris: OECD, 2005a.
- OECD. *Promouvoir la formation des adultes*. Paris: OECD, 2005b.
- OECD. *Systèmes de certification: des passerelles pour apprendre à tout âge*. Paris: OECD, 2006.
- Parra Abad, E. La concurrencia de competencias del Estado y de las Comunidades Autónomas en formación y empleo. *Herramientas*, 2001, No 65, p. 20-27.
- Petrini, F. The common vocational training policy in the EEC from 1961 to 1972. *European Journal Vocational Training*, May-August 2004/II, No 32, p. 45-54. Available from Internet: http://www.trainingvillage.gr/etv/Upload/Information_resources/Bookshop/399/32_en_petrini.pdf [cited 17.9.2007].
- Raffe, D. Simplicity itself: the creation of the Scottish credit and qualifications framework. *Journal of Education and Work*, September 2003, Vol. 16, No 3, p. 239-257.
- Reuling, J.; Hanf, G. Länderbericht Deutschland. In OECD. *The role of qualifications systems in promoting lifelong learning*. Bonn: OECD, 2002.
- Savoyant, A. *Une approche cognitive de l'alternance*. Marseille: Céreq, 1996 (Céreq Bref, No 118).
- Sellin, B. EC and EU education and vocational training programmes from 1974 to 1999: an attempt at a critical and historical review. *European Journal Vocational Training*, 1999, September-December, No 18, p. 17-27. Available from Internet: http://www.trainingvillage.gr/etv/Upload/Information_resources/Bookshop/121/18-EN.pdf [cited 18.9.2007].
- Sorbonne declaration*. Joint declaration on harmonization of the architecture of the European higher education system by the four ministers in charge for France, Germany, Italy and the United Kingdom. Paris: La Sorbonne, 25 May 1998. Available from Internet: <http://www.wg.aegee.org/ewg/sorbonne.htm> [cited 19.9.2007].
- SQA. *Scottish credit and qualifications framework: SCQF handbook: section 1 – credit rating: guidelines*. Glasgow: SQA – Scottish Qualification Authority, 2003.

- Statistisches Bundesamt. *Berufsbildungsstatistik: Schulische Vorbildung der Ausbildungsanfänger/innen*. Wiesbaden: Statistisches Bundesamt, 2002.
- Teissier, J.; Rose, J. (eds). *La certification, nouvel instrument de la relation formation-emploi: un enjeu français et européen*. Marseille: Céreq, 2006 (Relief 16, Échange du Céreq).
- Varsori, A. Vocational education and training in European social policy from its origins to Cedefop. *European Journal Vocational Training*, May-August 2004/II, No 32, p. 63-76. Available from Internet: http://www.trainingvillage.gr/etv/Upload/Information_resources/Bookshop/399/32_en_varsori.pdf [cited 18.9.2007].
- Winterton, J. et al. *Typology of knowledge, skills and competences: clarification of the concept and prototype*. Toulouse: Centre for European Research on Employment and Human Resources, 2005.
- Young, M. National qualifications frameworks as a global phenomenon: a comparative perspective. *Journal of Education and Work*, September 2003, Vol. 16, No 3, p. 223-237.
- Young, M. Towards a European qualifications framework: some cautionary observations. *Actes du symposium Construction des qualifications européennes*. Strasbourg: Béta-Céreq, 2004, p. 40-45.
- Young, M. *National qualifications frameworks: their feasibility for effective implementation in developing countries*. Geneva: International Labour Office, 2005 (Skills working paper, No 22).

The role of national qualifications systems in helping to modernise vocational education and training systems

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Abstract

National qualifications systems have become a policy tool in many countries because there are reasons to believe that they can help promote lifelong learning. This paper aims to show how they can help modernise vocational and training systems in particular. To this end, it examines 12 dimensions (or mechanisms) of qualifications systems particularly important from a vocational education and training (VET) point of view: included are providing credit transfer, recognising non-formal and informal learning, and establishing qualifications frameworks, which are at the top of the policy agenda in Europe and beyond.

The challenge is twofold. To propose ways to modernise VET that can be addressed through public policy; and to establish conceptual links between VET, qualifications systems and the labour market. The latter will be achieved by drawing clear connections between qualifications and the labour market through, for instance, ensuring a good supply of skills, optimising returns on qualifications for employers or making competences visible.

The capacity of national qualifications systems to modernise VET depends on the extent to which they can change any or all of the following five constituent elements: governance, quality assurance, information and guidance, content and delivery of education and training. It is suggested that some areas of VET are amenable to policy and could be the focus of modernisation, and that qualifications could play a role in this process.

Finally, the added value of the European qualifications framework is discussed, based on several related assumptions: recognising learning acquired through VET systems in other countries is often complex due to the lack of transparency of qualifications systems, the absence of arrangements that allow citizens to transfer qualifications from one setting to another and the tendency to regard learning acquired in non-formal and informal settings as inferior to learning for formal qualifications delivered through education and training institutions.

⁽¹⁾ The opinions expressed in this report do not necessarily reflect the views of QCA, the OECD Secretariat or its member economies.

Table of contents

1. Context and concepts: the economic and social role of vocational education and training	144
2. Qualifications and the labour market	147
2.1. Ensuring a good supply of skills	147
2.2. Optimising returns on qualifications for employers	148
2.3. Improving recruitment processes	149
2.4. Making competences visible	150
2.5. Facilitating mobility	152
2.6. Fostering innovation and improving competitiveness	152
2.7. Improving employability	153
2.8. Facilitating management by competences	154
3. The theoretical position: the potential influence of qualifications systems on VET	155
3.1. Linking the qualifications system with the five elements of VET systems	155
4. Qualifications systems structures and developments	157
4.1. Providing credit transfer	157
4.2. Optimising stakeholder involvement in the qualifications system	158
4.3. Recognising non-formal and informal learning	160
4.4. Establishing qualifications frameworks	160
4.5. Creating new routes to existing VET qualifications	162
4.6. Optimising quality assurance	162
4.7. Expressing VET qualifications as learning outcomes	163
4.8. Improving needs analysis methods for up-to-date qualifications	163
4.9. Improving information and guidance about qualifications systems	166
4.10. Recognising skills for employability	167
4.11. Investing in pedagogical innovation	168
4.12. Ensuring qualifications are portable	168
5. The modernising power of European qualifications instruments	171
5.1. How is the EQF intended to work?	171
5.2. The influence on national systems	171
5.3. European credit transfer system for VET (ECVET)	173
5.4. Codification can lead to reform	174
List of abbreviations	175
References	176

List of table and figures

Table

1. A summary of the effects of selected mechanisms on VET	169
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Figures

1. Conceptual cycle of links between VET, qualifications systems and labour market	147
2. Lifelong learning and qualifications systems: the complete picture	151
3. Elements of a national VET system that can be modernised through the national qualifications system	156
4. The European qualifications framework	172

1. Context and concepts: the economic and social role of vocational education and training

A significant proportion of young people leaving initial education and training programmes every year do so with a qualification awarded by the vocational education and training (VET) system. Frequently, individuals, employers, researchers and policy-makers argue that VET systems deserve more attention because they make a major contribution to the economy and provide knowledge, skills and competences both to employees and employers. At least two aspects need to be addressed to modernise VET systems. The first relates to pedagogy and content because a modern VET system must deliver the expected outcomes so that individuals can find a suitable job in a reasonable amount of time, and employers can obtain the knowledge, skills and competences they expect to develop and encourage in the workplace. The second aspect relates to the way the dissemination of information about VET outcomes is organised and about how qualifications are awarded. Presently, employers may not find the appropriate skills and competences they need in the market either because they do not exist – VET systems have not incorporated them in their programmes – or because employers do not know where to find them. An important challenge for the VET system is, therefore, that it be able to deliver the expected skills and competences and that it be able effectively to provide information about how the system functions. This approach is interesting because it invariably needs to address the way feedback should be organised within the VET system to offer a steady flow of information on how best to provide relevant education and training. A national qualifications system and its subcomponents, such as a qualifications framework, can address most issues related to content and information. This report focuses on the role of qualifications systems in helping to modernise VET with, where appropriate, a more specific focus on qualifications frameworks.

The economic role of VET is twofold: to equip individuals with the skills and competences they need to enter the labour market and be financially

independent; and to provide employers with a productive workforce. Countries are interested in a good VET system because it can help develop new and existing trades. These rather broad objectives encompass more narrow but important ones such as preparing individuals for mobility and flexibility so that they can cope with the changing economic environment and evolving work practices. Studies show that most learning happens on the job. This type of learning, also known as experiential or non-formal and informal learning, has a lot of value to employers and individuals. However, it is a type of learning that is sometimes difficult to assess, either because it is not necessarily observable or measurable or because individuals are not keen on going through a recognition process (Werquin, 2007). VET systems also involve social partners, who are traditionally and heavily involved in discussions on education and training of workers, and governments, which are usually in charge of monitoring national VET systems. In this particular case, governments are especially involved, because national VET systems can help support major new policy orientations that governments may wish to adopt, for example improving self-sufficiency or shifting their manufacturing-based economies to knowledge economies.

VET systems can also have a social function by conferring social status and personal identity to individuals, as different levels of VET learning can be associated with financial returns. This derives from the fact that qualifications are almost always the societal benchmark by which people establish their social status, and these qualifications are often gained through VET. Also, VET systems can promote a more inclusive society where a strong social agenda exists. Governments, through funding, have a major lever to promote their VET policies.

To understand how national qualifications systems can help modernise VET, it would be useful to provide a definition. The concept is very broad, it includes '[...] all aspects of a country's

activities that result in the recognition of learning. These systems include the means of developing and operating national or regional policies on qualifications, institutional arrangements, quality assurance processes, assessment and awarding processes, skills recognition and other mechanisms that link education and training to the labour market and civil society [...]’ (OECD, 2007a).

Qualifications systems are the focus of this background report. It examines several dimensions of qualifications systems particularly important from a VET point of view, such as:

- (a) providing credit transfer;
- (b) optimising stakeholder involvement in the qualifications system;
- (c) recognising non-formal and informal learning;
- (d) establishing qualifications frameworks;
- (e) creating new routes to qualifications;
- (f) optimising quality assurance;
- (g) expressing qualifications as learning outcomes;
- (h) improving needs analysis methods so that qualifications are up-to-date;
- (i) improving information and guidance about qualifications systems;
- (j) recognising skills for employability;
- (k) investing in pedagogical innovation;
- (l) ensuring qualifications are portable.

OECD (2007a) addresses the role of national qualifications systems in promoting lifelong learning. It proposes definitions ⁽²⁾ based on mutual understanding of terms and concepts, is heavily based on research carried out since the beginning of the decade. It has generated a vast amount of literature ranging from studies on motivation to learn, to system-wide policy reviews.

All this is used in this background report to look closely at what it tells us about modernising VET. One of the main messages from OECD (2007a) is that qualifications systems are indeed a force for intervention in the modernisation of lifelong learning, which includes VET.

We consider VET to be defined as any form of education and training that provides skills, knowledge and competences that help individuals to enter the labour market and/or to perform well in it. The VET system, therefore, includes all aspects of a country’s activities linked to the definition of curricula, programmes and syllabi; delivery of learning; and recognition of learning outcomes that may have value in the labour market. This definition and that of ‘qualification’ (see footnote 2) show how closely the two systems – qualifications system and VET system – are connected.

Work on the European qualifications framework (EQF) has generated interest, in European countries and beyond, in developing national qualifications systems and frameworks (Bjørnåvold and Coles, 2008). Already, some countries are considering and developing qualifications frameworks that will link with the EQF, and others are thinking about how to unify the separate sectoral qualifications systems and frameworks that coexist within their territories by creating an integrated qualifications framework. While qualifications frameworks are only components of qualifications systems, one of the reasons for developing these frameworks includes VET modernisation (Coles, 2006). All national qualifications frameworks (NQF) include generic objectives such as establishing national standards for learning outcomes; promoting through regulation the quality of education and training provision; linking qualifications to one

⁽²⁾ ‘A qualification is achieved when a competent body determines that an individual has acquired knowledge, skills and/or wider competences to specified standards. The standard of learning is confirmed by means of an assessment process or the successful completion of a course of study. Learning and assessment for a qualification can take place during a programme of study and/or workplace experience. A qualification confers official recognition of value in the labour market and in further education and training. A qualification can be a legal entitlement to practise a trade’ (OECD, 2007a).

‘A qualifications framework is an instrument for the development and classification of qualifications according to a set of criteria for levels of learning achieved. This set of criteria may be implicit in the qualifications descriptors themselves or made explicit in the form of a set of level descriptors. The scope of frameworks may be comprehensive of all learning achievement and pathways or may be confined to a particular sector – for example, initial education, adult education and training or an occupational area. Some frameworks may have more design elements and a tighter structure than others; some may have a legal basis whereas others represent a consensus of views of social partners. All qualifications frameworks, however, establish a basis for improving the quality, accessibility, linkages and public or labour market recognition of qualifications within a country and internationally’ (OECD, 2007a).

another; and promoting access to learning, transfer of learning and progression in learning. NQF often have many other policy purposes beyond their generic aims. The development of a national qualifications framework can be used to modernise parts of education and training systems because it may help in changing regulation of the quality of qualification processes and/or how public funds are used to support education and training.

This research review is, therefore, timely. It starts from the assumption that qualifications and the qualification process are crucially important elements in modernising VET. The OECD work has led to a clear distinction between

qualifications frameworks, which are constructs for transparency, regulation and reform, and qualifications systems, which include the qualification process, needs analysis, governance and quality assurance. The latter (qualifications systems) is the principal focus of this review, since national and employment sector systems in every country are the bodies with the capacity to modernise VET. Nevertheless, qualifications frameworks are a significant part of qualifications systems that have the potential to carry forward reform and foster change.

2. Qualifications and the labour market

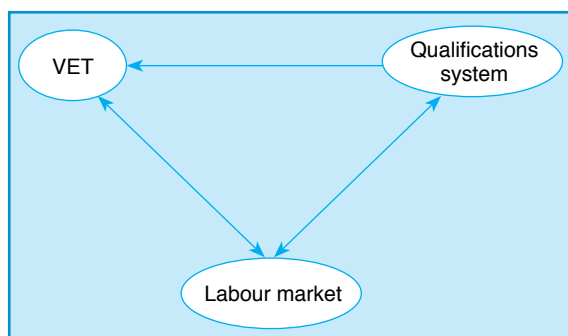
Given that the definition of VET is about creating and maintaining skills and competences for the labour market ⁽³⁾, a legitimate question is whether the VET system gives individuals, and in particular young people, the necessary skills and competences to perform well in the labour market. A potential lack of links between initial VET and the labour market is often quoted as one of the possible explanations for the high youth unemployment in many countries. An obvious issue to be addressed, therefore, is the need to examine the best way to modernise VET systems to improve the match between the knowledge, skills and competences of newcomers and the expectations of labour-market actors.

Proposing ways to modernise VET means identifying components of the VET system that can be addressed through public policy, this background report will focus solely on the role of qualifications systems in improving or modernising the VET system. We argue that qualifications systems can help modernisation by influencing the behaviour of stakeholders within the system (Figure 1). A first step is to review carefully the links and possible relationships between the qualifications system and the labour market. This will help to identify the elements of VET that can be modernised to make sure the skills and

competences created by the VET system are up-to-date and, therefore, adapted to the needs of the users, employers being the main ones. This conceptual cycle, linking VET and the labour market through the use of qualifications systems as a policy tool, is meant to reduce the mismatch between the characteristics of VET graduates (the labour supply) and the expectations of employers (the labour demand).

The labour market is the natural starting point for such an exercise because it is where the issues connect to one another: qualifications, skills and competences and their visibility, plus the VET system. The definition of VET – creating and maintaining skills and competences for the labour market – indicates how important it is to pay attention to the link between the qualifications system and the labour market when examining the modernisation of VET. This approach necessarily involves a review of employers and individuals' behaviour, and a review of the functioning of the labour market and the education and training systems. To understand the relationship between VET, qualifications systems and the labour market, we now show some specific examples of links. Taken together, discussions of these specific examples lead us to conclusions about which parts of VET are likely to be conducive to change and modernisation through the qualifications system.

Figure 1. **Conceptual cycle of links between VET, qualifications systems and labour market**



2.1. Ensuring a good supply of skills

The needs of employers – even needs based on an aggregate of all employers – are likely to be immediate and generated by modernising work practices and changing trading conditions. Many of these needs will be short-term in nature and changes in working practices may take place over a short time frame. As a consequence, it can be difficult for employers to predict their needs

⁽³⁾ See Figure 1 for an illustration. See Figure 2 for the complete picture.

sufficiently ahead of time; putting the VET system in a precarious situation and under criticism.

Part of the infrastructure of the economy is the network of learning providers, which requires steering during periods of growth and contraction and, therefore, requires a longer-term view of priorities. Since competence requirements seem to evolve very quickly, it has become difficult to anticipate the future needs of the labour market, even in the short term. It becomes especially difficult when considering any change to the qualifications system, since updating the national registers and describing all the qualifications – and sometimes a framework of qualifications – takes time, often several years. The situation is, therefore, complex because three different processes coexist in the labour market: the training process, the qualifying process and the production process.

In many countries the supply of skills (i.e. the number of people entering the labour market at their varying levels of qualification) is set to become an issue. A demographic downturn is expected in the next generation and the level of completion of upper secondary education seems to be reaching a plateau (Cedefop, Bédoué and Planas, 2003). This means that, in some countries, employers will be seeking to recruit from a shrinking pool of qualified people. The role of employers in enhancing lifelong learning is, therefore, likely to become increasingly pertinent.

The OECD's large-scale study of adult learning (2003; 2005) highlighted the role of the employer as provider of professional upgrading. While this survey did not focus specifically on learning for a qualification, it did point out the extent of the unmet demand for learning among workers. Taken with other, more general evidence of the rise in the need for qualifications as described above, this could indicate an unmet demand for qualifications, whether individual workers possess the corresponding skills or not.

For the VET system to deliver education and training programmes that meet the needs of the employers in terms of expected skills, some sort of organisation is necessary. In this context, qualifications may be seen as a package of skills. If properly organised, the system will then allow identification of skill shortages and/or labour shortages in some specific sectors where the VET system does not produce enough graduates, or

quickly enough. A good example, or remedy, for this sort of problem, is provided by the involvement of all stakeholders in the VET system where a dual system exists.

The role of the national qualifications system in making skill shortages visible and quantifiable may have a powerful influence because national qualifications systems become a tool for monitoring the VET system as a whole. It is powerful also because there are national definitions of occupational standards which can be grouped into a qualification and become a commodity.

A negative consequence of such an organisation is that there is a balance to be struck between tailoring provision to a range of learners and maintaining a system that looks and works in a coherent fashion. A fragmented system may allow catering for many different useful needs but it would also lead to a lack of coherence and transparency.

2.2. Optimising returns on qualifications for employers

An employer has functions that cover recruitment, training, business efficiency and development which are dimensions, among others, that interact with qualifications systems. Employers represent the main link between the labour market and qualifications systems mainly because they are the main users of the skills and competences assessed, recognised and made visible by the qualifications system. Employers are both suppliers of learning and users of qualifications, which they may use as quality assurance of skills. Employers of all sizes create the opportunity for employees to learn during work, both formally through organised on-the-job training and informally through observation and by making them engage with other, more experienced, employees. It remains true, though, that small and medium-sized enterprises are confronted with severe organisational and cost problems when it comes to sending their employees on training; the learning-for-qualification ethos in small employers is likely to contrast with that in multinational companies.

Employers are essential in the qualification process and as actors in the qualifications systems,

because a high currency for qualifications will depend on how much employers are perceived to value them. These perceptions are crucial even if they usually develop on a national scale and take time to develop and be disseminated among learners and other users.

Employers are more likely to focus on qualifications during recruitment for outsiders, and more likely to invest in qualification-related training, if qualifications offer value for money in recognising workplace competence and the potential to work at specific levels in employment. Employer surveys generally reveal the desire for the system to be responsive to their needs in terms of the content of qualifications and the administrative arrangements necessary to validate learning. They pinpoint the key quality of relevance to their working practice, and the need for confidence that recruits or trainees with certain qualifications will consistently prove themselves as capable workers. This confidence takes time to establish and at least partly explains why employers' views of qualifications development can be rather conservative.

Employers are also the main actors in seeing benefits from documenting individual skills and competences, typically through the awarding of qualifications, because they can see more clearly the characteristics of the supply of labour (outsiders). They can also benefit from the qualifications system, through the existence of a system for recognising non-formal and informal learning, because they can spot the skills gap more easily and organise the delivery of learning (insiders). In their quest for a more productive labour force, employers may see an interest in anticipating the skill need and, consequently, necessary improvements. Initial qualifications are a pale indicator of what individuals can really do or really know, especially if they left initial education and training a long time ago, considering the rapid pace of the technological changes.

In many instances, employers also need to show a qualified labour force. This happens when they operate in a highly regulated labour market or in quality-assured sectors (ISO). This also happens when companies enter competitive processes and bid for special contracts where it is required that the bidding companies have a specific proportion of their labour force with a recognised qualification.

In sectors such as health, workers must have a qualification at almost all levels of the hierarchy.

Returns on qualifications for employers have been consistently strong (OECD, 2001). Most evidence suggests that returns on general or academic qualifications tend to be better than for vocational qualifications, although this is by no means clear-cut. The nature of the signalling function is much debated and varies across countries, regions and types of qualifications and their related labour markets. Nevertheless, where there is reliable evidence of strong returns for employers, for example in certain sectors or at certain qualification levels, it needs to be communicated to employers and their representative organisations. It also seems that returns are more obvious when there is economic growth. This may create difficulties because employers tend to train their employees when economic growth resumes. They would probably be better off training when there is a lull: employees are more available to invest in training to be ready if/when the economic growth resumes or even to generate this growth through better productivity caused by acquired skills. In any case, qualifications should be transparent for returns to be measured.

This calls for employers to be involved in policy development nationally and in programme delivery locally. They represent a strong link between qualifications systems and the labour market. Their primary role as providers of learning opportunities for workers and the main beneficiaries of an adequately qualified workforce, place them in a privilege position to help promote a more modern VET system. Such system will ensure a steady supply of a modern and well-trained labour force that can meet the demands of the market. Employers are among the main contributors and influential forces that can help governments shape competitive, relevant and up-to-date training programmes.

2.3. Improving recruitment processes

Recruitment brings a strong focus on qualifications from employers and so the qualifications system provides a means by which VET can be modernised. Employers often use qualifications to

describe what they seek in terms of required skills supply and they also use applicant qualifications to filter the supply of skills so that they get what they want. The existence of a qualifications framework may help provide a complete picture and, therefore, may help employers in designing their overall recruitment strategy for each level of qualification. However this use of qualifications is only possible if they provide reliable signals as to the likely productivity of the qualified worker at each level (Spence, 1973). In some jobs, the labour market is regulated and only people with specific levels of qualification can take certain jobs. The effect of regulating entry to the labour market through qualifications is often to drive up the skills supply for employers.

Evidence from across a range of countries suggests that initial qualification is growing in importance as a gateway to employment. However, there is a contrasting view in the research literature suggesting that employers are seeking to diversify the range of evidence used in recruitment and that, while initial qualification retains its importance for young people, for experienced workers some testimony of their experience may carry more weight than previously. Jobholders, as opposed to employers, offer a different perspective about what qualifications are needed for their jobs (Felstead et al., 2002): while 29% of UK jobholders, for example, thought qualifications were important, they were considerably outweighed by experience (49%) and motivation (35%). Some countries are developing national systems for recognising non-formal and informal learning. Through this method, the learning outcomes gained through experience in work (or elsewhere) can be recognised and validated, to be presented later during job application as a record of qualification level. Overall, these recognition programmes allow all skills and competences, whether attained in initial education and training or achieved through experience, to be placed on the same scale; which may make the life of employers and recruiters a lot easier. The question remains, however, whether this record carries value and is socially recognised; it seems that recognition of non-formal and informal learning is a high topic on many countries' agendas (Werquin, 2007).

In many countries there is evidence that highly that qualified people are more employable than poorly qualified ones. Employment ranges from

a low 35% to 45% for individuals, especially female, with only lower secondary education to a high 85% to 95% for individuals, especially male, with tertiary education (OECD, 2007c; Table A8.1a). It is a reality that hiring prospects are much better for highly qualified individuals. The converse is also true since unemployment rates are much higher for individuals with low level qualifications (OECD, 2007c; Table A8.2.a. and Chart C4.1). In many countries, the Ministry of Labour stresses the notion of quality when designing a qualification. Employability is a clear concern in this process, and quality is viewed as a way of ensuring currency of qualifications in the labour market and possible progression in education and training.

2.4. Making competences visible

It is clearly a recent and crucial phenomenon that the national qualifications system has become a policy tool and that it has reached the policy-making sphere. Labour markets in OECD economies have been functioning for decades on the basis of qualifications rather than real skills and competences because the former have always been observable, whereas the latter have not until recently. Even now, few surveys really assess individuals' current skills and competences as opposed to the skills and competences they had the last time they obtained a qualification. For instance, self-learners may have trouble functioning in a labour market that does not pay enough attention to the skills and competences acquired throughout life. More broadly, the mirroring issues of skills loss and acquisition are overlooked most of the time and recruiters rely solely on qualifications because they are observable and documented. To overcome this issue, employers have widened their recruitment policy to include as many pieces of information as possible in their decision-making process (CV, references, sometimes tests, etc.). They also have included in most labour contracts a probation period during which the labour contract can be terminated without explanation and at short notice.

Until even more recently, qualifications systems were perceived only as a passive instrument

to deliver awards to people performing above average against a set of norms and standards. The growing awareness of the need to codify all kinds of learning and to make skills and competences visible has amplified the shift toward learning outcomes-based assessment, also called competences-based assessment. To cut a long story short, what now matters is what people know and/or can do rather than the number of years they have studied or been on training.

As a consequence, most modern qualifications systems are now designed to recognise any kind of learning outcomes, whether acquired in formal settings or not. They include a legal framework for recognising non-formal and informal learning as a mechanism to promote lifelong learning and also to render people more employable since they can display qualifications that correspond more intrinsically to their skills and competences. A lot of OECD economies have legal frameworks that guarantee high levels of quality-assured recognition of learning systems; most are, at least, piloting recognition programmes.

Ideally, a good national qualifications system would eliminate the potential gap between qualifications and actual skills possessed so that information can be more accurate and skills and

competences are actually visible. That would impact at least on two levels of the functioning of a qualifications system:

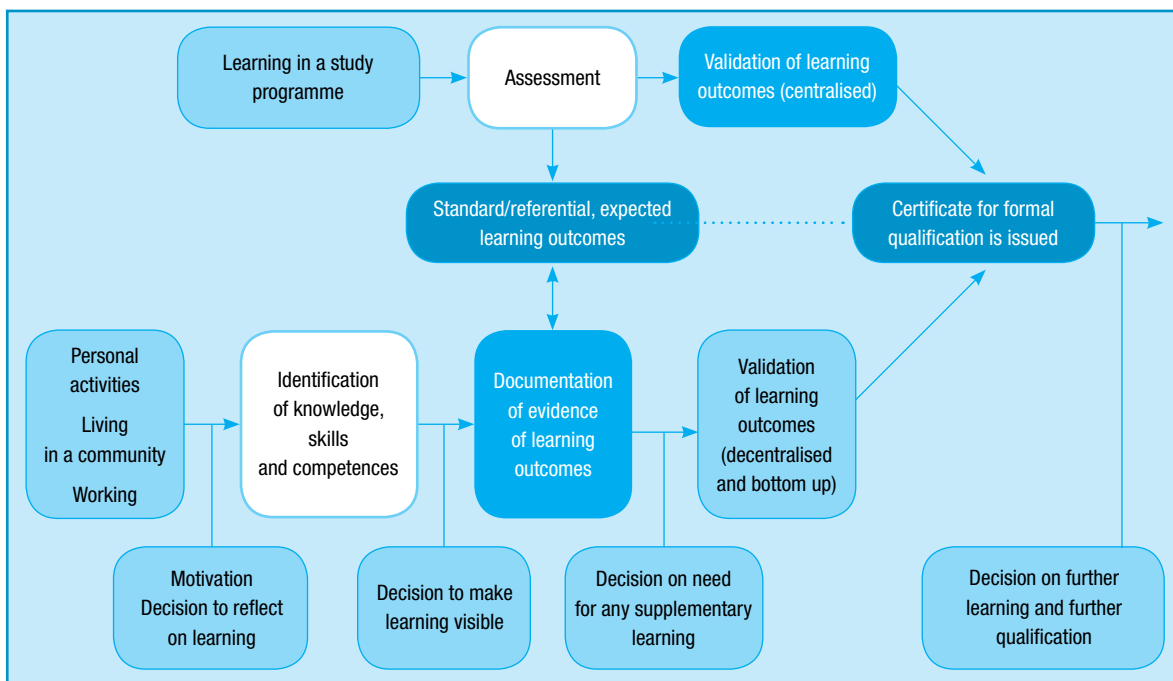
- (a) employers would trust qualifications a lot more and use them a lot more extensively in their hiring policies;
- (b) the gap in terms of existing skills and competences would be spotted more easily and would allow a more efficient and just-in-time delivery of learning programmes.

The elimination of this gap can be achieved through:

- (a) awarding qualifications that match the skills, knowledge and competences of individuals;
- (b) the recognition of non-formal and informal learning processes for people that have been learning non-formally and informally;
- (c) qualifications frameworks to display the full list of qualifications on offer at various levels, with accurate and immediately useful descriptions.

If the same set of standards is used, then the route to the learning is less important and what matters is mainly the qualification achieved (Figure 2). Therefore, qualifications become useful because they can capture learning wherever it happens. If, in addition, the standards used

Figure 2. Lifelong learning and qualifications systems: the complete picture



are based on employer and/or labour-market information, then qualifications are particularly useful in the labour market because they should be meeting the needs of employers.

2.5. Facilitating mobility

Promotion of greater mobility for workers and learners creates pressure on national qualifications systems. Firms' drive for greater flexibility at times can lead to shorter job tenures in the face of more volatile product markets and shorter product cycles. Career jobs are diminishing and individuals are now experiencing more frequent changes in jobs over their working lives. Then, there is the expectation that systems deliver international recognition of skills, including recognition of formal, informal and non-formal learning that has taken place in other countries.

Among the EU Member States more specifically, there is a commitment to increasing mobility across country boundaries. This requires transparency in qualifications systems and encourages countries to build education and qualification structures that are consistent with other EU Member States. Recent proposals for an EQF are designed to ease compatibility among national systems. The framework will also provide a further means of comparison through the referencing of national qualifications to a single set of levels (Section 5).

Governments have invested in making qualifications systems clear to users; the rationale for this investment is often directly associated with increasing lifelong learning. In other cases, the link is more indirect; the goals are to increase the mobility of individuals (and thus the skills supply to the labour market), increase the efficiency of the qualifications system, develop better quality assurance processes and encourage greater involvement from key stakeholders in the qualifications system.

Modern economies are in flux, a fact reflected in the changing types and sizes of enterprises and sectors and in working practices within organisations. Worker mobility is thus higher; new working practices generate the need for new skills, which means that more training is required for those in work than previously. Evidence indicates increased demand for qualifications (Grubb, 2004), whereas, previously, job learning came through informal observation, trial

and error and networking. This is now much more likely to take place in a formal learning environment and to lead to official recognition, as for example in Denmark, Germany and the UK (van Ravens, 2002). People move voluntarily between jobs because they become more highly qualified and want to capitalise on their learning by seeking higher returns and more stability. They also move for new learning experiences. They might leave jobs and rejoin the labour market for personal reasons, such as a change in career, to raise children, or a move to another region or country. Qualifications are also a safety element during such transitions.

For example, a person returning to work after staying at home to look after children will be carrying proof of competence in the form of a qualification. A system that maintains qualifications with high currency will ease movement of people and support a developing economy by capitalising on learning gained through many routes. Traditionally, the link between a person's identity and the firm they work for has been a strong one. In recent years, this link has weakened. Certainly for professional workers, identity is associated more with their track record of working experience, sometimes in different firms. In other words, it is more individually determined according to a person's own life design. A consequence of this process is that reputation and working achievements have to be recorded externally to the firm, and this is where the link between qualifications and occupational mobility becomes interesting. German evidence indicates that for half the people who changed occupation, their position had considerably improved: the higher the level of qualification, the more successful the change. The change in occupation had a particularly positive effect if it was determined by individual choice, if it fulfilled a job wish, and if the change was backed by systematic preparation for the new occupation through further education and training (Hecker, 2000).

2.6. Fostering innovation and improving competitiveness

It is often seen as positive that employers are involved in developing new qualifications or updating existing ones. One of the pressures that could induce employers to make more use

of qualifications and provide more resources for learning toward qualification is their direct involvement in qualifications development. In many countries, employers already play key roles in qualifications development and management. These range from being the lead partner in initiating new qualifications to intervening strongly when it comes to the reliability/validity of awarding processes. Often, central agencies appoint employers (including employee representatives) to head committees governing the qualifications system or some of its features.

The rationale for organising the functioning of the development process is that occupational standards underpin all the qualifications. Employers are in the best possible situation to be aware of the more recent developments in occupations and, therefore, if they feed these pieces of information back into the development of qualifications, then qualifications are up-to-date and they are useful to employers. OECD (2003) also highlighted the role of the employer as provider of professional upgrading.

Qualifications systems can, in turn, influence the quantity and quality of lifelong learning – which includes VET – by encouraging employers to use qualifications in workforce development programmes. This will clearly raise the currency of the qualifications and provide incentives for those using the qualifications and those undertaking learning for qualification.

The general level of skills required for the central function of companies can vary: some firms involve low skills and low technology, others high skills and high technology. Almost all reasonably big enterprises also vary in the range of skills used within the company. Some use all kinds of workers from the lowest end of the skills spectrum to the highest; however, most companies would have a full range of skills in the workforce. SMEs also have a combination of skills, but within the same person(s). Therefore, training needs will greatly vary and, as a consequence, qualifications use also.

There is also evidence that employers benefit from a more highly-educated workforce. For instance, according to the wage distribution, they seem to reward highly-qualified employees much more because they are more productive. Therefore, there seem to be substantial returns for employers providing training and they might

be interested in investing in qualifications and in meeting all or part of the cost of qualifying the workforce.

2.7. Improving employability

Making skills and competences visible by awarding qualifications does not create the corresponding skills and competences. The qualification process helps improve the employability of the workforce by spotting the gaps and, therefore, defining the content and organising the delivery of VET programmes so that there is an improvement, and sometimes a broadening, in the range of competences available.

At individual level, processes such as recognition of non-formal and informal learning help applicants to know their own abilities better, spot the additional education and/or training they may need to become fully qualified and, therefore, be (more) employable. However, there is much that remains to be done for the adult population because there is evidence that initial qualifications lead to better employability than qualifications achieved later in life. The lifelong learning rhetoric has not yet reached all the layers of society and the labour market.

For example, UK evidence shows considerable returns on qualifications when gained in initial education and training, i.e. to the age of around 25, but very limited wage increase returns on qualifications gained by adults over 25. This lack of evident economic return spans all levels of qualifications. It seems to indicate that qualifications acquired throughout life do not reward individuals in terms of employability because improved employability would also bring a significant pay rise. Interestingly, the principal exception to this finding was for those adults who had gained no qualifications at all during initial education. For them, qualifications gained later in life were important in terms of access to jobs and higher earnings; in these cases, ‘second chance’ qualifications seemed to attract benefits usually associated with initial education. The added value of a qualification, for those who enter life with no qualifications at all, is significant and is remarkable from a policy point of view. VET has a major role to play in this case because qualifications acquired by adults are more often based on some form of recognition of what

has been learned non-formally and informally; this is happening on a large scale in the workplace. It seems to be obvious now that employers are by far the biggest providers of learning acquired non-formally and informally because employees learn by watching or interacting with more experienced workers. Even when employers organise formal learning programmes, the amount of learning happening alongside these formal programmes is still very important (learning to work in a team, learning about oneself, learning to learn, etc.).

The idea that people acquire relevant knowledge, skills and competences over a certain period of time, and that these qualifications then prepare them for entry into the job market, is a social construct. It is a kind of standard that helps the learner, communities, employers and learning providers make sense of the fuzzy relationship between qualifications and the labour market. The expectations of all the partners of the 'standard' represented by qualifications must be met most of the time, otherwise this system would collapse.

The reason for bringing employability into play is, therefore, if qualifications systems can include the knowledge, skills and competences that will make people (more) employable, then they could influence VET to deliver this knowledge and these skills and competences. The end result would be a fully modernised VET system.

2.8. Facilitating management by competences

Despite the existence of qualifications, employers are still more interested in skills and competences. The issue is that using the latter in an appropriate manner supposes that qualifications reflect exactly the real skills and competences of individual workers. Qualifications constitute a large package and there is a need for more evidence to show that employers actually benefit from them.

The existence of wage grids, heavily based on qualifications, and collective bargaining in many sectors provide a significant impetus for individuals to invest in education and training leading to a qualification and to becoming (more) qualified workers.

Recent country reforms reveal a steady trend

over the past 10 years towards modularisation of education and training programmes and the introduction of units of assessment leading to qualifications. The intention is to develop programmes tailor-made to meet the needs of employment or individuals. Modular programmes can also lead to more efficient use of time and other resources. The full range of secondary and tertiary programmes, including adult learning, has embraced this idea. The modularisation of programmes does not, however, always deliver sufficient transferable credits for individuals, and may provide inadequate or unreliable information for employers to make decisions about recruitment and training needs. Hence many countries are looking at ways of introducing credit transfer processes (and thus flexibility) into the qualifications systems.

In conclusion, some areas of VET could be the focus of modernisation and qualifications could play a role in this process. First, it is clear that to forge strong links between the labour market and the VET system, the latter requires good governance. Management of skills needs analysis and the creation of training programmes, qualifications and the certification process need to be coordinated to deliver what employers need. Second, in addition to being managed well, the processes of translating skills needs into a qualified workforce need to be efficient and effective. Monitoring and evaluation through quality assurance help to ensure efficiency and effectiveness, and build trust and confidence among stakeholders. Third, even good systems need to be communicated to users through information and guidance, especially to employers, workers and learners yet to enter the labour market. Fourth, relevance of content is also a crucial element that links the labour market and VET. Unless knowledge, skills and competences are up-to-date and in demand in the workplace, factors such as mobility, recruitment or improved employability will be compromised. Fifth, and last, methods of delivery do matter. They bring relevance as much as content because much of VET is process-oriented. Flexibility in delivery is important too, since it has the potential to create higher participation and reduce barriers to access. Flexible systems can reduce the cost of VET to users. These elements form the basis of the theoretical position proposed in the next section.

3. The theoretical position: the potential influence of qualifications systems on VET

Based on the discussion in Section 2 about the nature and relationship of the qualifications system, the labour market and VET, it is possible to propose that the capacity of the national qualifications system to modernise VET depends on the extent to which it can change any or all of the following five elements of VET:

First is governance of the VET system, which encompasses all aspects of management and regulatory practice, at national and local levels. These aspects include government policy, setting an agenda for reform, research and monitoring arrangements, funding arrangements, institutional arrangements, institutional management and the involvement of social partners. Governance is a key area when it comes to modernising VET because a modern VET system should be organised and managed so that it meets the needs of its users, particularly individuals and employers. Governance covers many levels of the VET system from programmes and institutions to regional and national managing agencies. The range of stakeholders is also an important factor and some key actors will be difficult to engage in governance. Where decentralisation is used to generate a responsive VET system at local level (by giving more initiative and decision-making power to local authorities, municipalities or others), some measures against national standards and international benchmarks may be necessary.

Second is quality assurance of VET, which includes any systematic process of monitoring that builds confidence and trust in VET and confers value on the learning that is acquired in the VET system. A modern VET system has an integrated quality assurance process managed by stakeholders and fit for purpose. Each part of the VET system has a quality assurance process tailored to its functions.

Third is information and guidance about VET, including national and local provisions that link potential learners, providers and other learners and aims to maximise participation and minimise drop out. A modern VET system has an integrated information and guidance system. It distinguishes between users (participants) and potential

users (not yet participants). The former, already rather convinced about the value of VET, need information on how to evolve within the possible VET programmes and on how to best use their VET qualification(s) after graduation. The latter need to be informed about the potential returns when undertaking VET.

Fourth is the content of VET, the complete range of knowledge, skills and competences needed in the labour market. These include technical requirements for specific jobs and the general knowledge and skills required by most work. The content of modern VET programmes is directly relevant to the competences requirements of the labour market. All such competences will reflect the needs of a modern workplace, including taking responsibility for innovating in work practices and entrepreneurial activities.

Finally there is delivery of VET, which includes all the processes that convert desired competences (subject matter and skills) into learning outcomes. It focuses on pedagogy and evaluation strategies. Modularisation of programmes is a common approach to VET pathways and this should lead to the attainment of a full qualification that has value in the labour market and later on in the continuing VET system. Also, part of the delivery of VET is teacher training and learning equipment. Good VET delivery ensures programmes are learner centred, relevant and attractive. The delivery of content in a modern VET system is always fit for purpose, considering the learning preferences of individuals, the content defined by sponsors of learning – employers being the main ones – and the practical constraints of providers. Modern technologies are often used.

3.1. Linking the qualifications system with the five elements of VET systems

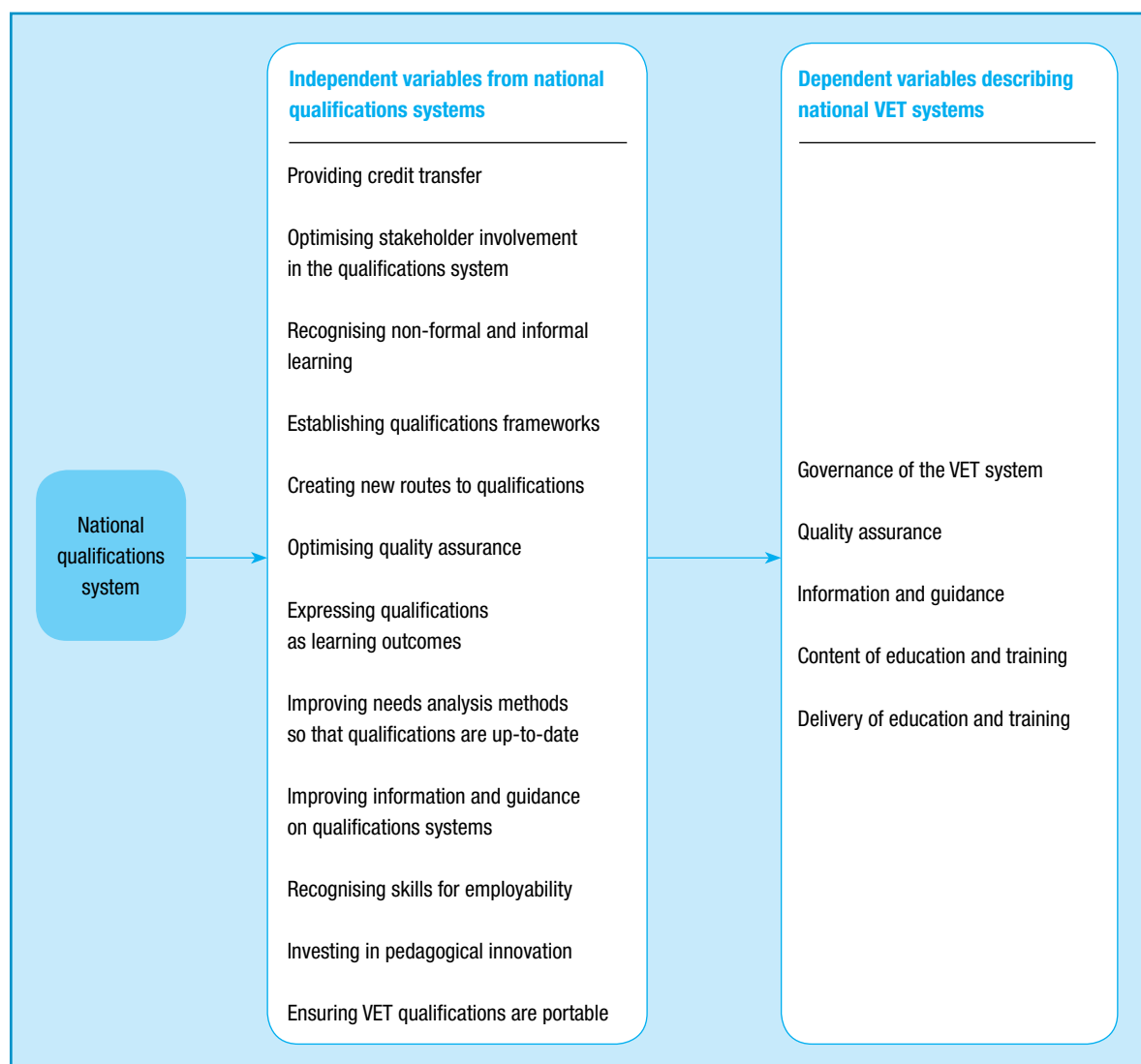
It is possible to theorise that these five elements are dependent variables which could be enhanced when

changes are made to the qualifications system (the independent variable). Complexity arises because a national qualifications system is made up of many subsystems and thus there are many independent variables. This produces a very complex picture of bilateral interactions between any or all of the parts of a national qualifications system and any or all of the five elements of the VET system. To simplify the analysis, it is necessary to identify the parts of national qualifications systems likely to have strong influences on the VET system. Fortunately, detailed research has already been carried out on the parts of qualifications systems that might enhance lifelong learning. OECD (2007a) identified 20 mechanisms

that could enhance lifelong learning and have effects on VET systems. VET systems play a strong role in lifelong learning provision and so it is probably safe to draw directly on the OECD work. Of the 20 mechanisms some are clearly more likely to be influential than others, and with some grouping of these mechanisms it is possible to produce a list of 14 aspects of qualifications systems worth further consideration. These become the independent variables in the model of modernisation described in Figure 3.

The potential effects of the independent variables within the qualifications systems on VET systems are now considered in the next section.

Figure 3. **Elements of a national VET system that can be modernised through the national qualifications system**



4. Qualifications systems structures and developments

Having identified the five best dependent variables of VET systems relevant for assessing the possibility of modernising VET systems through the use of qualifications systems, it is now possible to look at the way qualifications systems could influence these elements. OECD (2007a) has already identified the components of qualifications systems – called mechanisms – that could improve lifelong learning. VET is arguably the most important part of lifelong learning and these mechanisms are used to analyse how VET might be modernised. Clearly some are not necessarily appropriate in the VET context because they are irrelevant or are not specific enough to the VET system. They are not considered further; some are grouped together on the basis of proximity of the way they may affect the modernisation of VET and to avoid redundancies. They are now presented in decreasing order of importance in the extent that they may impact on VET systems.

4.1. Providing credit transfer

Credits are usually associated with determining the value of a specific amount of learning, usually a unit of assessed learning or a module in a learning programme. Sometimes credits are deemed portable and can be included in a setting different from the one in which they were gained or awarded. Credit transfer is used to describe this process.

If credits can move to another qualification, a credit transfer system will be beneficial in several different ways. It will increase the flexibility in learning programmes leading to a qualification and open up new choices in qualifications for learners; both are mechanisms identified in OECD (2007a) and can be grouped under providing credit transfer in analysing the modernisation of the VET system.

Behringer and Coles (2003) conclude that increased flexibility in learning periods and programme content, opportunities for partial certification and a spreading of the time and, therefore,

the cost of gaining a full qualification were all likely to have a positive effect on lifelong learning and, therefore, on VET. Credit transfer offers flexibility by allowing individuals to have learning recognised when programmes are only partially completed, and enabling them to gain exemption from future learning by being able to ‘cash in’ their credits upon enrolment in new programmes. Where a credit transfer system is available, the opportunity to use a range of credits to initiate a new area of learning or reduce unnecessary repetition of learning is highly prized.

Experience of working national credit systems appears to be limited but exists for instance in New Zealand, Scotland and Sweden. There are also firm plans in place in the rest of the UK. The European Commission itself has a substantial programme under way to provide the infrastructure for a European system to transfer credits (European Commission, 2007) for vocational education and training (ECVET) that will synchronise with the European Credit Transfer System (ECTS) already operating in some higher education institutions in Europe. While credit transfer systems are becoming recognised as having the potential to support lifelong learning, and therefore VET, they probably need more widespread practical application if greater flexibility is to develop. In the case of VET, increasing flexibility through credit transfer systems (including the award of partial qualifications) mainly means better horizontal and vertical progression routes through VET systems.

Providing credit transfer is also a way to enhance the governance of VET systems by improving the management of learning programmes that may become a first step to, or a destination from, other programmes; it also allows saving on training costs if credits are portable. Funding mechanisms will have to be considered in light of these recent developments because learners qualifying for exemptions in the VET system will require less financial support, so budget can be redeployed. By the same token, information and guidance systems will have to make efforts so that users

and potential users – those who can be highly incentivised by the existence of a credit transfer system – are aware of such a system.

Quality assurance in the VET system will be affected because credits can be transferred and fully recognised in the qualification of destination only if they are quality assured.

In Denmark, many adult vocational training courses give a formal right to credit transfer from an initial VET programme. This may result in a reduced study programme. Denmark is one of several countries that stresses the potential power of credit systems to unify different types of qualifications for parity of esteem. The introduction of credit transfer arrangements allows a range of learning outcomes to be recognised within certificates in Australia and Korea. Credits gained in initial education and training can count towards qualifications acquired in life. In countries such as Belgium, Denmark, Germany or Portugal, there is a clear rhetoric about the benefits of a sequence of qualification achievements throughout an individual's life and a move away from a system of once-and-for-all qualification early in one's career. The portability of qualifications from one context to another is beneficial to many learners. Credit transfer systems play a key role here, and many countries have in place development programmes to achieve this goal of portability, covering school qualifications, VET and higher education. In Australia there is the development of credit transfer arrangements between registered training organisations and schools, and between registered training organisations and universities. These arrangements have proved efficient, whereas existing credit transfer was described as weak by many countries.

Because of the recent steady trend towards modularisation of education and training programmes, and the introduction of units of assessment that lead to qualifications, credit transfer systems have become necessary tools; however, these evolutions happening in parallel sometimes create confusion. The modularisation programme responds to an intention to develop programmes tailor-made to meet the needs of employers and of individuals. It does not, however, always deliver sufficient transferable credit for individuals, and may provide inadequate or unreliable information for employers to make decisions about recruitment

and training needs. Credit transfer processes would introduce the necessary flexibility into the qualifications systems and many countries are considering them.

4.2. Optimising stakeholder involvement in the qualifications system

The likelihood of qualifications meeting needs of the users of VET qualifications is enhanced if all users are genuine stakeholders and play a part in modernising qualifications. Inclination to use them will be higher if a sense of ownership exists, even if it is shared with other stakeholders. Agreements between stakeholders on developing the qualifications system may lead to greater stability. The involvement of stakeholders will help to ensure that unnecessary barriers to progressive qualifications are identified and removed and that information and guidance clearly show the progressive nature of qualifications. Stakeholders might operate in a more coordinated way and communicate more coherent messages about the qualifications system. This also shows the intrinsic relationships that exist between all the mechanisms identified in OECD (2007a) and used here. Individuals will be more inclined to learn for qualifications if it is evident the learner voice has been heeded in qualification design and delivery. Employers need to be sure qualifications meet their needs; genuine involvement is a way to do this. Providers need to know their clients' needs and will wish to be clear about new methods of delivery and the cost implications of new developments.

It seems reasonable to assume that one of the pressures that could induce employers to make more use of qualifications and provide more resources for learning toward qualifications is their direct involvement in qualifications development. Employers already play key roles in qualification development and management. These range from being the lead partners in initiating new qualifications to intervening strongly when it comes to the issue of reliability/validity of awarding processes. Often, central agencies appoint employers (including employee representatives) to head committees, governing the qualifications system or some of its features.

Since efficiency of lifelong learning in general, and VET in particular, in terms of governance is influenced through developing a single coordinated system of qualifications (efficiency of scale) and maintaining stability in the system (change is expensive in a national system), it seems obvious that governance is affected by the involvement of stakeholders in the system. Information and guidance will, in turn, be affected automatically since all stakeholders are involved and are, therefore, aware of the progress being made and the reforms planned. They could reasonably advertise these changes among their constituencies.

The optimisation of stakeholder involvement will also most likely impact on VET content because all these stakeholders will want to have a say in the reform and in the creation of new qualifications. As a consequence, content will be impacted by the needs expressed by each of the stakeholders and by the nature of the consensus emerging from the form of negotiation going on.

In the end, stakeholders, particularly employers, own the qualifications system. As providers and consumers of learning, their views on ways of improving the system are obviously important. If policy responses aimed at improving the qualifications system are to be effective, stakeholders need to be engaged as fully as possible. This engagement can take two forms. As managers and operators of the qualifications system, improvement can come from creating an infrastructure of advisory and management boards that handle different aspects. Second, stakeholders can be engaged by providing a feedback loop from monitoring and evaluation to the core management of the system. Stakeholders are also a conduit for monitoring the qualifications system and communicating how the system works in practice; they can act to bring about transparency and coherence. Involving stakeholders can, therefore, create the conditions for further development in qualifications systems.

As with employers, a key inducement is to involve all other stakeholders – learners, their guardians, local community representatives, trade unions and training providers – as closely as possible in the learning organisation. This facilitates a close match of provision to need and a sense of ownership that can foster expansion of learning

provision. Countries such as Belgium (Wallonia and Brussels regions), Denmark and the UK report this is often the case, with some variation in the involvement of different stakeholders according to the national context. In France, building of *référentiels de diplômés* is increasingly based on consultation with social partners. In Switzerland, the success of the reforms of the upper secondary level (*Maturité professionnelle*) and the drafting of the law on vocational training owe much to a process that involved all stakeholder groups. In Denmark, students' rights are embodied in student councils and, primarily, in their right to be consulted on the organisation of teaching, choice of themes in single subjects, and choice of teaching and working methods.

Linked to the idea of stakeholder involvement is the forming of partnerships among the range of agencies that can present a more coordinated approach to provision. Some other mechanisms identified by OECD (2007a), such as maximising coordination in the qualifications system, could, therefore, also appear under the same heading of stakeholder involvement. More generally, acceptance and credibility of qualifications and qualifications frameworks (Section 4.4) greatly depend on the involvement of social institutions and stakeholders. Therefore, OECD (2007a) looks at the various roles of partners in the development of occupational standards and vocational qualifications, and at new forms of cooperation between them. This study seems to show that new partners have been included in the governance of qualifications, and many different forms of cooperation have been applied or tested. These changes, which have come about primarily as a result of problems in the countries' labour markets, are deemed to be significant in promoting lifelong learning. The study shows the different structural forms that have emerged in the transformation of arrangements, and reinforces the notion that the promotion of lifelong learning must include strengthening the links between the various different qualifications and training areas. This process, in turn, includes strengthening the links between general education, vocational training and higher education, and intensifying cooperation between education and employment, with the aim of integrating formal, non-formal and informal learning. Overall, this process entails

extensive participation and cooperation among relevant partners.

Still, it should be remembered that more comprehensive cooperation between various partners is not without its own problems. The extent to which new partners' decision-making processes could be integrated in such consultation and decision-making systems is unclear. What is more, a polarisation of interests could emerge from newly integrated systems, with the result that the systems would block decisions or allow agreements only at the level of the lowest common denominator. Such risks grow as the spectrum of involved partners, interests and issues becomes more comprehensive. Whether the 'strategy of limited cooperation' enables links between training sectors to be strengthened to an extent conducive to promotion of lifelong learning is a question that needs continued empirical monitoring.

4.3. Recognising non-formal and informal learning

If the qualifications system includes a scheme for individuals to have their prior non-formal and informal learning recognised, it impacts on the VET system through different dependent variables. Organising recognition of non-formal and informal learning impacts on governance because VET programmes are necessarily shorter if a fraction of an individual's skills and competences are validated before further VET. As a consequence, programmes are shorter and may, therefore, be less expensive; this, in turn, impacts on funding mechanisms. Nevertheless, part of the budget should be devoted to assessment of the applicants in recognition programmes.

In few countries is it possible to deliver a full qualification as the result of going through a recognition programme. France is an example with its VAE system (*validation des acquis de l'expérience*). Nevertheless, quite a lot of countries have exemption systems so that applicants who qualify for exemptions do not have to follow all the courses delivered in a particular curriculum. This is particularly true in tertiary education which always contains a significant proportion of VET programmes.

This would typically impact on delivery too because VET programmes have to be tailored to the needs of learners who have had part of their skills and competences recognised. One of the main advantages of such recognition programmes is that skilled learners do not have to start from scratch when they wish to engage in VET.

Recognition programmes are also mechanisms to impact on quality assurance because, beyond the technical recognition leading to validation and (partial) certification of individual prior learning, there is the social recognition and in many, if not all, countries the formal system is regarded as the only one trustworthy. Therefore, a necessary (not sufficient) condition for employers to accept using qualifications (partly) delivered by recognising non-formal and informal learning system is that they are quality assured.

This mechanism, too, has a lot to do with other mechanisms identified by the OECD (2007a). The concept of learning outcomes is crucial here as it is in establishing qualifications frameworks and/or expressing qualifications as a learning outcome. For more details about the ways countries link their recognition programmes and their VET systems, see also Bjørnåvold and Coles (2008). It also has to do with stakeholder involvement because it is a necessary condition that stakeholders are involved to have real skills in the labour market. There is also a need for sensitivity to modern work practices. The likelihood of most modern methods being used is higher if there is recognition of non-formal and informal learning; this will impact on stakeholder involvement. Finally, stakeholder involvement is a factor too because they need precise definitions of the underpinning standards: it is not possible to organise recognition of non-formal and informal learning without these underpinning standards, which are a means of modernising VET.

4.4. Establishing qualifications frameworks

A qualifications framework is, briefly stated, a classifier. Even if a qualifications framework is deeply embedded in social hierarchies and goes beyond a simple classification of diplomas and training programmes, it shows the relationships

between qualifications and, therefore, provides transparency and information about the possibilities for progression. It impacts on governance because it is often seen as a tool to organise funding. In the UK, for instance, there seems to be a trend only finance training programmes leading to a qualification belonging to the framework.

In many countries, tertiary education institutions, both universities and VET providers, enjoy considerable autonomy within broad frameworks of funding and accountability. Funding programmes with the qualifications framework could allow for some sort of monitoring and control, and balance the autonomy of VET institutions in the tertiary education system.

A qualifications framework is also a device for opening things for review (Bjørnåvold and Coles, 2008). It engages stakeholders in new ways of thinking of the power structure and the creation of new qualifications. It also creates a single device for linking up lots of innovations, is a basis for reforms, and leads to better governance. This is clearly the most important aspect of a qualifications framework, that it can modernise VET through its power to facilitate reform and innovation.

A qualifications framework is a quality assurance device because all qualifications in it are checked thoroughly and quality assured. The promoters of qualifications frameworks cannot afford to accept qualifications that would not meet the standards demanded. Beyond that basic fact, employers would not trust and, therefore, would not use, qualifications frameworks if they contained qualifications not thoroughly checked and quality assured.

Establishing a qualifications framework is also a way to improve information and guidance because linking qualifications to one another helps users to see clearly what they will get and what they can do next in terms of certified training, i.e. training leading to a qualification. Individuals will engage in VET with a clearer picture of what they may achieve and doors will open to them if they succeed in achieving this qualification. The removal of the dead ends that existed in many OECD VET systems is also a great incentive to engage in VET.

Finally, qualifications frameworks impact on VET delivery because they help spot the gaps that may exist in training programme provision. If employers use the qualifications framework to

make decisions about their recruitment policy, then they will spot more clearly the missing element(s) in terms of qualifications in their workforce.

In Spain, the establishment of the VET qualifications framework allowed identification of the tools of transparency: the procedure for the recognition, evaluation and recording of occupational qualifications; the roles of information and guidance in vocational training matters; the restructuring of the network of vocational training centres; and the reordering and repeated updating of the vocational training offers linked to the VET qualifications framework. With these tools and through the study of equivalences between vocational training subsystems and the procedures for credit attribution in formal and non-formal learning – and through the monitoring, evaluation and improvement of its quality and workings – the national framework for vocational qualifications made a major contribution to transparency.

The evidence indicates that qualifications frameworks are increasingly used as a policy tool. OECD (2007a) makes clear that there are many perceived benefits to government of producing a central declaration of qualification types and the links between them in the form of a framework. These advantages include increased transparency and flexibility, higher participation rates and increased mobility of learners. However, Young (2003) also identifies qualifications frameworks as instruments of accountability for educational institutions and as a basis for international comparisons of national systems. In some countries the national qualifications framework is a tool for regulation and quality assurance; admission to the framework is a prize for qualification providers. This use of the frameworks may reinforce central control over provision and restrict the expansion of individualisation and regionalisation. OECD (2007a) also identifies the trend for governments to retain tight control over framework development while acknowledging the gains to be made by involving a wide range of stakeholders.

Establishing a qualifications framework is largely linked to what the OECD (2007a) identifies as a separate mechanism: clarifying pathways. To some extent, the mechanism expressing qualifications as learning outcomes can be seen as relative since the concept of learning outcomes is crucial to the one of establishing a qualifications framework.

4.5. Creating new routes to existing VET qualifications

Reasons for non-participation in VET programmes and non-investment in VET qualifications are many and diverse but it seems that creating new routes to VET qualification and, therefore, new entry points into the qualifications system, is a possible solution to overcoming low participation. Individuals with low self-esteem, low confidence or a poor record of educational achievement, for instance, will find unnecessary obstacles in introductory or entry programmes removed, thus facilitating non-threatening access. They would be interested in new routes to existing qualifications. Employers also may be interested since they often need to create flexibility so that workers seeking further training are encouraged to participate in it. This may have cost implications and will, therefore, impact on the governance of VET programmes.

Creating new routes to VET qualifications would also impact on governance because the new entry points will require that the different stakeholders involved in the processes be associated with defining these new routes and making sure they lead to existing qualifications. Negotiation and consensus-building would surely create new modes of governance if several routes were made possible to achieve a given VET qualification that has the exact same value in the labour market and in society.

This last point will, in turn, impact on quality assurance which will be affected if there are several routes to achieving the same (existing) qualification. In many countries, qualifications achieved in the general education formal sector seem to have more value than those achieved in the VET formal sector. Creating new routes to qualifications could create another layer of stigmatised qualifications unless quality assurance mechanisms guarantee parity of esteem so that they have the same value in the labour market and carry the same weight in terms of social recognition. It seems that necessary conditions for new routes to be created are that funding regimes and quality assurance processes are carefully adapted to a system that proposes different routes to existing qualifications.

The creation of new routes to existing VET qualifications will also considerably affect the

information and guidance systems which should systematically inform potential learners and individuals about the different ways to achieve existing VET qualifications. It is already well known that information and guidance are often key factors in reaching the people most in need of VET. If the situation becomes more complex, caused by the opening of new qualifying routes, then the information and guidance systems will have to be even more effective. Finally, this will impact on the delivery methods of VET programmes since learners are going to acquire skills and competences in several different ways.

The creation of new routes to qualifications, including more flexible and multi-entry pathways, also requires careful analysis of needs beforehand, plus stakeholder discussions about the most appropriate form for these new routes. Nevertheless, their development would help clarify relationships between VET qualifications. Because they do not involve the creation of a new VET qualification, this is a relatively simple way of developing an environment more conducive to investing in VET and achieving a qualification. Often the new route to qualifications will draw on other mechanisms, such as the recognition of non-formal and informal learning. In focusing attention on these, it will be effective in promoting lifelong learning in general and VET in particular.

4.6. Optimising quality assurance

Quality assurance in qualifications impacts on quality assurance in VET for obvious reasons: if VET qualifications are based on effective practices then some of these effective practices may develop in the VET system too. It is also important to remember that countries need to have tools for comparing qualifications from different sectors: for comparisons to happen in a fair and useful manner, countries need quality assurance. They need to make sure the certification process is the same for comparing the many different qualifications. This will necessarily impact on the governance of the VET system and on how delivery is organised.

When it comes to quality assurance, a natural

link can be established with the notion of trust and that will necessarily impact on credit transfer possibilities. Quality assurance enables credit transfer to happen and, as a consequence, it will improve governance, information and guidance.

Another issue that can be dealt with in this context is maintaining high levels of labour-market relevance. If there is a good quality assurance system, it becomes possible to stress the concept of relevance but, in this case, it is necessary to involve employers. This involvement will impact on delivery and content of higher levels and this, in turn, will trigger a strong push for modernising the VET system.

This mechanism is also strongly linked to recognition of non-formal and informal learning and involvement of all stakeholders. Involving employers in the recognition of non-formal and informal learning, for instance, has an interesting spill-over effect. A good example comes from the French VAE system (*Validation des acquis de l'expérience*) where it is often the case that employers are invited to chair the panel that assesses the applicants for full or partial recognition and validation of their prior learning. Therefore, employers feel committed and, more basically, they are made aware of such a VAE system. Quality assurance is a good way of involving stakeholders (employers in panels of assessors) and this helps governance.

Finally, removing redundant qualifications is often a necessity and an explicit objective in many countries that have created new qualifications for many years without really discarding the outdated ones. Removing redundant qualifications seem to be possible via regulations and this will impact on the governance of the VET system. It will also impact on the content of VET because discarding redundant or outdated qualifications leads to a situation where the overall content is better on average because only the good qualifications remain. It also brings better overall delivery because VET programmes with inappropriate delivery are removed from the system. The ones with old methods of delivery are the ones most likely to be discarded in the first place and only the best ones will remain. It is important to note that information and guidance is also made easier because there is no redundancy and the qualifications and VET landscapes are clearer.

4.7. Expressing VET qualifications as learning outcomes

Learning outcomes is a key concept in VET, intrinsically linked to the concept of learning objectives and, therefore, of standards. In addition, the process of verifying learning outcomes often relies on quality assurance procedures, crucial in the approach retained here. Finally, learning outcomes is often associated with the concept of skills, knowledge and competences; that is what an individual knows or can do after a learning period as opposed to the length of this period or the settings in which the learning has occurred. The concept of learning outcomes is, therefore, associated with most of the dependent variables identified for the VET system: governance; quality assurance; information and guidance; content; and delivery.

Using learning outcomes to describe what is expected of a qualification brings transparency to the different partners about what the objectives of the learning period are, whether it happens in formal settings or not. It affects quality assurance for the reasons invoked above but also because it makes clearer the results of the learning period.

Expressing VET qualifications as learning outcomes will impact on information and guidance because of the need for greater transparency about what has been achieved. It will impact on content too because curriculum must be described in a more open way. It is also the case that standards can be associated with specific criteria that govern the content of VET programmes. Finally, expressing VET qualifications as learning outcomes does impact on the content of VET programmes because standards often refer to the learning outcome achieved.

4.8. Improving needs analysis methods for up-to-date qualifications

In many countries, one of the greatest areas of concern is how to eliminate mismatches between

labour supply and labour demand. Making skills and competences visible through qualifications systems does not create skills, whether they have been acquired after a formal VET programme or after a period of non-formal and informal learning, in the workplace for example. Nevertheless, creating a perfect picture of existing skills and competences through awarding qualifications to individuals allows better skill needs analysis and gives employers a tool for better skills development. Building a system to evaluate workers' vocational ability as a social framework is expected to play an important role in facilitating labour mobility (and eliminating mismatches). In Japan, the role of trade skills tests has increased as a response to this phenomenon. Though implemented on a limited scale at present, these tests play an important role in stabilising employment, facilitating employment, and improving the social status of workers. Nonetheless, it is not the case that a high proportion of employers regard a pass in a trade skills test as a judgmental factor in recruitment processes; however they are a factor in judging the employee's motivation or ability to meet challenges.

In Australia, a majority of employers agree that people qualifying after VET do possess the skills appropriate to meet employers' needs but they also indicated some lack of clarity in what a qualification tells them. In 2001, about three in four employers with recently-qualified employees said that it is difficult to tell what a person can actually do from their VET (NCVER, 2001). This was a larger percentage than two years earlier, when only 68% of employers held this view. It suggests that some Australian employers do not view qualifications as a reliable source of information. This concern seems to be shared by many employers.

The demand for an in-firm qualifications system is growing, especially in very large international companies. In Korea, the means to acquire skills required in a job are readily available only to new recruits; in other words, the process needs to take place within the companies. The Korean Ministry of Labour has been providing budgetary support to employers who have excellent in-firm qualifications systems in place. Some large Slovenian firms and services have started to develop their own systems of qualifications, competences and training delivery.

A major issue in many countries is understanding the future needs of the labour market. Good management of the qualifications system is certainly an instrument for improving skills in the labour force. Workers' competences have also become a key asset for employers who rely on human capital more than any other input to maintain high added value and productivity. The role of qualifications as an indicator of potential for learning is confirmed in research: employers see qualifications as a kind of guarantee of a worker's greater and faster adaptability to changing work practices (Cedefop, Béduwé and Planas, 2003). The changing demand for competences reflects wider changes, such as the opening up of the world market, the international mobility of workers, the globalisation of trades, the worldwide use of the new information and communication technologies, and the pervasiveness of the knowledge economy/society. What kind of qualification is desirable in this changing labour market? Will high-level general education qualifications become more desirable at the expense of qualifications in highly specific technical skills? In Germany, the forecast is that, despite the already high proportion of skilled workers in the working population, global demand for employees with VET qualifications will rise further. Demand for highly-qualified employees in the service industry has risen considerably. Unemployment among skilled workers with vocational qualifications in these occupations is lower than in manufacturing jobs.

In Denmark, the outsourcing of functions to other countries, relocation of knowledge-intensive international firms within the country, technological advances, sector convergence, emerging new markets and customer preferences have driven developments in education and training. For example, in the electronics industry and the high end of the textiles industry, there are examples of new models of supply and strategic partnerships. These build on networking using a one-stop-shop principle, with close school-firm and inter-firm local cooperation. Education and training are commonly understood by providers to be part of the broader context of innovation and institutional specialisation; providers take a less institutional approach to education and training. On the supply side, education and training providers respond to the demand for qualifications that contribute to

increased productivity and product and process innovation. They have contributed to local and/or sectoral economic growth or restructuring, firm relocation and net job creation in sectors under heavy global competitive pressure.

In Australia ⁽⁴⁾, some large-scale reforms have attempted to improve the match between qualifications and employers' skill needs. For example, the introduction of national training packages to meet current and emerging skill requirements is aimed at ensuring that vocational qualifications are industry-based, and assessment is geared more towards skills and knowledge acquired under workplace conditions. Another example is the inclusion of generic skills and competences in the frameworks underpinning the senior secondary certificate (upper secondary level) in most states and territories.

This high level of satisfaction is not evident in Korea. There, the view is that what is taught through the vocational training curriculum is not what is required in the workplace; thus, the training offered at education institutes or schools is the subject of great dissatisfaction on the part of industries, causing the latter to turn their backs on qualifications. One of the reasons vocational training falls below par in quality is that there is an absence of cooperation between education institutes or schools and onsite workplaces, between the central government and regional governments, and among the relevant government ministries. The problem is compounded because the competitive environment itself acts as a disincentive to cooperation.

Several studies have noted the shortage of specific vocational skills in the Irish workforce; some also note that this shortage has not been corrected by in-work training programmes (O'Connell and Lyons, 1995). Irish employers use various means to identify gaps or emerging trends, at both national and local levels. For example, at national level the expert group on future skill needs undertakes periodic studies of

the Irish labour market. Its third report (Forfás, 2001) investigated the employment and training needs of the construction industry 2001-06; it recommended that the number of apprenticeships be increased, and suggests accelerating the training of some apprentices. The expert group attempts to quantify skills needs in terms of both occupation and qualification level. It is notable that the new standards-based apprenticeship followed an analysis of future skill needs, and that trade employers are directly involved in monitoring and continuing development of this qualification to ensure its continued relevance to the labour-market sectors concerned.

The emphasis on initial recruitment of generalists by employers in Ireland has resulted in considerable participation in programmes that lead to add-on qualifications. For example, the master of business administration and other business-oriented qualifications are often acquired by non-specialists recruited into management levels of organisations, and specialist graduates (such as engineers) that were recruited as specialists but have been promoted into management or organisational development positions. In Portugal, increasing demand for middle management is a result of emerging forms of employer organisation where the demand for a higher production specialisation relies on qualified workers at middle management level. The priority accorded the middle management qualification may be considered a strategic measure within a modernisation process deemed necessary for the competitiveness and development of the national economy.

For all these reasons, improving skills needs analysis methods so that VET qualifications are up-to-date clearly impacts on the content of VET and on the delivery of VET programmes. To some extent, it also impacts on governance because making sure that needs analysis methods are accurate is a process that may be helped by involving key stakeholders. It seems obvious that supporting the drive for better management

⁽⁴⁾ National surveys of employers of VET graduates (1995, 1997, 1999 and 2001) provide information on employers' views on levels of satisfaction with VET graduate skills (NCVER, 2001). The proportion of employers who viewed the system as providing graduates with skills appropriate to employers' needs increased by about 13% between 1995 and 1999 (to 70%). Employers' overall satisfaction with the quality of people with qualifications has remained stable since 1997, with around four out of five satisfied. Compared with 1995, a larger proportion of employers in 2001 agreed or strongly agreed that the VET system is providing qualified people with skills appropriate to their needs. The proportion that agreed or strongly agreed that training pays for itself through increased productivity has remained stable.

will be mechanisms such as development of effective needs analysis methods and making sure information to users about the system is accurate and useful.

4.9. Improving information and guidance about qualifications systems

Improving information and guidance about qualifications systems is a mechanism that appears to catch most attention in the majority of countries. Its benefits are mostly well-known to managers of qualifications systems. However, much remains to be done to reach a situation where all the stakeholders would be reasonably informed.

As far as individual learners are concerned, there is clear evidence that informing them and/or learners seeking a qualification may have a supportive role (OECD, 2003, 2004). The rationale is twofold. First, individuals who are not aware of the possibility they have to undertake learning activities for a qualification must be informed about the potential benefits of learning and learning for a qualification. Second, for individuals already convinced of the value of learning and learning for a qualification, appropriate information and guidance would lead to better choices of qualifications because these individuals will be led through a system that is usually complex. Using a mechanism such as improving information and guidance about qualifications systems will certainly have a positive effect on individuals seeking qualifications. If actions are to be taken to improve the dissemination of information in this area, then VET systems will also be impacted positively. This may have a renewing effect on content and delivery; if more individual learners are aware of existing opportunities, they may provide feedback to the providers of qualifications and the providers of training and collectively suggest changes.

Better information and guidance will also impact on the social status of VET because individuals will make good choices more often and will avoid dead-end traps that will not allow them to improve their social status. In addition, if improvements are made in this area, then information and guidance

is also improved for VET because qualifications are a proxy for skills and competences; employers need the skills through these qualifications.

At the other end of the spectrum, better dissemination of information about qualifications systems may impact on costs and may discourage involvement of other stakeholder groups in this process – employers, providers of training and providers of qualifications – because of the extra expense. However, there are reasons to believe that a better advertised qualifications system might be less costly – and still provide support for modernising VET systems – than facilitating credit transfers, recognising non-formal and informal learning or establishing qualifications frameworks that might be relatively expensive. Still, part of this cost would fall to these stakeholders. Therefore, improving information and guidance about qualifications systems would act on governance of the VET system through the budget allocated to VET qualifications and the way they are promoted.

There are many examples of improving information and guidance for individual learners. During the spring of 2001, the Swedish government presented goals and strategies for the development of adult learning based on the needs of the individual in a bill that sets out a strategy for support from the state and the municipalities. This approach clearly corresponds to a rather broad approach that consists of putting the learner at the centre of the learning process but stresses the importance of improving information and guidance. In French-speaking Belgium, *Bruxelles-Formation* and the Walloon Bureau for Vocational Training and Employment (FOREM) – public bodies in charge of adult vocational training – place a great deal of emphasis on information and guidance. Among their missions, two are of particular importance in this regard: interfacing between the education, vocational training and employment worlds; and providing information and guidance to learners and potential learners (with priority clearly given to the unemployed). Several countries have mentioned the particular situation of vocational training, held in low esteem except for high-level technical training. Therefore, there are many attempts to raise the attractiveness of vocational qualifications and the corresponding programmes. One of them has been to communicate their benefits more often and more positively, and this is certainly a way

forward, even if it is believed that much remains to be done to change this perception.

This mechanism of better informing and guiding individual learners through the qualifications system and, therefore, through the VET system is also closely connected to many other mechanisms identified by the OECD (2007a). The best example is probably that establishing qualifications frameworks which also clearly impact on the way individual users, whether learners or employers, are informed about qualifications systems and VET qualifications. To a large extent, many of the major international endeavours aiming to classify and/or organise qualifications have also to do with information and guidance, such as ISCED and the EQF.

Improving information and guidance is clearly a crucial mechanism for the future of qualifications and VET systems because, as reforms advance, it is possible that systems can become more complex. Even some of the mechanisms proposed herein to modernise VET systems require an adequate information and guidance system because they will create positive incentives for some stakeholders but may create additional complexity for others. This is the case with mechanisms such as creating new routes to qualifications.

4.10. Recognising skills for employability

For some people, mainly among those with low general skills, the barrier to further learning is that they cannot find quality work that enables learning in the workplace. For these people, providing training that includes the experience of work and that focuses on employability skills may be a breakthrough to further learning. It is also important to note that, if VET would lead more systematically to (good) jobs, its social status would be improved.

There is increased and widespread mention of the notion of employability (European Commission, 2004a and 2004b; OECD, 2003). This refers to readiness for work and competence to function within a work environment. It is a dimension that is well established in some qualifications systems, notably those including apprenticeship.

Employability often includes generic skills such as communication skills, numeracy, team-working and general information and communication technologies competence, but it can also include work-related technical competence. The need for employability is felt most strongly by young people, especially newcomers to the labour market and the long-term unemployed.

It seems that the motivation to learn, and to achieve a qualification, is enhanced when employability is improved. In many countries (e.g. Scotland) initial qualifications are being transformed to deliver these generic skills and should develop higher employability if, as public pronouncements indicate, employers seek them and this is communicated to those who need them. Japan stresses the difference between skills in specific types of work and specialised vocational ability; the latter can be applied to a wide range of work. Qualifications attesting to skills more broadly applicable could lead to wider opportunities for employment and higher value for the qualification. In another example of the value of breadth (and therefore employability), over three-quarters of employed Greek seamen undergoing training considered that its most important benefits were the acquisition of additional skills useful for the company itself, thus providing some job stability. An equally large proportion believed the acquisition of skills useful in the wider labour market was more important because it increased employability and job mobility.

Changing occupation is much less of a problem if the knowledge, skills and competences learned during training can also be put to use outside the specific occupation for which a person has trained. Research into qualifications gained in the German dual system found that, if the change in occupation was within a more narrow field in an economic sector, then in almost all sectors 42% of those making a change were able to apply 'a great deal' or 'a fair amount' of the skills and knowledge learned during training to their new job (Hecker, 2000). There is obviously value to generic knowledge, skills and competences for individuals and communicating the nature and potential value to people who wish to develop their employability may result in greater incentive to learn.

Increasing employability is also an objective of benefit systems for the unemployed in many

countries. Typically, to qualify for extended unemployment benefits, individuals are encouraged to undertake vocational training that could lead to a qualification. This is the case in Australia, England (new deal) and France (*contrat de professionnalisation*).

If skills and competences are recognised within the functioning of the qualifications system in such a way that employability is put at the forefront (meet employers expectations, prepare for additional learning and skill improvement, prepare for adaptability to the needs of the employers and sectors) then this will impact on VET content.

Other mechanisms, such as credit systems, represent a way of enhancing specific skills. It becomes possible to modernise VET because individuals with low skills can get credit and there is a potential for them to achieve partial qualifications. It is cost effective and, therefore, impacts on governance. In addition, it improves content and helps delivery. This could be more systematically labour-market oriented, with more internships or traineeships in real work situations, something dual systems and all alternating schemes do already.

Recognising skills for employability is also linked to recognising non-formal and informal learning because this helps to identify training needs. Recognising non-formal and informal learning can also improve employability as evidence suggests that individuals become more aware of their knowledge, skills and competences when they have to document them and reflect on them. As a consequence, they become more productive workers. However, recognising non-formal and informal learning requires changes in the governance of qualifications and VET systems because recognising what individuals already know or can do leads to a shortening of formal VET. The way VET is organised and structured may have to be examined if individuals are to achieve a full qualification or be awarded partial qualifications on the basis of their prior non-formal and informal learning. Finally, an improvement of the information and guidance system will be needed as recognition of non-formal and informal learning could easily become a rival system rather than a complement to VET. In either case, individuals need to be clearly informed about the opportunities available to them.

If individual learners are trained for employability, and a system of measuring non-formal and informal

learning is used to recognise an individual's skills, knowledge and competences, this may lead to a learning agenda as opposed to an assessment agenda because individuals realise they need learning while being assessed, and/or training. It is not only a validation of prior learning system; it is a lifelong learning system.

4.11. Investing in pedagogical innovation

Efficient and effective VET will, over time, contribute to the value placed on the qualification that recognises this learning. Good delivery of education and training lowers costs for qualification-based learning. Individuals can be highly motivated by good-quality training while employers will see a reduction in training costs and better matching of training to needs. Good quality training will eventually impact on governance because there will be cost implications.

Investing in pedagogical innovation also acts on delivery because qualifications systems can require new assessment methods which, in turn, change to deliver the evidence for those assessments. It is possible to state that assessment methods control the curriculum and qualification development can improve the pedagogy by requiring modern assessment methods.

4.12. Ensuring qualifications are portable

Allowing qualifications to be used to make easier transitions between jobs or learning programmes will raise the value of learning for qualifications. In addition, individuals would be more inclined to participate if they could use their qualification to progress across education and training, occupational sectors, or within a sector.

Portability of qualifications seems to have an impact on fluidity in the labour market. Job mobility and, to a lesser extent, geographical mobility seem to be an issue in a lot of countries. Notwithstanding social, cultural and linguistic considerations, qualifications could make this mobility between jobs easier. The qualification

in question must be transparent in terms of the knowledge, skills and competences to which it attests and this may be a serious limitation. However, even if such transparent qualifications were available in every national system, there would still be the problem of equating national qualifications from different countries. Some international companies have developed qualifications that can be regarded as international (organisations such as Microsoft, Cisco, Novell, and 3 Com). Likewise, many international bodies offer accreditation and certification services for specific occupational needs. An international market for qualification

and learning has been developing for some years in higher education. Indications are that this type of international business in qualifications will continue to expand.

Besides full qualification, there is an opportunity to bring about more learning if partial qualifications are recognised in other countries. An employer would be able to move people with specific skills in their own company workforce abroad and so would be raising the currency and support for partial qualification. The Cedefop reference level study was directly linked to a vocational credit transfer system being developed by the European Commission. This system is geared to enabling

Table 1. **A summary of the effects of selected mechanisms on VET**

	Governance	Quality assurance and guidance	Information	Content	Delivery
Providing credit transfer	√√	√	√		√
Optimising stakeholders involvement in the qualifications system	√√	√	√	√	√
Recognising non-formal and informal learning	√	√ (not directly)		√	√
Establishing qualifications framework	√	√	√		√
Creating new routes to existing VET qualifications	√	√	√		√
Optimising quality assurance in the qualifications system	√	√√√	√	√	√
Expressing VET qualifications as learning outcomes	√	√	√	√	√
Improving needs analysis methods so that VET qualifications are up-to-date	√			√√	√
Improving information and guidance about qualifications systems	√		√√√		√
Recognising skills for employability	√			√	√
Investing in pedagogical innovation	√	√			√
Ensuring VET qualifications are portable	√	√	√	√	

Note: the number of tick marks (√) indicates the strength of the effect, if any.

people with learning achieved in one country receive qualification in another. Many countries (e.g. Belgium (Flemish Community), Denmark, New Zealand, Sweden and the UK) have developed or are exploring the development of credit transfer systems; these will be useful for employers in terms of not only managing deployment of their workforce but also increasing flexibility in other ways, such as recognising training episodes and making it easier to modernise qualifications incrementally. In Denmark a system of credits for partial qualification is used to forge a link between initial VET, and continuing vocational training.

However, portability of qualifications also means content relevance. If individuals possess qualifications not content relevant, they will not be portable. The system should deliver qualifications relevant to the users, among which employers are key players, because the most brilliant qualifications will end up being useless and non-portable if employers do not need them.

The preceding information on qualifications systems structures and the role of certain mechanisms in modernising VET can be summarised in a table linking the independent and dependant variables (Table 1).

5. The modernising power of European qualifications instruments

Recognising learning acquired through the VET system in another country is often complicated by the lack of communication between education and training providers in different countries. This problem is primarily caused by a lack of transparency of qualifications systems, by a reluctance to recognise 'foreign' qualifications, and by the lack of arrangements that allow citizens to transfer qualifications from one setting to another. It is also often caused by the tendency to regard learning acquired in non-formal and informal settings (for example in work) as inferior to learning for formal qualifications delivered through education and training institutions (Cedefop, Bjørnåvold, 2001). In a Europe where the mobility of workers and learners is growing, where citizens increasingly combine education and training from different countries, and where lifelong learning has become a necessity, the articulation between national qualification systems matters. In March 2005 the European Council of Ministers asked for the adoption of an EQF (European Commission, 2005). This framework is regarded as a key instrument in overcoming the problems of international recognition of learning. In May 2005 a full-scale consultation on the proposal for an EQF was launched. In February 2006 a conference in Budapest ⁽⁵⁾ on the subject of the EQF was informed of positive responses to the proposal and it was agreed to move forward with a proposal to the European Parliament. A Recommendation of the European Parliament and the Council on the ETF was debated and agreed with Member States (European Commission, 2006b) and was adopted in 2008.

5.1. How is the EQF intended to work?

The EQF is a meta-framework that will enable qualifications systems at national and sectoral

level to relate to each other; it is essentially a translation device. The core of the EQF is a set of eight reference levels, each defined by learning outcomes.

Figure 4 shows, in highly simplified terms, how it will be possible to align a qualification in one country with one in another, through the EQF.

The reference levels span the full range of qualifications from those that validate the learning outcomes associated with completion of programmes in primary and secondary schools to the learning outcomes associated with the most advanced qualification for senior professionals. This includes qualifications acquired through non-formal and informal learning and other lifelong learning opportunities.

Three types of learning outcome are proposed:

- (a) knowledge (factual and theoretical);
- (b) skills (cognitive and practical);
- (c) competences (reflecting the complexity of learning contexts).

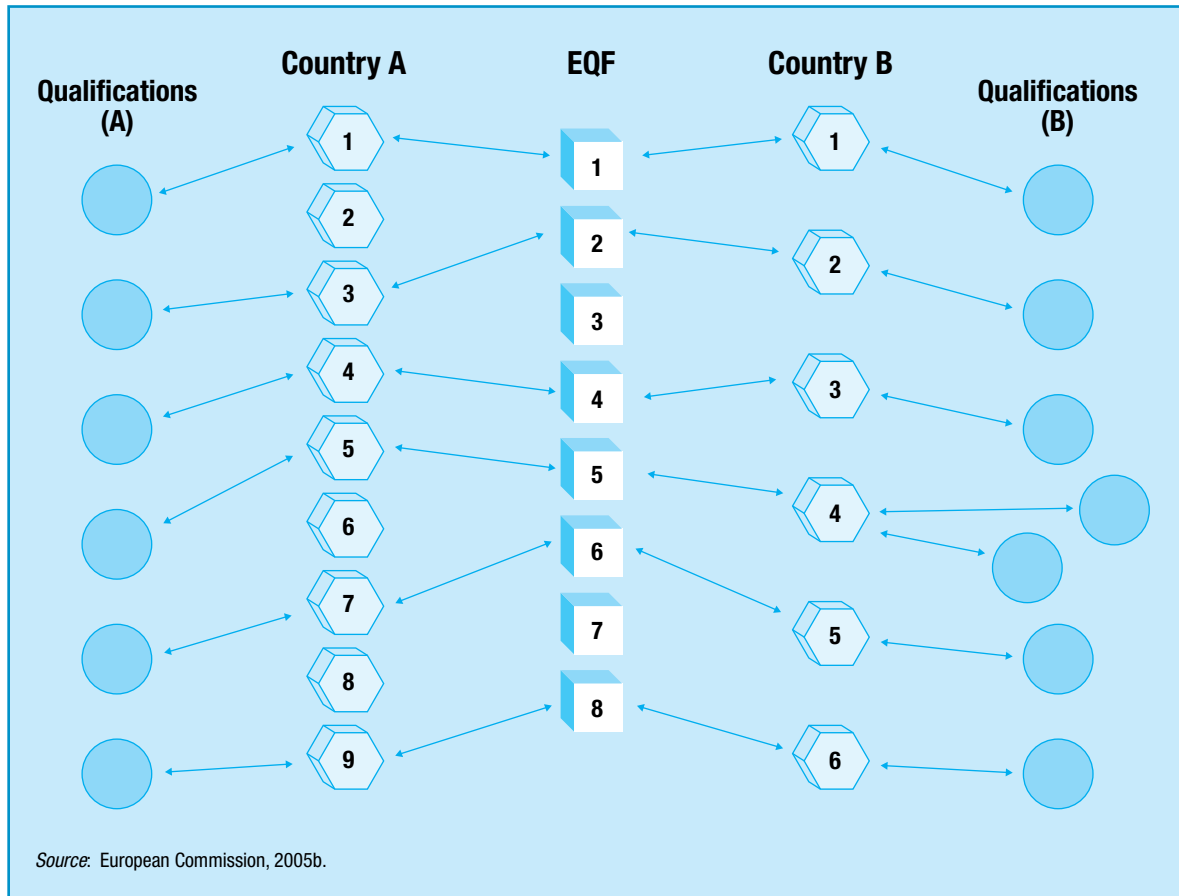
These three types of outcome are described at each of the eight levels of the framework in a way that eases amplification and exemplification by national bodies.

5.2. The influence on national systems

An increasing number of European countries are taking steps towards developing and implementing NQFs. This process has gained speed significantly during 2005 and 2006 and seems to be closely – although not only – related to the launching of the EQF in 2005. One of the most powerful elements of the EQF design, in terms of the modernising influence on national VET systems, is the way the level descriptors are written. Expressing curricula and qualifications as learning outcomes, while relatively common in VET compared to other education and training sectors, is still a developing

⁽⁵⁾ European qualifications framework – consultation to recommendation conference, Budapest, 2006.

Figure 4. The European qualifications framework



area. It seems likely that the expression of levels in the EQF as learning outcomes, and the requirement that European countries link their qualifications systems to the EQF levels, is leading to more national qualifications systems being expressed in learning outcomes; this goes some way to explaining why more NQFs are being established.

In 2007, relatively few countries – Ireland, France, Malta and the UK (England, Scotland and Wales) – had adopted and implemented a NQF. The attitude towards NQFs in the remaining European countries can be categorised in the following way (Bjørnåvold and Coles, 2008):

(a) a first group of countries (Austria, Belgium, Bulgaria, Croatia, the Czech Republic, Germany, Hungary, Italy, Latvia, Portugal, the Slovak Republic, Slovenia and Turkey) have committed themselves, politically and/or legally, to the development of an overarching NQF explicitly linking into the EQF;

(b) a second group of countries (Denmark, Estonia, Lithuania, Luxembourg, the Netherlands, Norway, Poland, Romania and Sweden) have started preparations for a NQF but have not committed themselves to the implementation of an overarching framework. This second group covers countries at very different stages of development, from those still at an early reflection stage to those close to final commitment and implementation;

(c) a third group (Cyprus, Finland, Greece and Iceland) have not started preparations or have stated that an overarching NQF is not a priority.

A few countries started work on an NQF before the launch of the EQF (the Czech Republic, for example). However the majority of countries launched systematic activities in this area following the launching of the EQF consultation in July 2005. While the EQF has played an important role as a catalyst for reform, the rapid development of NQFs

cannot be understood without considering national level policy objectives, for example related to the need to increase flexibility and quality of education and training systems (Coles, 2007).

Another indicator of the influence of the EQF on national systems is the significant number of countries have developed (or plan to develop) their NQFs according to an eight-level structure (Belgium (Flanders and Wallonia), Croatia, the Czech Republic, Estonia, Latvia, Lithuania, Malta, the Slovakia, Slovenia, Spain, Turkey, the UK-England, Wales and Northern Ireland). This may, in some cases, be seen as an effort to bring national frameworks as close to the EQF structure as possible. The Irish and Scottish NQFs (respectively 10 and 12 levels) illustrate that an eight-level national structure is not the only option.

Despite considerable differences between the countries in terms of approach, the learning outcomes approach is widely accepted, irrespective of the attitude towards NQFs. This focus on learning outcomes, sometimes expressed as a competence-based approach, is closely linked to the need to increase transparency and accountability of qualifications. These are critical conditions for transferring and combining learning outcomes from different settings and may be seen as necessary for achieving more, better and more equitably distributed lifelong learning. The learning outcomes approach has the potential to strengthen the accountability of VET, improve dialogue with the labour market and improve anticipation of future needs for VET knowledge, skills and competence.

Development and implementation of NQFs in Europe creates new opportunities for modernisation. For example, the development of overarching frameworks can be used to address the link between VET and other sectors of education and training, and, in particular, enable combinations of VET qualifications (and qualifications elements) with qualifications (and qualification units) from other parts of the education and training system, thus creating better access, transfer and progression. There is also an opportunity to develop better and more transparent links between public and private VET provisions.

NQFs are increasingly seen as an instrument for reform and change. The translation of implicit

qualifications levels into formal and explicit classifications based on learning outcomes allows qualifications frameworks to offer coordinating and planning power across education and training sectors and the labour market. The EQF has become a catalyst offering national stakeholders a starting point and a benchmark for codifying (and thus making more explicit and accountable) qualifications levels and areas.

5.3. European credit transfer system for VET (ECVET)

During the early months of 2007 the European Commission concluded a consultation on the form of a credit transfer system (ECVET) that could enable learning outcomes gained in one country to be transferred to a learning programme in another (European Commission, 2006). It is too early for evidence of the power of the ECVET system to modernise VET, however ECVET is an instrument for international cooperation and sits alongside the EQF. Both instruments are based on common principles and concepts which favour approaches:

- (a) focused on learning outcomes expressed in terms of knowledge, skills and competence;
- (b) based on a process of qualification;
- (c) adapted to the demands of lifelong learning and all learning contexts, on an equal footing;
- (d) geared towards the mobility of people.

ECVET is a method enabling qualifications to be described in terms of transferable and cumulative learning units (knowledge, skills and competence) to which credit points are attached, and is intended to ease the transfer and accumulation of learning outcomes acquired by people moving from one learning context to another. It can become a mechanism to foster synergy between training providers through the support it will provide for cooperation between partner organisations, with a view to the transfer and accumulation of individual learning credits.

It is possible that, even where no explicit VET reform agenda is acknowledged in a country, there is a power within a simple classification of qualifications (EQF, NQF and ECVET) to transform

aspects of education and qualifications. This arises through the codification of the complex arrangements for qualifications in a country into a simpler form. Codification, or modelling, creates a relationship and a language with which stakeholders can readily engage. Without the codification of a framework, the hierarchy of qualifications, the knowledge, skills and competences to which they each attest, and the horizontal equivalences between qualifications, are often subject to incomplete or tacit knowledge. A qualifications framework is a more solid basis for discussing qualifications and their relationship, leading to proposals for development.

5.4. Codification can lead to reform

There is another effect of qualifications frameworks in terms of acting as a tool for reform. Sometimes modernisation requires multiple actions on different parts of the qualifications system (e.g. accreditation of qualifications, funding, and institutional arrangements). These coordinated reforms are challenging: choosing incremental 'one-at-a-time' approaches have the advantage of being less risky, cheaper and more manageable. It is arguable that the coordinating effects of NQFs, especially in terms of greater stakeholder engagement and redefined institutional roles and responsibilities, make it more likely that broader, coordinated reform programmes can be proposed.

The translation of implicit qualifications levels

into formal and explicit classifications based on learning outcomes allows qualifications frameworks to offer coordinating and planning power across education and training sectors and the labour market. The EQF has the power to become a catalyst offering national stakeholders a starting point and a benchmark for codifying (and thus making more explicit and accountable) qualifications levels and areas.

The codification offered by the European instruments (EQF and potentially ECVET) have created a language within countries for discussing qualifications levels in VET and made international exchanges more meaningful. The deeper understanding of qualifications levels in different countries has enabled peer learning across national boundaries. 24 countries have elected to join a group of countries to learn from each other about the processes involved in recognising learning outcomes (European Commission, 2005). Grootings and Nielsen state that the pressure to change VET systems has created an awareness of the need to move away from comparative performance to a greater focus on understanding the dynamics of system change in different country settings. They go on to explain that the focus has shifted to a more mature policy of sharing, cooperation and mutual support for national and regional reforms across borders, as witnessed by the programmes of cooperation led by ETF in the EU candidate and accession countries. Policy learning is replacing the simplistic notion of policy borrowing, where a specific part of one national system is transplanted into another national system (Cedefop, Grootings and Nielsen, 2008).

List of abbreviations

ECVET	European credit transfer system for VET
EQF	European qualifications framework
NQF	National qualifications frameworks

References

- Bjørnåvold, J. Coles, M. Governing education and training: the case of qualifications frameworks. *European journal of vocational training*, 2008, No 42-43.
- Behringer, F.; Coles, M. *The role of national qualifications system in promoting lifelong learning: towards an understanding of the mechanisms that link qualifications and lifelong learning*. Paris: OECD, 2003 (Education working paper, No 3).
- Cedefop; Béduwé, C.; Planas, J. *Educational expansion and labour market: a comparative study of five European countries: France, Germany, Italy, Spain and the United Kingdom, with special reference to the United States*. Luxembourg: Publications Office, 2003 (Cedefop Reference series).
- Cedefop; Bjørnåvold, J. *Making learning visible*. Luxembourg: Publications Office, 2001 (Cedefop Reference series).
- Cedefop; Grootings, P.; Nielsen, S. Policy learning: applying the changing learning paradigm for policy advice on VET reforms in transition countries. In Cedefop. *Modernising vocational education and training: fourth report on vocational training research in Europe: background report: volume 2*. Luxembourg: Publications Office, 2009.
- Coles, M. *A review of international and national developments in the use of qualifications frameworks*. Turin: Education and Training Foundation, 2006.
- Coles, M. *Qualifications frameworks in Europe: platforms for collaboration, integration and reform*. Conference paper for 'Making the European learning area a reality'. Munich, 3-5 June 2007.
- European Commission. *Education and training 2010, the success of the Lisbon strategy hinges on urgent reform*. Brussels: European Commission, 2004a.
- European Commission. *Maastricht communiqué on the future priorities of enhanced European cooperation in vocational education and training (VET)*. Brussels: European Commission, 2004b.
- European Commission. Education and training 2010: framework note on the implementation of peer learning activities. Brussels: European Commission, 2005a (EAC/A1/SV D(2005)).
- European Commission. *Towards a European qualifications framework for lifelong learning*. Brussels: European Commission, 2005b (Commission staff working document, SEC (2005) 957).
- European Commission. *European credit system for vocational education and training (ECVET): a system for the transfer, accumulation and recognition of learning outcomes in Europe*. Brussels: European Commission, 2006a (Commission staff working document, SEC (2006) 143).
- European Commission. *Implementing the Community Lisbon programme: proposal for a recommendation of the European Parliament and of the Council on the establishment of the European qualifications framework for lifelong learning*. Luxembourg: Publications Office, 2006b (COM(2006) 479).
- European Commission. *The European credit system for vocational education and training*. Paper for advisory group on vocational training. Brussels: European Commission, 2007 (CCFP 04 2007 EN).
- Felstead, A. et al. *Work skills in Britain 1986-2001*. London: Department for Education and Skills, 2002.
- Forfás. *The third report of the expert group on future skills needs*. Dublin: Forfás, 2001.
- Grubb, W.N. *The education gospel: the economic power of schooling*. Cambridge (MA): Harvard University Press, 2004.
- Hecker, U. Berufliche Mobilität und Wechselprozesse. In Dostal, R.J.; Parmentier, K. (eds). *Wandel der Erwerbsarbeit: Arbeitssituation, Informatisierung, berufliche Mobilität und Weiterbildung*. Nürnberg: IAB, 2000, p. 67-97 (Beiträge zur Arbeitsmarkt- und Berufsforschung, Vol. 231).
- NCVER. *Statistics 2001: survey of employer views on vocational education and training: national report*. Adelaide: NCVER, 2001.

- O'Connell, P.; Lyons, M. *Enterprise-related training and state policy in Ireland: the training support scheme*. Dublin: ESRI, 1995.
- OECD. *The well-being of nations: the role of human and social capital*. Paris: OECD, 2001.
- OECD. *Beyond rhetoric: adult learning policies and practices*. Paris: OECD, 2003.
- OECD. *The development and use of qualification frameworks as a means of reforming and managing qualifications systems*. Document prepared for the OECD activity on the role of national qualifications systems in promoting lifelong learning. Paris: OECD, 2004.
- OECD. *Promoting adult learning*. Paris: OECD, 2005.
- OECD. *Qualifications systems: bridges to lifelong learning*. Paris: OECD, 2007a.
- OECD. *Education at a glance*. Paris: OECD, 2007c.
- Spence, A. Job market signalling. *Quarterly Journal of Economics*, 1973, Vol. 87, p. 355-379.
- Van Ravens, J. Towards a framework for assessment practices in the context of work and learning: measuring human competences. In Colardyn, D. (ed.). *Lifelong learning: which ways forward?* Utrecht: Kennicentrum EVC, 2002.
- Werquin, P. Moving mountains: will qualifications systems promote lifelong learning? *European Journal of Education*, 2007, Vol. 42, No 4.
- Young, M. National qualifications frameworks as a global phenomenon: a comparative perspective. *Journal of education and work*, 2003, Vol. 16, No 3.

European strategies and priorities for modernising vocational education and training

Sandra Bohlinger, Dieter Münk

Abstract

Analysing European strategies and priorities and their potential impact is essential to ensuring sustainable development of vocational training. Several key aspects are involved.

First, there is the question of which mechanisms and management instruments should be implemented. We should distinguish between instruments that are deliberately planned and implemented (e.g. the open method of coordination, OMC) and those arising not from intentional developments or application but from the particular situation and legal conditions (e.g. conviction, reasoning).

In either case, we know little about how these mechanisms operate within vocational training. The absence, or insufficiency, of methods for measuring impact and the lack of clarity between cause and effect, make it even harder to examine this field.

It is against this background that this report focuses on some basic strategies and priorities aimed at promoting Europe's competitiveness. The starting point of our discussion is lifelong learning as a key to achieving this goal. Using several major strategies, we examine its conception, function and implementation, but above all its impact. These strategies include, among others, developing the European qualifications framework (EQF), promoting mobility and internationalisation strategies as a major element of economic and employment policy, and the effect of vocational training on the unemployed and on workers threatened by unemployment.

Table of contents

Introduction	182
1. Managing VET policy in globalisation and internationalisation	183
1.1. Political strategies and their impact	183
1.2. Demonstrating how political strategies work	184
1.3. Good governance and (softer) policy tools	185
2. Context and challenges	187
2.1. Lifelong learning	188
2.2. Consequences for competence development	190
2.3. Financing of lifelong learning	190
2.4. Measuring and evaluating lifelong learning effects	192
2.5. Participation in lifelong learning	192
3. National and European qualifications frameworks	194
3.1. Qualifications frameworks and qualifications systems	196
3.2. Requirements for introduction: drivers of change	198
3.3. Anticipated benefit of NQFs and the EQF	200
3.4. European qualifications framework	201
3.5. Competence: the core concept of the EQF	202
3.6. The impact of qualifications frameworks	205
4. Mobility	209
4.1. Geographical mobility	210
4.2. Framework conditions	212
4.3. Monetary influencing factors	213
4.4. Other impacts	214
5. Strategies for internationalisation of VET	216
5.1. Internationalisation concepts	210
5.2. ECVET	217
5.3. Quality assurance	218
5.4. The Leonardo da Vinci action programme	221
5.5. Impact	222
6. VET for the unemployed and for workers threatened by unemployment	223
6.1. Global context	224
6.2. Evaluation results to date	225
6.3. Impacts	226
7. Conclusions	230
List of abbreviations	232
References	233

List of tables, figure and boxes

Tables

1. Economic and financial factors inhibiting financing of lifelong learning	191
2. Typology of qualifications systems in selected countries	207
3. Types of mobility in selected OECD countries on the basis of various criteria	212
4. Effects of the brain drain from the perspective of sending countries	214
5. Examples of the aims of internationalising VET	216
6. Examples of best practice in implementing quality assurance in VET	220
7. Examples of best practice in promoting mobility in VET	221
8. Functions and objectives of CVET	225
9. Participation in formal and/or non-formal and/or informal CET by education and employment status (2003), %	227
10. Summary of findings on the influence of ALMPs	229

Figures

1. Benchlearning between various learning pathways	217
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Boxes

1. Characteristics and processes of the open method of coordination (OMC)	185
2. History of the concept of lifelong learning	189
3. Development of competence as term and concept	204

Introduction

Strategies and priorities applied to modernising European vocational training indicate the direction to be taken to help achieve the goal of a competitive Europe. Employability through lifelong learning becomes the key strategy in all areas of education and training. It must be acknowledged within vocational education and training (VET) that the boundaries between higher education and VET are becoming ever more fluid. The clearest sign of this is the development of the European qualifications framework (EQF) and credit systems. But it is also becoming increasingly difficult to delimit formal educational channels and different types of education and qualification, in areas such as the promotion of mobility and in educating and training groups at risk.

Many measures are in place at national level to support the Lisbon objectives and to deal with these trends. In some areas, such as developing national qualifications frameworks (NQFs), only a few countries are planning, or are developing, specific measures. Strategies are often based on consultations, on a precautionary 'wait and see' approach to actions by the Commission, or on a cautious weighing-up.

This report sets out to provide an overview of the priorities and core strategies for VET, to identify the potential impact of the strategies, and to draw tentative conclusions from them.

Section 2 discusses the fundamental concepts

that form the basis for the international debate on strategies, priorities and control options within globalisation and internationalisation. The open method of coordination (OMC), as the most important coordination method in VET, has a particular role to play in policy control mechanisms. Although the OMC is being used, alternative policy instruments are also coming into being.

Section 3 discusses modernisation trends in VET as a result of political strategies and priorities. At the heart of this lies lifelong learning strategy, and the consequences of this concept for developing skills.

The subsequent sections contain an analysis of various strategies for promoting VET and consequent employability.

The provisions/strategies to be examined include:

- (a) the introduction of the EQF and its relation to NQF, including the European credit transfer system and European credit system for VET (ECVET);
- (b) an analysis of geographical mobility as affected by the VET policy area;
- (c) strategies for internationalising VET, including quality assurance;
- (d) the effects of VET measures for the unemployed and for workers threatened by unemployment.

1. Managing VET policy in globalisation and internationalisation

Two similar and apparently contradictory trends have long been apparent in EU Member States. The first is the effort to maintain, as far as possible, the national VET structures handed down through time. This is supported by the subsidiarity principle, unity in diversity. Second, all countries find themselves facing similar challenges as a result of globalisation and internationalisation (Immerfall, 1995; Lipsmeier and Münk, 1994, p. 7).

Globalisation can be seen as the abolition of borders, in which national and natural frontiers become increasingly insignificant, physical distance is cancelled out as a result of technical and technological developments, and further innovations are driven forward (Castells, 2000; Cedefop, Descy and Tessaring, 2001, p. 147 et seq.; Hotz-Hart and Kuchler, 1999, p. 9). Globalisation is associated with competitive innovation; it also involves optimum exploitation and the creation of new knowledge. It is a process of intensification, technologisation and networking of (trade) relationships, generating new divisions of labour and greater interdependence of economies worldwide (Beyfuß et al., 1997; Trinczek, 1999).

In contrast, internationalisation represents the intensification of relationships in action. It is similar to globalisation in quantity but not in quality, since this intensification applies only to established industrialised nations and a few developing countries (Wade, 1996).

In established industrialised nations globalisation takes the form of internationalisation strategies. Generally, those obtaining VET qualifications are expected to have several kinds of knowledge: broad, specialised and intercultural, experience-based and theoretical, and knowledge of other languages. So far curricula reflecting a mainly national view have had international references added to them. These are now being internationalised – albeit with much more effort, at greater cost, and hence more slowly – by the incorporation of training placements in other countries. This process does not call national sovereignty into question, as the internationalisation of VET consists primarily in linking existing VET systems with one another

to form a network and preparing trainees for a working life in a globalised world.

Both these trends are also influenced by the European dimension of VET. The ultimate aim of all international activities is to make the European Economic Area more competitive via regionalisation in a supranational arena. To achieve this, the goal is to balance out existing tensions between the EU and the individual Member States.

Globalisation has a dual function in this Europeanisation: the first is to create new conditions which in turn increase internationalisation-related activities. Education and training also become subject to globalisation, capable of performing and competing in global markets.

This means globalisation and internationalisation can be described as ‘structural drivers of change [that are] forces likely to affect the structure of an industry, sector or market. It will be the combined effect of some of these separate factors that will be so important, rather than the factors separately’ (Johnson and Scholes, 2002, p. 103). These are the forces driving the development of strategies to manage these trends, which concern society as a whole.

1.1. Political strategies and their impact

EU education and employment policy has only limited leeway to make an impact through legislative instruments. In addition to this indirect possibility, and given that the ‘perception of falling behind one’s neighbours or competitors has been identified as a main cause for indirect coercive transfer’ (Dolowitz and Marsh, 1996, p. 349), coordination and impact are often based on moral sanctions on the principle of ‘[changing] the distribution of power and resources between actors in the national arena’ (de la Porte and Pochet 2002, p. 50).

In the policy debate, persuasiveness, the quest for supporters and the simple receptiveness of

governments and politicians to innovation have proved softer policy tools.

The impact of strategies on education and training can be measured indirectly. The OMC has been commonly used here for some time (see next section), in combination with benchmarks and indicators used to review the goals envisaged with the aid of the OMC. The advantage of using benchmarks is the ability to describe a Member State's profile of strengths and weaknesses and to derive suggestions for improving a country's situation. In a wider context, this can be used as a basis for developing further tools, for example in the introduction of the EQF, without the need to interfere with national sovereignty (Werner, 2006).

Regarding the impact of political strategies, the term 'political' (*politische*) here refers to the content-based or material dimension of politics, in the widest sense; not simply government policy but also, for example, company or association policy. The three English terms 'policy' (the content), 'polity' (the formal dimension) and 'politics' (the process) are all related and all covered by the German term *Politik*. 'Polity' represents the structural, formal and institutional dimension of politics in the sense of State organisation or social order, while the more general term 'politics' covers process, and includes electoral procedures, ballots, lobbying and public relations work, among other things. Thus, in the widest sense, 'politics' means the regulation of coexistence in society.

In this context, policy transfer, i.e. the specific implementation of political strategies and their influence, is understood as a process 'in which knowledge about policies, administrative arrangements, institutions and ideas in one political setting [...] is used in developing policies, administrative arrangements, institutions and ideas in another political setting' (Dolowitz and Marsh 2000, p. 5).

Policy transfer can be effected either by coercion or on a voluntary basis. In some areas the existence of a supranational organisation like the EU promotes a type of policy transfer based on coercion. However, in the case of policy instruments used in education and employment (such as the OMC), it would be a mistake to hope for direct transfer strategies based on regulation:

such a procedure is out of the question in education and can be used to only a limited extent in employment policy, owing to the subsidiarity principle and the prohibition on harmonisation. This is all the more true in that the OMC takes place outside formal sanction mechanisms.

1.2. Demonstrating how political strategies work

The effectiveness of political strategies as a reference target for social changes is dependent on various factors. The effect of coordination mechanisms and systems used for these changes varies according to their actual use and the extent to which rules and goals are binding, and also the extent to which the relevant players and the attention of the public are integrated.

The effects of policy on the Member States can be measured only indirectly by output variables, which must in turn be linked to the targets previously set. However, it remains difficult to make the comparison: 'nevertheless, from a methodological point of view, the lack of precision of the guidelines leaves us with the problem that a correspondence of enacted policies with the guidelines does not suffice to prove that a policy transfer has occurred' (Zohlnhöfer and Ostheim, 2005, p. 150).

This can be specifically shown by the impact of the European employment strategy on national labour-market policies (RWI/ISG, 2002). Measurement of the impact (in this case the correspondence of national measures with EU guidelines) usually produces vague results. For example, the correspondence of measures with guidelines may not have a causal basis, and may be influenced by other factors, but is assessed as correspondence and thus as impact.

This means it is not enough for measures and guidelines to correspond in order correctly to measure the impact of measures and strategies for implementing objectives such as the Lisbon objectives; instead, it must also be possible to show that the measures were actually taken only as a result of the guidelines. This is one of the core problems in analysing the effectiveness of political strategies and priorities.

1.3. Good governance and (softer) policy tools

With the Lisbon decisions, the European Council heralded a reorganisation of European education and training policy and decision-making and has involved education ministers in formulating employment-policy guidelines. It introduced the rolling-agenda model and the OMC, which, having recourse to the subsidiarity principle, involves the following parties in developing an informed opinion, in the form of network governance: the EU Member States, their national, regional and local institutions and the social partners, NGOs and companies; this is combined with a stronger leadership and coordination function for the European Council.

The intention of the European Councils in introducing the OMC was to inject a decisive impetus into education and training policy (Berggreen-Merkel, 1998, p. 142), since this is more strongly based than other instruments on an integrationist approach. There will be guidelines setting out the short-, medium- and long-term targets applicable throughout the EU, taking account of the diversity of nations, and a detailed plan for implementation will be drawn up. The guidelines produced will be translated into national and regional policy by specified targets and appropriate measures.

Compliance with the targets adopted will be overseen by regular monitoring, evaluation and reciprocal review, to facilitate reciprocal learning and progress and make it possible to assess one's own progress in comparison with others (peer-review procedure). In this context, the comparison method will be considered for evaluation, i.e. benchmarking will be designed to stimulate Member States to improve their performance. It is also intended that individual countries should base their actions on the best-performing countries, on the overall basis of a global comparison.

Annual reports will be published and transmitted to the European Council. This is designed to promote a learning process for the Member States across Europe, as a result of which the Community will assume more of a coordination function.

Admittedly, this procedure is not legally binding, since education policy does not have a

standardised legal basis, but is based on the self-commitment of the Member States. At the same time, the benchmark-based ranking will exert additional pressure on governments. This means that even though there are no sanctions available and it is not legally binding, the OMC is more than just a symbolic policy, since it gives rise to political pressure, which can have a considerable effect on a Member State's reputation in the eyes of the public (Régent, 2002).

Some Member States (e.g. Germany, Cyprus, Malta, Austria,) acknowledge the goal is to agree on common ideas for modern education policy in Europe, provided the specified goals preserve the competences of the individual levels, and national policies retain adequate scope, but 'that is no longer the case with European monitoring systems, indicators and prevailing European standards' (Berggreen-Merkel, 1998, p. 143). Even though these instruments are no longer wholly rejected, and most Member States are accepting and implementing the European education and training goals, some countries are holding back, for example as regards introducing modularised training programmes or the EQF (Section 4.4). In Germany, for example, policy-makers (in education) (DGB, 2005; *Spitzenverbände der deutschen Wirtschaft*, 2005) and academics (Drexel, 2005; Rauner et al., 2005) fear the loss of skilled-worker status and the dual training system.

Box 1. Characteristics and processes of the open method of coordination (OMC)

While respecting the breakdown of responsibilities envisaged in various EU treaties, the OMC is a way of spreading knowledge of best practices and achieving a greater convergence towards the main EU goals. It is a new form of cooperation for Member States based on a fully decentralised approach using variable forms of partnerships and designed to help them progressively to develop their own policies. It is based essentially on:

- priorities and benchmarks agreed across Member States;
- benchmarking exercises to gauge the progress of EU Member States towards achieving the objectives and benchmarks set;
- identification of examples of good and best practices;
- finding effective and practical ways to share best practices through peer review exercises.

The OMC is open as regards the education-policy players and the modifications and learning processes to be put in place. The type of coordination provided for by the OMC relies on 'persuasiveness, moral competition and an obligation to provide public justification in the event of sustained deviation from the jointly agreed guidelines instead of tough sanction tools' (Schmid and Kull, 2004, p. 6).

Nevertheless, caution must be exercised in evaluating the introduction of the OMC since, in addition to the major advantage that it offers the Member States great freedom of action, it

also conceals disadvantages and fails to resolve the fundamental problem of evaluating learning outcomes via indicators as assumed quality characteristics: 'it is not merely an economic growth factor that lies behind "human capital", but people with emotions and desires. Even at European level, education must not simply promote digital knowledge and IT skills, without taking account of the specific moral, spiritual, context-dependent, social and individual capacities, the creativity and innovativeness, the quality, skills and experience of individuals' (Bektchieva, 2004, p. 76).

2. Context and challenges

The March 2000 Lisbon Summit aimed to ensure, among other things, the employability of European citizens of working age. Therefore the EU set the following goals: to make employees and companies more adaptable; to bring more people onto the labour market for a longer period; to increase investment in human capital more effectively and more efficiently (partly by lifelong learning); and to improve governance, to improve the introduction and implementation of measures.

The most important policy concept for promoting the prosperity of the EU and competitiveness via employability is investment in a knowledge-based society and hence the promotion of lifelong learning (Alexiadou, 2005, p. 128 et seq.; European Commission, 2005b). At the heart of the concept is learning throughout the entire lifespan, to improve knowledge, skills and competences (KSC) for personal, civil, social and work-related purposes. Lifelong learning involves formal, non-formal and informal learning, as well as active citizenship, self-confirmation, social inclusion and professional, vocational and work-related aspects (Leney et al., 2004, p. 21). Several innovative educational concepts and ranges of provision are being developed and put in place with a view to implementing and actively promoting lifelong learning. They include:

- (a) the development/imparting of key skills opening the doors to the knowledge society, including the imparting of entrepreneurial skills;
- (b) systematic approaches covering all forms of learning, all those involved and the entire lifespan; one example is the development of a credit transfer system covering not only higher education but also initial VET (IVET) and continuing VET (CVET), and non-formal and informal learning;
- (c) learner-focused approaches, in which measures and action programmes are implemented primarily from the perspective of the learner, and with the use of new technologies and media;

- (d) approaches in which motivation to learn is to the fore and corresponding measures, especially the aim of 'learning to learn', are adopted;
- (e) approaches covering the multiple aims of education policy, such as learning for one's own self-realisation, personal development, and economic, social and cultural goals (Alexiadou, 2005; Coulby, 2005; OECD, 2005c, p. 33).

This is the context in which the Barcelona European Council (2002) determined to make European education and training systems a world quality reference by 2010 with lifelong learning. But some of the countries involved lack fundamental elements, such as:

- (a) the preconditions for high-quality training, e.g. via innovative and up-to-date teaching/learning methods (Buchberger and Buchberger, 2002; Buchberger et al., 2000);
- (b) high status and role for teachers/trainers, who constitute a key element for lifelong learning and are active in the grey zone between advice on learning and teaching/instruction (OECD, 2005a);
- (c) the development, use and uninterrupted improvement of quality assurance systems (OECD, 2005b, p. 75 et seq.);
- (d) information, advice, support and increased interchangeability of the various education channels (European Commission, 2005b, p. 18 et seq.; Cedefop, Tessaring and Wannan, 2004, p. 4).

These points are important to ensure the provision of high-quality education to promote lifelong learning. Minimal cross-border mobility and inadequate social integration are obstacles to their improvement. Against this background, certain priorities for vocational development have been established (reducing the number of low-skilled workers, promoting CVET, increasing mobility, ensuring investment in the quality of CVET and ensuring the quality of appropriately trained vocational trainers) (Cedefop, Tessaring and Wannan, 2004, p. 7 et seq.).

The need for action to be taken on these priorities is apparent from the many years of structural unemployment resulting from sustained labour-market imbalances, as expressed in high unemployment accompanied by a lack of highly skilled workers. In 2006 a total of 7.8% of the overall EU population of working age were unemployed. The figure rises to 17.5% for the under-25s. There is a marked imbalance depending on the qualification level: low qualified (ISCED 0-2), 11.4%; average qualification level (ISCED 3-4), 8.1%; highly qualified (ISCED 5-6): 4.6% (Eurostat).

In addition to these structural issues, demographic changes are also important. By 2050 the average age of the EU population will increase to 45, from 39 in 2000. Between 2004 and 2030, the number of 15-54 year-olds will fall by 33.6 million. At the same time, the number of older people of working age, between 55 and 64, will rise by 14.5 million (Cedefop, Tessaring and Wannan 2004, p. 21; Eurostat, 2005).

This problem cannot realistically be resolved by promoting worker mobility, for example via study visits, foreign language teaching, CVET outside the home country or financial incentives for vocationally-oriented visits to other countries; only approximately 2% of the EU population of working age live permanently outside their country of origin and are in paid employment. Instead, further developments are needed to increase the number of employees and employability in general. The measures and strategies designed for this purpose include:

- (a) labour-market and employment policy measures, i.e. active labour-market policy with training components and political strategies in human resource development (including in Austria, Belgium, the Czech Republic, Denmark, Germany, Greece, Liechtenstein and the UK);
- (b) continuing training measures for older workers for the recognition of non-formal and informal learning and qualifications programmes designed to lead to qualifications via second-chance schooling, including continuing training in enterprises and in which the social partners are involved in the programme activities; the countries involved include Belgium, Estonia,

Ireland, Greece, France, the Netherlands, Austria and Finland;

- (c) wide-ranging lifelong learning provision involving the use of new media such as distance learning and e-learning (e.g. Austria, the Czech Republic, Estonia, Italy, Latvia, Liechtenstein and Sweden);
- (d) training or lifelong learning provision for those not active in the labour market, i.e. qualifications measures, vocational reintegration programmes for women, and programmes for people over 50 (e.g. Ireland, Austria and the UK) (Cedefop, Tessaring and Wannan, 2004, p. 43).

2.1. Lifelong learning

Lifelong learning is seen as an opportunity to develop one's personality, to assure and extend continuing earning capacity, and to improve and stabilise individuals' employability and employment. It serves both to reduce disadvantages and to provide the economy with an adequate number of potential skilled workers.

Skills development is a key element of lifelong learning strategy, making a contribution both to employability and to the demands of a learning society; an absence of skills may lead to unemployment, disadvantage or social exclusion. For this reason, all European countries offering offer a range of measures based on various political strategies and exerting different influences on the promotion of lifelong learning.

As yet there is no uniform definition of lifelong learning to which all concepts and strategies relate. Instead, the strategy is geared to the idea of promoting learning by all individuals at all stages of life and in all spheres of life, and in the most varied learning venues and in diverse forms. Thus lifelong learning is both a guideline for, and an objective of, education policy (BLK, 2004, p. 9 et seq.; OECD, 2005c, p. 5).

Competences or their development is a key concept in lifelong learning. Here, competences can be understood as a pattern of knowledge, skills and attitudes called for at particular stages of life and in particular phases.

Box 2. History of the concept of lifelong learning

Concepts of lifelong learning involve differences in the way in which learning is imparted: the Unesco concept of *éducation permanente* (Faure et al., 1973) seeks to combine education and employment, while the concept of recurrent education put forward by the OECD (Kallen and Bengtsson, 1973) and the Council of Europe focuses on alternation between phases of education (usually in institutionalised form) and employment.

Thus the latter concept represents an integrated approach, with lifelong education/training as a process in which individuals endeavour to develop further and to integrate personal, social and vocational skills throughout their life, ultimately to play a part in improving their own quality of life and in society (Knoll, 1983, p. 282).

At the heart of all the Council of Europe's documentation lies the strengthening of democracy and human rights by supporting individuals and their ability to take responsibility for themselves (Bírzéa, 2000, p. 15; Council of Europe, 1971, p. 13 et seq.).

The OECD concepts differ in this respect. In accordance with the OECD's remit, its earlier considerations centred on increasing the efficiency and effectiveness of education and training measures and investment, and hence on assuring equal access to education and training, for example via the concept of recurrent education (Kallen and Bengtsson, 1973), which is clearly linked to the human capital approach. The aim of recurrent education was to modify the education and training system, so that all individuals would be offered access to formal education and training throughout their lives (Tuijnman and Boström, 2002, p. 99).

When the concept was further developed in 1996 into 'lifelong learning for all', several lifelong learning objectives, strategies and financing issues were cited. Key points included support for personal development, reinforcement of democratic values, cultivation of social life in the community and the promotion of innovation, productivity and economic growth (OECD, 1996, p. 15). A further question raised was that of the costs of, and return on, investment in education for individuals, employers and governments (OECD and BMBF, 2003, p. 84 et seq.; Wurzburg, 2003, p. 7 et seq.). For example, investment in lifelong learning and in human resources should pay off first in terms of covering actual costs (economic sustainability) and, second, in terms of value added from financial sustainability (Wurzburg, 2003, p. 3; OECD and BMBF, 2003, p. 82). Thus the OECD calls for cofinancing by various participants (learners, the political world, entrepreneurs).

The approaches adopted by Unesco concentrated from the outset on objectives in education, science, culture and

information, and are aimed at assuring peace and prosperity. Seen from this perspective, lifelong learning is based not so much on the structure and architecture of a particular education system, but on implementation of a philosophical principle as regards the organisation of education (Tuijnman and Boström, 2002, p. 59). The central proposition is that learning processes do not have to be tied to institutional education systems, but can take place in any (formal, non-formal or informal) context. Thus the stated aim is to facilitate learning processes in various contexts and by various routes, including their accreditation and certification.

The principles of the European Commission's education policy on lifelong learning are set out in documents such as Memorandum on lifelong learning (European Commission, 2000c), the Communication on Making a European area of lifelong learning a reality (European Commission, 2001a) and the 2010 work programme (Council of the EU, 2002a, 2002b). Key areas are the assurance of basic qualifications for all and increased investment in teaching and learning methods.

With regard to educational practice, a call is made for enhanced cooperation between the players in all areas and the creation of gateways between different education systems and between elements of education systems (European Commission, 2000c, p. 12).

As policy decisions evolved in recent years, guidelines for education and training were formulated, incorporating the European employment strategy and the involvement of the social partners and youth. The 2010 work programme sets out several strategic objectives, to achieve the goals of lifelong learning in the context of education and training. These objectives include:

- improving the quality and efficiency of education and training systems in the EU;
- easing access for all to education and training;
- opening up education and training systems to the wider world (Council of the EU, 2002a, p. 7 et seq.).

This outline of the development of the concepts involved in lifelong learning shows how they have increasingly converged. This is apparent, for example, from the fact that the organisations have increasingly discussed the other concepts of and proposals for lifelong learning. It can be assumed that market internationalisation and globalisation trends are also affecting education, obliging organisations to cooperate more closely. The similar requirements in the various EU Member States can be seen as evidence that the concepts involved in lifelong learning are converging.

Several fundamental areas of conflict arise in the debate on putting lifelong learning into practice. These include the following questions:

- (a) in employability and key qualifications, should attention focus primarily on learning to learn or on content?
- (b) should the role of teachers and trainers be understood in future as being more important than that of experts or advisers?
- (c) should the range/depth or the selection of educational content be regarded as the main priority?
- (d) should content be structured thematically, as regards content, or analytically?
- (e) should students and trainees be regarded primarily as 'novice practitioners' or as learners/students minimally integrated into the labour market? (Cedefop, Descy and Tessaring, 2001, p. 127).

One possible solution to these areas of conflict is to shift the orientation of skills development from input to learning outcomes. Skills should be imparted throughout the learner's life in education. Moreover, increased individualisation and differentiation of training pathways (e.g. via modularisation, dual qualification or a combination of initial and continuing training) offer new possibilities for skills development, particularly with regard to expanding groups of learners. A part is also played by learning geared to work processes, such as interactive learning, decentralised learning, 'junior firms', coaching and mentoring, self-organised learning and learning in the work process (Cedefop, Descy and Tessaring, 2001, p. 129 et seq.).

2.2. Consequences for competence development

The coincidence and interdependence of globalisation, technological development and changes in work organisation are leading to increased demand for higher qualifications. It is becoming ever more important to develop the necessary KSC so, with their aid, people can safeguard their jobs, obtain employment and be flexible in their labour-market activity (Lutz, 2003).

Specialist skills in the narrower sense of the

term remain important but the category of key competences has become more important for employability (Cedefop, Bjørnåvold and Tissot, 2000). Key competences include the ability to acquire new qualifications and skills and to adapt to changing (technical) conditions, and also to be geographically, sectorally and socially mobile on the labour market, to support one's own career development.

Key competences vary in type and number, but it is generally agreed they need to enable individuals to make a valuable contribution both at work and in society. Education and (initial and continuing) training are the two main pillars of competence development. This means there is a great need to develop key competences by promoting VET, but there is also scope to do so. In addition, cultural differences and varying levels of economic and social development from country to country make it difficult to develop a common framework or common set of key competences, which can then be required and imparted in all countries and in all contexts (Riordan and Rosas, 2003). Despite key qualifications and skills development being of such importance, there is currently a great lack of basic research and, in particular, research into appropriate recording and measurement of competences (Cedefop, Straka, 2004, p. 298 et seq.; Vonken, 2005).

2.3. Financing of lifelong learning

Many countries have tested different financing mechanisms for lifelong learning. Tax policy mechanisms constitute a substantial component and can also serve as an incentive for finding mechanisms for sharing out investment and financial responsibility among the players involved (OECD, 2005b, p. 183 et seq.). The main obstacles in the way of bringing about lifelong learning include economic and financial barriers, while a shortage of time represents the main impediment to learning (OECD, 2003).

The main financing problems are currently found where the returns on lifelong learning are divided among many players (entrepreneurs, learners, the State), since there is then insufficient incentive

for one player to make the entire investment. As long as the cost of lifelong learning (or of individual aspects such as adult education or higher education) is directly linked to its returns, there is a risk of underinvestment (OECD, 2005b, p. 102). There are, therefore, several factors inhibiting lifelong learning investment.

There are various possibilities for joint financing of lifelong learning, which can essentially be distinguished according to whether they involve financing of direct costs (such as books and fees), reimbursement of costs incurred earlier, or spreading of risk. The instruments used for this purpose include:

- (a) individual learning accounts operated as ‘partnership accounts’ by individuals, government and NGOs (e.g. Belgium, Austria, the UK);
- (b) education credits for learners (e.g. the UK);
- (c) education credits offered by the public purse, individuals or entrepreneurs (e.g. Belgium, France, Italy, Austria);
- (d) tax-policy: tax credits, tax allowances and tax-exempt savings on educational expenditure (e.g. the Netherlands, Austria);
- (e) direct financial assistance or agreements between employees and employers on a compensatory payment during continuing training (e.g. Germany, Sweden, the UK) (OECD, 2005c, p. 104 et seq.).

These tax-policy strategies show that lifelong learning began as a policy initiative instigated by education ministers, driven forward by employment ministers, and taken over and expanded by other fields of policy. One important reason for the general support for lifelong learning is that the basic idea is accepted both by governments and by the social partners (OECD 2005b, p. 123).

It was a long time before tax policy became associated with developments in lifelong learning. One OECD study (2005b, p. 124) derives three conclusions from several national studies and the political debate:

- (a) current political strategies vary from country to country; notable differences exist within the countries between individuals and companies as regards the handling of taxation on investment in human capital;
- (b) the (implicit or explicit) goals of these policies are not always consistent with the declared

Table 1. **Economic and financial factors inhibiting financing of lifelong learning**

Constraint	Initial education and training	Lifelong learning for adults
Level and distribution of benefits	Substantial social returns benefiting all of society	Some social returns, substantial private returns to individuals and employers
Under-investment caused by externalities (asymmetry between flow of benefits and financing burden)	Minimal because of dominant role of public systems financed through broadly levied taxes	Greater because of absence of joint financing mechanisms that can allocate financing burden according to benefits
Capacity to finance current investment through past or future earnings	Public financing on a ‘pay as you go’ basis allows paying for current expenditure through general taxes; use of public debt instruments to pay infrastructure costs through future earnings	Largely private financing on a ‘pay as you go’ basis (in the absence of loan facilities, bonding arrangements)
Risk of low returns on investment	Public financing spreads risk; income-contingent repayment loans shift some risk from individuals to government	Employers and individuals assume risk; few instruments for spreading risk

Source: OECD, 2005b, p. 103.

- aims of the countries to promote lifelong learning. This also applies to the principles applied to tax policy;
- (c) in addition, there is virtually no conclusive proof that tax policy exerts an influence on developing human capital, or that consequences ensue from the different policies observed from country to country.

2.4. Measuring and evaluating lifelong learning effects

To date, education and training statistics, and hence formal education and training systems, have been used as a basis for recording lifelong learning. This approach is also supplemented by data on individuals and companies (e.g. adult participation in education and training measures). In addition, information is compiled on work-related training offered by companies and the expenditure of private households on education, but the typologies used for educational performance or products allow this information to be meaningfully evaluated (European Commission, 2001b, p. 7).

Evaluation of the relevant data on formal learning processes does not suffice for the statistical measurement of lifelong learning. Instead, autonomous learning processes, on-the-job learning (non-formal learning) and informal learning processes also need to be included in the information obtained.

In contrast to the OECD definition of lifelong learning, a broader definition is employed, in which lifelong learning includes 'all targeted learning activities, both formal and informal, which support continuous improvement of KSC' (European Commission, 2000c).

For a more detailed analysis, the Commission suggests obtaining data on:

- (a) the learner structure (sex, age group, socio-economic profile, preferences);
- (b) the type of participation by learners in educational measures and learning activities (access, completion, learning);
- (c) the type of effects of participation on individual employment, status, career, and political thought and action;

- (d) (causes of) non-participation in lifelong learning (European Commission, 2001b, p. 23).

The aim of data collection should be to develop an integrated system of statistical information, with whose aid information from various fields can be combined and analysed so the connection between political strategies and their actual effects can be investigated. It would also be useful to collect data on the reasons for participating in lifelong learning, from the viewpoint of both learners and suppliers, and on the reasons for non-participation, and data on discontinuation of participation in learning processes.

2.5. Participation in lifelong learning

Participation in lifelong learning is a basic prerequisite for continuous adaptation of individual skills to the requirements of the labour market and the economy. The Council of the EU has, therefore, set a benchmark of 12.5% for participation among the working-age population (25-65) by 2010.

It always has been, and still is, the case that reliable and internationally comparable data on participation in lifelong learning are available only for some fields, which means the social effects of political strategies on the promotion of lifelong learning cannot be scientifically measured. Possible indicators for measurement of participation in lifelong learning include participation in IVET at upper secondary level, participation in higher education, and participation in continuing education and training (CET/CVET) both with the employer and outside the company in which the worker is employed.

The EU-25 average CET participation rate for 2005 is 11.0% in the week preceding the survey; in the new Member States it is 10.2% (representing a much more substantial increase than that of the EU-15).

However, these figures reflect only one area of lifelong learning. For example, in 2002, 40% of all employees took part in CET provided by their employer (Eurostat, 2004, p. 58). Here, the higher participation rates result from the much longer reference period of one year in comparison with the structural indicators.

It remains open to question whether these indicators can actually provide empirical scientific grounds for the relationship between promotion of investment in human capital and of lifelong learning and the associated anticipated increase in competitiveness and employability. For example, it is conceivable that the improved participation figures are due not only to increased motivation to learn but also to fluctuations in the economy, increasing fear of unemployment or pressure from

employees for CET. In addition to information on participation in education/training courses (e.g. type, duration, volume, financing), data on the reasons for participation are also needed, and, from the employer's perspective, data on the reasons for providing CET; these data should also make it possible to carry out not only qualitative but also quantitative research (particularly in an international comparison).

3. National and European qualifications frameworks

In the debate on the modernisation and competitiveness of vocational training systems, it is generally agreed that education/training in the sense of lifelong learning should contribute to employability and should be achieved with transparency, interchangeability and an emphasis on competences in terms of qualifications.

At European level, this aim is supported by developing a EQF and a ECVET. At the same time, NQFs are being developed at national level both within and outside Europe. Both instruments (EQF and NQF) can be seen as drivers of change, since they are expected to provide the impetus for several fundamentally required reforms and modernisation initiatives in VET systems.

At the same time, it is unclear how the desired transparency, comparability and transferability of qualifications and competences can be achieved with the aid of these instruments. A key area of conflict between the interests of economic and education policy is emerging.

The majority of the analyses of qualifications frameworks can be summarised in two categories. The first involves national surveys, usually on developing and introducing a qualifications framework. The best-investigated countries with a qualifications framework include New Zealand (Mikuta, 2002; Philips, 2003), South Africa (Allais, 2003; Cosser, 2001), Australia (Keating J., 2003), Ireland (NQAI, 2003) and the UK (Croxford et al., 1991; Raffe et al., 2005; Raggatt and Williams, 1999).

The second involves surveys from the perspective of organisations active at international level (OECD, Cedefop, ETF, ILO, European Commission), which provide an overview and a summary of experiences at national level (Deane and Watters, 2004; Young, 2002; 2003; 2005). Here, in addition to analysis of the current state of development, the search for classification criteria for frameworks is to the fore. The purpose of a framework is one example of such criteria, as when a qualifications framework serves primarily as a reference system for recognised qualifications

(¹). Many countries also have a conceptual framework designed primarily to record core principles and guidelines. The smallest number of countries, however, involves those in which a technical framework has been created, enabling qualifications to be classified on the basis of specific criteria for learning outcomes achieved. Deane and Watters (2004, p. 85) summarise these distinctions as follows: ‘a conceptual framework may include a philosophical rationale underpinning the approach to qualifications, core principles and operating guidelines. [...] a technical framework usually includes a classification of qualifications according to a set of criteria for levels of learning achieved. [...] while all countries have a qualifications system and many have at least a conceptual qualifications framework, not all have developed technical frameworks’.

Qualifications frameworks can also be classified on the basis of several characteristics including, according to Young (2005, p. 16), benchmarks, the use of learning outcomes to describe qualifications, classification in terms of subsequent employment, learning units, the volume of time (learning hours), and criteria describing or defining qualifications.

Research into qualifications frameworks confirms that there is significant correspondence between the goals applicable to development and implementation of NQFs, but that there is still not a single country that has a framework that actually embraces all the goals, tasks, skill types and qualifications developed. Moreover, all frameworks face several obstacles to their development and implementation and are the subject of fundamental political debate (Young, 2004). However, there is still not a single country (and this is also definitely the case at European level) that has a framework that actually embraces all the goals, tasks, skill types, qualifications and levels developed. All the variants also share organisational, scientific and, above all, political problems.

An attempt was made, with the aid of several qualifications frameworks (New Zealand, South Africa, Scotland), to standardise and combine

(¹) In the case of the EQF, this also applies to learning outcomes obtained outside recognised qualifications.

education and training in a single system. Particular problems arise from the fact that with integrative qualifications frameworks, insufficient account is taken of epistemological differences in terms of varying knowledge structures and different forms of learning (Ensor, 2003; Mikuta, 2002). It is apparent that, on closer examination, barriers to the introduction of qualifications frameworks regarded as epistemological actually prove to be political or institutional. For example, Heyns and Needham (2004) describe three types of barrier that are political or institutional in nature:

- (a) a power struggle between work and education taking place at political level;
- (b) a dispute about philosophical versus epistemological aspects;
- (c) a dispute among those working in education about the various opinions on what a qualifications framework should achieve.

Qualifications frameworks can be taken as an example of a general trend towards standardisation or convergence of different education systems and of the two subsystems of higher education and VET. However the specific measures and strategies in this connection may be structured in the national context, similar overall societal framework conditions are to be found in every country, as a result of which countries see themselves as subjected to pressure to effect fundamental reforms in education and training. Accordingly, Raffe et al. (2003) identify three types of standardisation: drives for curricular standardisation, organisational standardisation, and standardisation geared to the long term. At the same time it is apparent that, in developing their qualifications frameworks, some countries are promoting all three types of standardisation, while other countries, such as Scotland, are focusing primarily on standardisation measures geared to the long term.

A noteworthy point in this connection is that while current proposals for developing qualifications frameworks (at national and European levels) are closely related in terms of design, they draw almost no conclusions from experience acquired hitherto in dealing with qualifications frameworks. In this context, Young (2004) distinguished three types of problem in introducing qualifications frameworks; problems relating to policy, technical management and content/education. Policy

problems are primarily based on unclarified questions relating to responsibility for developing a qualifications framework, particularly since, ideally, these instruments should cover an entire education and training system. Problems relating to technical management arise from questions of responsibility and institutional structure, while problems relating to content/education arise from the area of conflict between pedagogic, curricular and assessment claims. This is all the more true in that, in many qualifications systems, learning outcomes are primarily assessed by holding examinations. However, a qualifications framework also covers (continuing) education/training of training personnel, and in turn must develop assessment systems and procedures for this group. Here, the main problem lies in adapting the (old) systems based, on teaching plans, to the (new) system, based on learning outcomes. The less familiar training personnel are with the relevant procedural logic and terminology of logic geared to learning outcomes, the more serious this problem is for them (Young, 2004, p. 2 et seq.).

Several conclusions can be drawn from the experience of countries that have already developed (and implemented) qualifications frameworks. The first is that the gradual introduction of a qualifications framework appears to be potentially more successful than ad hoc development and implementation of a framework, as in the case of South Africa. The second is that willingness to compromise and to seek consensus is a fundamental requirement for working on qualifications frameworks.

A third point is the establishment of elements of a qualifications framework that fit together precisely. Only if individual elements or separate sub-frameworks are themselves logical (e.g. for higher education or for VET) can the overall framework also be logical and consistent. The example of the Scottish qualifications frameworks shows that it was precisely these established building blocks (Young, 2004, p. 5) that made it possible to implement a qualifications framework for the entire education and training system.

The fourth key point is support from policy measures and strategies for the development and introduction of such an instrument. Developing qualifications frameworks is often based on the hope they might resolve fundamental problems of transparency, regulation and quality. However, the

examples of Ireland, New Zealand and Scotland show that this is asking too much, and that a qualifications framework 'is only one element in what must be a much broader strategy that includes staff and curriculum development, a review of funding, institutional improvement and developing a new assessment infrastructure' (Young, 2004, p. 5).

3.1. Qualifications frameworks and qualifications systems

There is no standardised definition of the term 'qualifications system'. Thus, there is no standardised model of a qualifications framework. Instead these vary depending on the country and conditions in which they have been established. It is worth going back to the current OECD definition of the term, which attempts to cover qualifications systems independent of national context.

Since qualifications systems essentially provide the basis for a qualifications framework, the two definitions build on one another. According to the OECD, 'qualifications framework' is to be understood as follows ⁽²⁾: 'a qualifications framework is an instrument for the development and classification of qualifications according to a set of criteria for levels of learning achieved. This set of criteria may be implicit in the qualifications descriptors themselves or made explicit in the form of a set of level descriptors. The scope of frameworks may be comprehensive of all learning achievement and pathways or may be confined to a particular sector, for example initial education, adult education and training or an occupational area. Some frameworks may have more design elements and a tighter structure than others; some may have a legal basis whereas others represent a consensus of views of social partners. All qualifications frameworks, however, establish a basis for improving the quality, accessibility, linkages and public or labour market recognition of qualifications within a country and internationally' (OECD, 2005c, p. 6).

However, this definition does not suffice to cover the creation of an EQF, since this is intended to

be a meta-framework. Therefore, the European Commission suggests the following potential definition: 'a meta-framework can be understood as a means of enabling one framework of qualifications to relate to others and subsequently for one qualification to relate to others that are normally located in another framework. The meta-framework aims to create confidence and trust in relating qualifications across countries and sectors by defining principles for the ways quality assurance processes, guidance and information and mechanisms for credit transfer and accumulation can operate so the transparency necessary at national and sectoral levels can also be available internationally' (European Commission, 2005a, p. 13).

Development of qualifications frameworks has been underway since the mid-1980s, and large parts of this development stem from the 1984 16+ action plan in Scotland and the national vocational qualifications introduced in the UK in 1986. A fundamental need for reform is becoming apparent in all countries, to make national education and training systems competitive and to improve the transition between the education system and the labour market. In the English-speaking countries in particular, several the same basic characteristics of educational structures are found when NQFs are introduced, necessitating fundamental and long-term reforms. The first is strict selection as regards participation in education, resulting in minimal participation figures in the compulsory education (Young, 2003, p. 230). For example, the value and status of vocational qualifications were traditionally established by shared practices (e.g. in commerce and crafts) and, in the case of educational qualifications, by subject and discipline. However, these professional and scientific communities excluded certain groups of people from qualification structures, or offered them only limited access, as can still clearly be seen today from the debate on the conditions for access to particular qualification pathways. This applies in particular to adult learners, who have to rely on their experience and their non-formally acquired knowledge and skills to be able to take part in such educational courses (Young, 2003, p. 229; detailed account in Blossfeld and

⁽²⁾ The European Commission also relies on this definition in its draft document on the creation of a European qualifications framework (European Commission, 2005c).

Shavit, 1993; Sen, 1997). Here, the introduction of common qualifications frameworks looks to bring about a shift from these qualifications systems, based on shared practices, to systems based on explicit criteria. Thus the aim of developing a qualifications framework is also to release qualifications from their traditional links with formal learning and institutionalised educational courses, and to create access for groups of learners traditionally excluded from certain education institutions (Young, 2003, p. 229). This also includes organising learning processes in educational and training contexts in accordance with varying criteria and logic processes and in different (overwhelmingly incompatible) systems. This, in turn, offers only limited possibilities for further developing qualifications.

The second characteristic relates to VET institutions, which are often independent of one another and organised on a sector-specific basis. Here too, there are only limited possibilities for moving from one of these specific qualification pathways to another and transferring accredited and certified learning outcomes achieved.

The third characteristic is the acquisition of qualifications by attending institutionalised educational programmes. This structure may presuppose barriers for several (potential) participant groups, who possess the knowledge and skills required for participation, but do not participate in these courses for other reasons. This is precisely why the introduction of NQFs seems to be a necessary and logical reform stage in these countries, as NQFs focus on learners, on transparency and on access to education, while at the same time not threatening existing routes to university. It also includes the need to integrate employees more closely into the process of describing and confirming skills and qualifications that are of relevance to the labour market. However, there is conflict between the demand for greater equality of opportunities and increased democracy (particularly in the education system) and the demand that the needs and requirements of employees and of the labour market be taken more into account.

The fact that many countries are involved in developing qualifications frameworks shows they are not a fashionable, transitory or European phenomenon, but a global one, although there is virtually no scientific debate on their introduction.

Instead, it more closely resembles the introduction of a new currency, which everybody wants, but whose meaningfulness many bodies (still) doubt (Young, 2003, p. 223). This can be attributed to several factors:

- (a) first the few scientific investigations addressing the topic. It is noteworthy, for example, that the investigations and studies concerned primarily involve opinions on Commission documentation (Bünning and Richter, 2005; Hanf and Hippach-Schneider, 2005; Mucke, 2004) or developing possible scenarios from the perspective of further development of a national education system; these scenarios, however, are not currently open to empirical review (Drexel, 2005; Severing, 2005; Rauner et al., 2006);
- (b) second, the fact that NQFs are often introduced with poorly qualified people within an education system in mind, to give them an opportunity to better classify their qualifications and to enable them to plan their future qualifications better (Young, 2003, p. 223);
- (c) third, in several cases the problem may be that qualifications systems have been introduced for qualifications that did not yet actually exist at the time when the NQF was implemented, as was the case in South Africa. Thus when the NQF was introduced in South Africa, not only was a framework created for qualifications that did not yet exist but a completely new terminology was also created, which the majority of potential NQF users do not understand, since it is not associated with any existing basis (Allais, 2003; Ensor, 2003). Similar processes are being seen in Estonia and Denmark, where extensive reform of the education system is to be expected in association with developing NQFs.

It is hoped that the introduction of NQFs will promote lifelong learning, the transformation of education systems, and open access to qualifications (Raffe, 1994; Young 2003, p. 224), described as an intrinsic logic of qualifications frameworks. There is also an institutional logic, which is generated by the educational institutions involved, the labour market, and regulatory and financing mechanisms. It is hoped that the following will ensue: a more rational qualifications structure, improved State control of competence development, the promotion of educational and

training mobility via the transfer of outcomes achieved, with the aid of credits, and hence improved international commercialisation of education and training provision. In addition, there is to be improved transparency and ability to portray the national potential for qualifications in an international context (e.g. in international statistics). The introduction of qualifications frameworks also involves autonomy for educational facilities, so that they will make the targets they achieve accountable, since what was hitherto fixed budgeting now becomes their own responsibility (Hanf and Hippach-Schneider, 2005, p. 10). There is a risk that, in the long term, education institutions will be more concerned with organising and managing learning processes and their outcomes than with their content and with imparting skills and knowledge. This is apparent, for example, in the current German debate on developing an NQF and on its compatibility with the EQF. The content of this debate is based not so much on the issue of imparting competences, knowledge, skills and abilities (and the basic research required to this end), but mostly on issues relating to structuring and organising the assignment of qualifications to reference levels, the award of credits, or the question of responsibilities.

3.2. Requirements for introduction: drivers of change

In addition to these fundamental characteristics, Young (2003, p. 225) identifies five requirements for introducing a qualifications framework:

- (a) all qualifications that can be obtained must be capable of description, so that standardised criteria can be drawn up, containing all types of qualification that can be obtained and all other forms of learning capable of accreditation;
- (b) it must be possible to depict all qualifications in a hierarchy or continuum, to be able to describe a framework of learning levels. The latter must in turn be matched to all types of accredited learning and all qualifications;

- (c) all qualifications must be capable of evaluation, particularly as regards learning outcomes, which must be independent of the form of provision, curriculum and pedagogic access route via which they were achieved;
- (d) it must be possible to divide all qualifications into units, which can be assigned to different levels with the same descriptors and can describe a quantity of hours of learning ⁽³⁾;
- (e) benchmarks must be employed so that all types of learning can be accredited and evaluated.

It must also be borne in mind that a successfully implemented qualifications framework evolves its own development dynamic and, in so doing, reconciles aspects relating to the past and to the future. If a framework is to be successful over the long term, account must be taken of its dependence on qualifications on the basis of the mutual trust and informal relationships between the players involved, something that can develop only over a lengthy period (Young, 2002).

These requirements form the basis for a learner-focused education and training system, with individuals and their learning progress and outcomes at its heart.

Different problems in the six assumptions cited arise in introducing NQFs; there are also major national differences in the intrinsic logic of the overall aims of qualifications frameworks. As a result, qualifications frameworks can be divided into two types, the first being 'strong and comprehensive frameworks', as found in New Zealand and South Africa, which set out to create a comprehensive framework for all qualifications. Frameworks of this type are often introduced on an ad hoc basis, include qualifications not yet existing at the time of implementation, and tend to adapt the (as yet non-existent) qualifications to suit the framework.

The other type can be described as 'weak and partial' or 'loose' frameworks, as found in Australia, Ireland and Scotland. They are characterised by a trend to adapt the framework to the existing qualifications (and hence also to some extent to neglect existing qualifications) and to ensue from efforts to reform a long-established education and training system. At the same time, these

⁽³⁾ It remains unclear to what extent this can be applied to non-formal and informal learning processes. It can be assumed that in this statement, Young is referring only to qualifications that can be obtained in formal learning processes.

qualifications frameworks also represent an alternative model to the strong and comprehensive frameworks (Young, 2003, p. 226). Qualifications frameworks, strictly organised, do not remain static but, over time, they become less strict and/or less rigid (Mikuta, 2002; Raggatt and Williams, 1999).

The goal is the same in both cases, namely to create a qualifications framework that provides a common basis of corresponding ideas, structures and aims, which fulfils essential conditions such as legality basis, and which facilitates the involvement of various groups of players (associations, chambers of trade and commerce, trade unions). However, this also includes the often-overlooked factor of disseminating information to the public at large (OECD, 2005c, p. 9).

At the same time, developing qualifications frameworks can be regarded as an expression of the wish to develop qualifications further in general. In this context, qualifications have several functions, including increasing the flexibility of education and training systems, covering the need for KSC on the labour market, expanding access to education and training, and increasing the mobility of learners (and potential learners). So, even though virtually no concrete experience of implementing qualifications frameworks is available, the question is still why governments are nevertheless driving forward developing these instruments so fast. It seems likely it is not so much that the associated reforms (of qualifications systems) are concerned with actually improving the quality of education and training, but that a qualifications framework provides governments with a planning tool.

Moreover, qualifications frameworks represent what is now almost a paradigmatic case of government intervention in a neo-liberal democracy. They are attempts to achieve greater central control while, at the same time, giving individuals and institutions the feeling of greater freedom of choice. Qualifications frameworks are often discussed in terms of their function, i.e. either as instruments of regulation forming the basis of control of the post-secondary sector, or as communication tools enabling learners and employers to make clearer statements about what qualifications frameworks should offer, where

qualifications should lead and where they should be established within the system.

As communication tools, qualifications frameworks offer learners potential guidance. With regard to the regulatory function, two global trends can be identified, increasingly the regulatory role. The first is the expansion of CET and higher education, which are also receiving increased attention, and the second is the increasing importance of accreditation of informal (or experimental) learning (Drexel, 2006; Young, 2003, p. 234).

There are also two forecasting models; outcome-based approaches in the English-speaking countries and institution-based approaches in Germany and France. Both are based on learning pathways within specific institutional, activity-related or academic communities.

These two models give rise to the question of whether economic forecasts of permanently increasing mobility and flexibility of employment, on which the strong versions of approaches geared to learning outcomes are based, are accurate. The intrinsic logic of qualifications frameworks based, above all, on trust and not simply on standards. However, it is not at all clear what the reference variables will be for these new 'communities of trust' (Young, 2003, p. 235) that are to underpin the new qualifications frameworks, if the academic system and institutional structures in the employment system are now of virtually no importance.

It is also apparent that qualifications frameworks unite the hybrid forms of KSC, i.e. the acquisition of learning content can be broken off and resumed at any point. This removes the constraint of structuring learning processes in particular ways (Muller, 2000). This topic is important, raising the question of the extent to which a qualifications framework can be applied. This also involves, among other things, the relationship between market and qualification. Despite the association of qualifications frameworks with neo-liberalism and market-driven reforms, the two factors are essentially based on different principles. Markets tend to be based on competition, while qualifications frameworks are fundamentally based on trust, and hence on cooperation between the players involved (Young, 2003, p. 235).

3.3. Anticipated benefit of NQFs and the EQF

Regarding the anticipated benefit of qualifications frameworks, a distinction is made between factors on two different levels: these are benefit in general and benefit in respect of promoting lifelong learning (OECD, 2005a, p. 10 et seq.), although they overlap to some extent.

The anticipated general benefit covers four areas, the first being development of the education and training system and of the general range of education and training options on offer. This includes reducing the complexity of the systems seen in many countries, facilitating coherence, and increasing transparency despite growing regionalisation, decentralisation and individualisation of provision. Assuring access to (continuing) education and training provision should be mentioned in the same context. It is also a stated aim that learners and teachers/trainers should be appropriately enabled to identify and implement their own learning pathways autonomously. In society as a whole, shaping aims should take account of individual, company, societal and labour-market attitudes and needs, assuring quality within education and training systems by, among other things, transferring and taking account of credits.

The second area of benefit is career development, support, advice and guidance, including promotion of mobility of employment. The framework is intended to support learners, providers and entrepreneurs in mastering technological and demand-based labour-market change and to facilitate a fit between supply and qualifications, skills and competences and supply and demand in the workplace.

The third area of benefit is the international and transnational dimensions. Here, frameworks are intended to help to increase mobility, cooperation and exchange, and to promote intercultural understanding and reciprocal recognition between providers, teachers/trainers and trainees from different countries and different parts of the world. They are also intended to facilitate the development of a common language in the discourse on qualifications.

The fourth area of benefit covers the functions of regulation, legislation and institutional framework

conditions. Despite differences and problems, several advantages are also expected in this area. These include the assumption that a regulatory framework improves both the promotion of mutual trust and the reliability and sustainability of the quality of provision (e.g. via sector-specific standards, quality assurance systems or increased autonomy of education/training providers).

The assumed benefit of qualifications frameworks in promoting lifelong learning involves several universal aspects (OECD, 2005a). At its heart is the establishment of lifelong learning as a tool for mastering changes in society as a whole. The details of this involve promoting a learning culture by taking account of demographic trends and of the creation of broader access to learning, to ensure that competences and skills can be transferred between different areas. At the same time, qualifications frameworks can stimulate improvement of basic skills for different groups of learners, and can enable qualifications to be compared on the basis of common reference points. This means learning can more easily target the needs of individuals and companies, and learning times can be reduced for learners who want to brush up and supplement knowledge acquired earlier, to acquire a formal education/training qualification. Overall, qualifications frameworks make it possible to achieve clarity in this area and to make qualifications more manageable for politicians, interest groups and companies, so that further reforms can be effected (OECD, 2005a).

Planning education-policy reforms and programmes has hitherto been based on the assumption that promoting lifelong learning via qualifications frameworks constitutes a controllable policy mechanism, which promotes structural change in education and training (e.g. via the creation of new qualifications) and sets out to change the surrounding systems in terms of quality, access, distribution or provision.

As yet, however, little is known about the specific influence of policy mechanisms and strategies in vocational training. To date there has been virtually no experience of control mechanisms as employed at European level (e.g. OMC), and such experience as there is relates to other policy (e.g. labour-market policy, environment policy) (Cedefop, Descy and Tessaring, 2005; OECD, 2005a). Thus there is a considerable need for research in this area.

The same applies to the relevant indicators. So far, the influence of qualifications frameworks on the promotion of lifelong learning has been measured using data on national education/training systems (access, efficiency, flexibility of learning pathways, responsibilities, transparency), data on learning processes (quantity, distribution, quality, efficiency) and data on trends, the value of which seems, however, questionable in terms of providing proof in relation to frameworks and lifelong learning. Another difficulty lies in the fact that some of the necessary quantitative data are lacking or are not comparable; in most countries the NQFs are too new for the relevant data to be available. This means, for example, an increasing number of students obtaining qualifications at upper secondary level or the number of those obtaining higher-education qualifications do not allow direct conclusions to be drawn on the causes and effects, or the context vis-à-vis qualifications frameworks.

3.4. European qualifications framework

At the end of 2002 technical working groups (TWG, 2005) began specifying the target standards for European education policy, with a view to drawing up, under the Commission's leadership, plans for ECVET and, in particular, for the EQF. The structure of the work on the EQF was fundamentally guided by a proposal developed on behalf of Cedefop by staff of the Qualifications and Curriculum Authority (QCA) (Cedefop, Coles and Oates, 2005). It is not surprising that the basic idea for developing the EQF is geared to the UK system, and brings with it corresponding advantages and disadvantages for other countries.

The EQF is to be submitted on a voluntary basis, will involve no statutory obligations, and is intended as a meta-framework for all areas of education and training (European Commission, 2005a, p. 4). Nor is it designed to compete with national or sectoral qualifications frameworks either already in existence or yet to be established, and it will neither synthesise these nor take their place.

The core of the planned EQF consists of reference points relating to learning outcomes,

based on KSC, classified into eight hierarchically structured stages and extending from simple basic qualifications to highly specialised knowledge. Use is also made of descriptors developed in the Bologna process for the three cycles of higher education (Sellin, 2005, p. 3). The reference points relate to various qualifications, linked via the qualifications frameworks used in Europe, and can thus make it easier to translate them. Unlike the existing NQFs, usually too rigidly based on formal education and not covering all types of qualification, the common reference levels are intended to include all KSC, irrespective of where, when and how these have been acquired. The qualifications required for each level are described by descriptors relating to learning outcomes only (Sellin, 2005, p. 3).

The individual Member States will be responsible for assigning existing qualifications to the framework levels. This may necessitate creating a relationship between input- and output based systems. There is a risk that competence levels and educational pathways may be linked in a ratio of 1:1, which would contradict the designated aims of the EQF. It is also feared that 'standardisation of qualifications as in the higher education sector' will suggest itself in this part of the proposal (BIBB, 2005a, p. 5; 2005b, p. 5).

In addition to these explicitly formulated aims in introducing an EQF, there seem to be several interests being pursued which are rarely directly expressed. One criticism is that the EQF could represent an attempt to make qualifications more transparent to workers only for companies to make better, more flexible use of them, without considering the preferences, talents and needs of the individual. Another criticism is that greater value is attached to employability than to personal development. At the same time, the intention is to stimulate the sector comprising education/training providers and validation and certification enterprises, which will in turn bring with it expansion of the entire European market for education-related services. This, in turn, is criticised in that it will mean indirectly subsidising an employment sector without considering content, i.e. improving options for access to lifelong learning. A further criticism is that the introduction of the EQF will constitute indirect support for creeping standardisation of national

education and training systems, something that cannot be directly pushed through owing to the prohibition on harmonisation (Drexel, 2005, p. 18; Drexel, 2006, Rauner et al., 2006).

As we have shown, only limited experience from the development of NQFs can be consulted in developing the EQF. At the same time, it is clear that an EQF disengaged from national developments and experiences seems likely to fail if it has no connection with the situation on the spot. This becomes particularly apparent in the debate on input- versus outcome-orientation of learning processes (Meyer, 2006).

At the same time, we can see that developing NQFs in the EU is proceeding hesitantly in some cases (e.g. Germany, Greece, Cyprus and Finland) and has to be regarded as dependent on national misgivings and problems of compatibility with national VET systems. Further, not all the Member States want to create a framework based on a qualification-oriented approach to reform (Young, 2004, p. 5), preferring to act on their experience of institution-based approaches to reform of the education system, especially as, in these approaches, qualifications are not regarded as 'policy instruments'. Thus, here too the conflict between income-oriented and learning outcome-oriented logic is apparent.

3.5. Competence: the core concept of the EQF

KSC are the core concepts of the reference levels. In the Commission proposal for a recommendation of the European Parliament and the Council (European Commission, 2006), competence is understood as meaning 'the proven ability to use knowledge, skills [...]. Competence is described in terms of responsibility and autonomy'. Skills are 'the ability to apply knowledge and use know-how to complete tasks and solve problems'. Here, a distinction is made between cognitive and practical skills. Knowledge means 'the outcome of the assimilation of information through learning. Knowledge is the body of facts, principles, theories and practices that is related to a field of study or work' (European Commission, 2006, p. 16). Accordingly, in the EQF knowledge is described

as theoretical and/or factual.

The concentration on a competence-based approach to developing the EQF arises from an increased awareness of concepts of adaptive and job-based learning processes, lifelong learning, and informal and non-formal learning. Central to this is the recording and accreditation of non-formally acquired learning outcomes and implicit knowledge. The starting point for defining the terminology of vocational KSC in the EQF was 'to establish a typology of qualitative outcomes of VET in terms of knowledge, skills and competences (KSC) that will serve as conceptual underpinning for the horizontal dimension in developing a European credit system for VET' (Winterton and Delamare-Le Deist, 2004, p. 1).

Winterton and Delamare-Le Deist and Winterton et al),., who produced two of the key documents for developing the EQF on behalf of Cedefop, fall back, in their draft KSC typology, on three strands of development that arose in differing cultures (France, the UK and the US) and from different areas of practice and academic disciplines (Cedefop, Winterton and Delamare-Le Deist, 2004; Winterton et al., 2005).

At the same time, the sources cited in their work do not seem to have been systematically selected, as is apparent, *inter alia*, from the fact that the approaches are barely compatible and that some of the current approaches that came into being at the same time, and also in work commissioned by Cedefop (e.g. Cedefop, Rychen, 2004; Cedefop, Straka, 2004), are virtually ignored. Another reason for the lack of stringency, in addition to the topic's complexity, may have been the wish to produce a KSC typology in accordance with the criteria in the official documents from the Commission and with a view to appropriateness for the EQF, particularly since some of the documents now started to form a basis for the KSC typology were produced after the basic EQF drafts.

In the documents, an attempt is made to derive the KSC concept from the strands of argument identified by the authors as prevailing at national level. Since these terms cannot be used in standardised form, there are no compelling grounds for using them. One example of this is the mixture of 'competences' and 'competencies', with an attempt to make a clear distinction between the two terms. It is also noteworthy

that the KSC concepts of only three countries (Germany, France and the UK) are explicitly discussed, whereas those of other countries only play a subordinate role (Winterton et al., 2005, p. 28 et seq.). For example, with regard to the competence debate in the US, reference is primarily made to sources relating to management training and, in particular, starting points for developing general abilities, attitudes and job-related skills. Developing the KSC typology takes account above all of approaches emphasising the job-related skills components, while tending to omit other conceptual developments in these countries.

In contrast, the sources from the English-speaking countries relate primarily to the debate on national vocational qualifications and associated knowledge and behavioural components.

The sources cited for the French-speaking countries are characterised by a holistic approach: with simultaneous emphasis on *savoir*, *savoir faire* and *savoir être*; a comprehensive view of competence is discussed, although it is illustrated not in integrated form, but by listing the categories (Winterton et al., 2005, p. 32 et seq.). At the same time, it is pointed out that if other national classification proposals were taken into account, this could lead to modification of the KSC typology, which the authors cross with the English-speaking countries' classification of levels to put in matrix form: 'knowledge (and understanding) is captured by cognitive competence; skills are captured by functional competence, and "competence" (behavioural and attitudinal, including meta-competences) is captured by social competence' (Winterton and Delamare-Le Deist, 2004, p. 19).

The difficulty the authors have in expressing the headings coherently points to the problems with theoretical consistency and the lack of clarity of objectives for VET, which cannot be concealed even by repeated references to correspondence with the Commission's ideas.

Coles and Oates show a different approach; they too developed one of the key documents for developing the matrix (Cedefop, Coles and Oates, 2005). They largely abstain from academic discourse on KSC, instead establishing, precisely on the grounds of the lack of clarity and agreement

on assigning terminology to these concepts, a further 'concept', namely that of zones of mutual trust. Here, the fundamental idea is that the entire EQF and hence also the cells of the matrix are 'an agreement between individuals, enterprises and other organisations concerning the delivery, recognition and evaluation of vocational learning outcomes (knowledge, skills and competences)' (op. cit., p. 12).

In this approach, there is essentially no analysis or detailed definition of the three core concepts (KSC): it is left to individual countries to formulate and interpret the terms, and the countries then assure recognition and transparency via mutual trust.

Several points remain unclear, starting with the concept of zones of mutual trust. The use of this term is based only on the fact that 'researchers have found it to be a powerful means of understanding the operation of selection processes and credit recognition arrangements' (op. cit., p. 13). The reason for the number of reference levels also remains unclear, appearing to be based more on a pragmatic process of negotiation than on a scientifically justifiable procedure (op. cit., p. 19). This view is also supported by the fact that the competence-level models of Dreyfus (1992) and Jacques (1996) cited by the authors as an academic reference are each based only on seven levels, while the EQF competence model is based on eight stages.

It remains unclear on what theoretically or academically supported approach to competence the matrix is based. As a result, it also remains unclear on what the specific gradings or the distinctions between the individual stages are based, particularly since the 'stages' are thought of rather as 'levels', which are intended to facilitate a smooth transition⁽⁴⁾. Analysis of the term 'competence' is still absent from newer versions of the matrix, as it was from the earlier version. Such an analysis would seem to be necessary for two reasons. First, it remains a justifiable basis for developing an EQF and would reduce the need for frequent revision of the matrix in the light of core concepts (KSC). Second, it would itself provide a justifiable basis for (further) developing NQFs.

A different path has been followed by endeavours in education policy, which are reflected in developing the EQF. Here, the aim remains diffuse, since the concept of competence, as one of the core concepts, is outlined anything but clearly, although

various descriptions exist under the keywords 'competence' and 'competence development'. This lack of conceptual clarity may be only one aspect of the competence debate, but it would seem to be crucial; it reflects the remoteness from theory with

Box 3. Development of competence as term and concept

In education research and policy, the term can be traced back to 'competence' in the sense of capability and ability (Roth, 1971, p. 291; White, 1959). Developing competence is based first on the capacity to construe knowledge, which in turn presupposes integration into actants in cognitive systems in process carriers (Baecker, 1998). Second, it is based on the capacity to construe ability as a routine of establishing order (knowing how). In both cases, a distinction must be made, clearly and analytically, between ability/knowledge and observation of ability/knowledge – one of the fundamental problems in developing, assessing and measuring competence. In this context, Polanyi (1966) introduced the concept of tacit knowledge, which covers differentiation between a process of knowledge and knowledge per se, and which was also taken up by Spender (1998), for example.

Competence development also presupposes the acquisition of human experience and social culture and leads to the (further) development of mental functions and functional organs, which ensues via the attribution of meaning (Leontjew, 1979). If this meaning is to be achieved, then learning as an element of competence development cannot take place in isolated contexts, but always needs to be integrated into (social) contexts, into communication and a specific purpose in the sense that, for example, knowledge is acquired via particular actions (Dawydow et al., 1982; Hedegaard and Lompscher, 1999).

Against this background, in the last few decades, a series of varied studies of particular aspects have been conducted, for example on expansive learning in the work process and on the formation of work systems through contradictions in work (Engeström, 1990; 2001; Miettinen and Hasu, 2002), or on consideration of problems and difficulties in developing the learning and collective competence of work teams and areas of work (competence laboratories) (Ahonen et al., 2000; Virkkunen and Ahonen, 2002).

The concept of competence – stimulated by the competence movement in the US in the context of organisational development and teacher training (Friedlander, 1996; Parry, 1998) – now has a lengthy tradition. Basic definitions, which are referred to in developing the EQF, inter alia, were developed by, for example, Jacques (1996) and Dreyfus and Dreyfus (1986). In

these definitions, competences are abilities, skills or potential understood as characteristics of individuals, but equally of teams, work units or organisations.

According to Arnold and Schübler (2001, p. 61 et seq.), six connotations can be distinguished:

- the sociological connotation (competence as responsibility);
- the industrial-science connotation (competence as a combination of 'may' and 'can');
- the psychological connotation (competence as a combination of declarative and procedural knowledge, meta-knowledge, 'wanting' and 'values');
- the business-management connotation (as competences generating behaviour)
- the linguistic connotation (according to Chomsky, distinguishing between linguistic competence and performance);
- the pedagogic connotation (commercial competence in the occupation).

In education research, the use of 'competence' goes back to Chomsky, in his speech-act theory. Chomsky distinguishes between linguistic competence as the speaker/hearer's knowledge of his language and language use (performance) as 'the actual use of language in concrete situations' (Chomsky, 1970, p. 14). Thus, the distinction between competence and performance lies in the fact that performance, i.e. the language transaction, is the result of competence⁽⁴⁾. Thus, according to Chomsky's interpretation, a competent speaker has the ability to generate an expression of language. Besides, the competent speaker has the creativity not only to apply the rules of language (structure, grammar, vocabulary, etc.), but also to use them to express any thoughts whatever. This ability also includes the meaningful combination of content with language rules, understanding of other speakers and reaction to other linguistic utterances. This also gives linguistic competence an interactive and social element, since the development of linguistic competence acquires meaning only in the context of the need to communicate with others. Here, competence is to be understood in outline as 'part of the basic genetic equipment of man as generic being' (Heydrich, 1995, p. 231), which does not have to be fundamentally generated, but can be developed.

⁽⁴⁾ This lack of clarity is also apparent in a revised draft of the matrix of 18 May 2006, in which the four types of competence (autonomy/responsibility, learning competence, communication/social competence, specialist/vocational competence) are summarised in a reordered category, 'autonomy and responsibility' (personal, social and organisational competences).

Habermas has recourse to speech-act theory and the intentionality debate according to Searle (1991; 1996, p. 198 et seq.) in developing Chomsky's theory further (Habermas, 1990). The major difference between Chomsky's approach and that of Habermas consists in the fact that Habermas also adds to the concept of communicative competence the actual generation of situations of communication, i.e. in Habermas's interpretation, linguistically competent speakers can form and reshape sentences. In other words, at the core of the theory of communicative competence is the question of how construction of sentences is linked to the communicative element.

The approach adopted by Baacke (1980) also goes back to Chomsky, to whose theory Baacke adds a behavioural dimension, while nevertheless retaining the division between competence and performance.

There have been many further developments of the concept of competence from particular viewpoints, such as pedagogic competence (Wienskowski, 1980) or that of psychology (Aebli, 1980; Wollersheim, 1993). Here, competence is interpreted as an external attribution, as a personality feature, cognition (pedagogic competence) or an ability, and as an inner susceptibility in association with particular attitudes, intentions, etc. (psychological perspective).

There are also different definitions and concepts of competence in VET. Here, the primary theme is the relationship between competence and qualification; in earlier approaches (Negt, 1990) the two terms are treated as equivalent, others try to achieve a clear distinction (Erpenbeck and Heyse, 1996; Faulstich, 1998).

It is generally agreed that competence is designed to lead to the ability to act, that qualification can be understood

as determining position and competence as determining susceptibility (Arnold, 1997, p. 269 et seq.; Erpenbeck and Heyse, 1996, p. 36). The main criterion for distinguishing between qualification and competence lies in the fact that qualifications are knowledge and skills that can be objectively described, taught and learned and are functional (Erpenbeck and Heyse, 1996, p. 36). In contrast, the concept of competence also includes aspects of individual personality oriented towards (occupational) benefit.

Problems with the concept of competence and the ensuing approaches to competence development are based on a lack of agreement on a standard definition of competences: it seems that the extensive criticism of the concept of competence serves at the same time as an excuse for defining competences in line with particular concerns and at will. At the same time, such a definition would be the fundamental requirement for designing binding competence-based curricula, learning processes and assessment procedures. Two further problems can be identified in the debate, applying equally to discussion of both policy and practice. The first is ignorance of the disadvantages the concept of competence brings with it and, second, the overemphasis on and overvaluing of standardisation of competences, although it is precisely in non-standardisation and contextual integration their strength lies. Thus, one current topic is the dilemma between national standards for the assessment of competences and a minimum of flexibility to be able to devote attention to specific regional characteristics, including from the perspective of different disciplines (Farrugia, 2001; Keating D.P., 2003; Cedefop, Rycken, 2004).

(^a) For details of the reasons for the question of why competence and performance are now discussed separately from one another, see de Saussure (1972, p. 36).

which this debate has been conducted for decades (Vonken, 2005, p. 11). One reason for this may be that it is extremely rare for recourse to existing neurological approaches and/or approaches based on the psychology of learning and/or work to be taken up in theoretical contributions to the competence debate. Something else, also clearly apparent from developing the EQF is the fact the competence debate is often used as a tool for the purposes of social and economic policy, which makes it even more difficult to incorporate the necessary theoretical support. In addition to the debate on matching the EQF with NQFs and with national qualifications systems, this also makes it difficult to work continuously on the introduction of an EQF and its effects.

3.6. The impact of qualifications frameworks

The connection between lifelong learning and NQFs is a policy mechanism that supports, among other things, planning of European action programmes. For such programmes to be designed more effectively, there is a need for a series of indicators with which developing qualifications can be measured, and which cover accreditation and certification of qualifications. It has been shown that, as yet, there are no generally applicable indicators also covering learning outside the formal education system (OECD, 2005c, p. 14).

Measuring the influence of NQFs and the EQF in improving participation in lifelong learning calls,

first, for an understanding of policy mechanisms in response to, or as strategies for, dealing with competitive pressure, and, second, for specific indicators that can be used to measure the actual implementation of these strategies.

Here, a fundamental distinction can be made between two types of policy mechanism: structural change in the qualifications system, for example by introducing new qualifications into the existing qualifications system; and modification of conditions in the system's environment, such as changes in respect of quality, access, distribution and/or provision.

Various data on lifelong learning (quantity, distribution, quality and efficiency), data on national qualifications systems (access, efficiency, flexibility of learning pathways, responsibility, transparency) and data on trends (OECD, 2005c, p. 84) are currently used as indicators of the influence of qualifications frameworks.

These indicators could be used to assist in investigating the connection between qualifications frameworks and lifelong learning. However, the necessary quantitative data are largely lacking or are not comparable for the purpose of drawing conclusions about the actual influence of qualifications systems on promoting lifelong learning. Even if data from the International adult literacy survey and the European labour force survey are used, no significant connections can be found between NQFs and lifelong learning. The only exception is the question of the existence of a dual system in a country, although problems of definition arise here.

Since the data situation is so unsatisfactory, several other indicators are currently being tested. With these a typology of national vocational training systems is to be developed, which should provide information on the interaction between qualifications frameworks and lifelong learning (OECD, 2005c). These indicators should provide information on whether:

- (a) the end of training at upper secondary level leads to training;
- (b) the framework links qualifications from different education/training and employment sectors;
- (c) a large proportion of a cohort engages in training linked to a specific occupational area;

- (d) the qualifications system is being unified across all parts of the country (federalism versus centralism), and whether this standardisation is left to a central body or the government;
- (e) access to the labour market is regulated through qualifications and most sectors of employment utilise these;
- (f) there is a clear national programme or system for recognising non-formal or informal learning;
- (g) there is a unitised qualifications system within which units of different qualifications can be combined (OECD, 2005c, p. 87).

The survey of experts from 22 European countries does not produce a uniform picture of vocational training systems in accordance with the indicators used by the OECD. The aim of the survey was first to identify a series of factors for best quantifying the components of an education/training system (Table 2), since previous indicators (including control mechanisms, recognition of qualifications, access to qualification pathways, international references) largely allow only qualitative studies. It should be noted that the typology was developed and tested by the same people, which means there is likely to be some lack of clarity. However, it is planned to refine this typology and to test it on larger samples, to check its validity and reliability, since the data do not produce conclusive evidence.

Use of these indicators has not yet produced meaningful results (OECD, 2005c, p. 87 et seq.), which means several basic considerations arise. First, it may be that the existing data sources and indicators do not provide a basis for relevant evidence of links between qualifications frameworks and lifelong learning or corresponding political strategies. Second, it is conceivable these links are too complex to be measured, and, third, it is possible no such links exist. For example, it could be concluded that rising figures for participation in various fields of education/training (higher education, IVET, CET) constitute an indicator for the promotion of lifelong learning. However, it is possible that there are also other influences such as a general rise in the education, due not to political strategies but to increasing prosperity, or fluctuations in the economy, which may explain an increase or reduction in educational expenditure, and to which participants in education/training

Table 2. Typology of qualifications systems in selected countries

Countries	Dual system ⁽¹⁾	QF ⁽²⁾	VET in school ⁽³⁾	Centralisation ⁽⁴⁾	labour market ⁽⁵⁾	RPL ⁽⁶⁾	Credit system ⁽⁷⁾	Credentials ⁽⁸⁾
Belgium Flanders	1	3	1	1	1	4	3	3
Belgium Wallonia	4	2	3	4	2	3	2	1
Switzerland	2	2	3	3	3	3	3	1
Czech Republic	4	3	3	1	2	4	3	2
Germany	1	3	2	2.5	2	3	3	2
Denmark	1	2	1	1	2	2	1	2
Spain	2	1	2	2	2	2	1	2
Finland	2	1	1	1	3	1	3	2
France	1	1	1	1	2	1	3	1
Greece	2	3	3	4	2	4	4	2
Hungary	3	2	2	3	1	3	3	1
Italy	2	3.5	4	3	2	3	3	1
Ireland	3	1	3	2.5	3	3	3	2
Northern Ireland	2	1	3	2	2	4	4	2
Netherlands	2.5	3.5	1.5	1	3	3	3	3.5
Norway	1	2	2	2	2	2	2	2
Poland	2	2	1	3	3	4	4	2
Portugal	2	4	2	2	2	3	3	1
Scotland	1	1	3	3	2	1	1	1
Slovenia	4	3	2	2	1	2.5	3	2
Sweden	4	4	2	2	4	2	2	2
United Kingdom	2	1	2	2	3	3	1	2

General structural elements of national qualifications systems:

(1) countries where the end of secondary education leads into an apprenticeship with shared responsibility for programmes between an educational institution and a firm;

(2) countries with an explicit framework linking qualifications from different educational and occupational sectors;

(3) countries where a large proportion of a cohort engages in studies linked to a specific occupational area;

(4) countries where the qualifications system is unified throughout its regions and control lies in one main agency or with government;

(5) countries where entry to the labour market is regulated through qualification, and most occupational sectors use this type of regulation;

(6) countries where there is a clear national programme or system for recognising non-formal or informal learning;

(7) unitised qualifications (large uptake) exist and units from different qualifications can be combined;

(8) credentials are essential for entry to the labour market or higher education and for further progress in work or study.

Legend: 1 This is definitely true for my country;
2 This is only partially true for my country;
3 There is only limited experience of this in my country;
4 This is not present in my country.

Source: OECD, 2005c, p. 88. Non-EU countries participating in the survey have not been included in the table.

react correspondingly.

In each of these cases it is clear that the data available do not suffice to establish a (significant) link between national qualifications systems (and hence, more broadly, a European qualifications system) and the political strategy of promoting lifelong learning. Instead, this link can be established

only hypothetically. To develop this topic further, in quantitative terms, it would be necessary to develop characteristics of national qualifications systems, to obtain more systematic, more reliable, internationally comparable data on a continuing basis and to assure continuous further development of data on lifelong learning and NQFs.

4. Mobility

It is possible to make a distinction between vertical (social) and horizontal mobility (in the sense of geographical migration) or between personal mobility (socioeconomic focus) and labour-market mobility (economic focus only). In VET, important roles are played by migration, integration, labour market and vocational qualification as focal points of the topic. In this section the focus is primarily on geographical mobility within the labour market (see also Cedefop, Ward, 2008).

To distinguish between different types of mobility, a distinction is usually made according to type of qualification, employment sector, type of job activity, and employment (OECD, 1995). A distinction can also be made between external and internal mobility. External mobility can, in turn, be divided into two subcategories of geographical mobility, namely regional, national and international mobility, and mobility within the labour market, for example, from a change of job by an individual. Internal mobility is understood as meaning a change of job within a company.

Various types of mobility within the labour market are described as professional mobility. This was also at the heart of all activities within the framework of the European year of workers' mobility 2006, and involves several subject areas and issues:

- (a) how are the beginning, course and end of (or retirement from) working life structured with reference to social, technical and economic changes since the 1960s?
- (b) what influence do economic and structural factors have on the course of employment, and what are the results of job insecurity?
- (c) what are the differences between internal and external labour-market mobility in terms of earnings and type of company?
- (d) what are the effects of a change of or changes in occupational, sectoral and qualification level on individual behaviour as regards mobility?
- (e) what form is taken by job rotation and changes in demand for workers? (*Centre d'analyse stratégique* and *Conseil d'orientation pour l'emploi*, 2006).

The importance of mobility in general arises from education/training and competitiveness. It has been established that investment in education makes a substantial contribution to human capital and hence to individual employability; thus, promoting geographical mobility helps create or maintain national competitiveness. For the four basic freedoms of the Treaty of Rome to be a reality (freedom of movement for persons, goods, services and capital), and hence for mobility to be assured, there must be mutual recognition of vocational qualifications in the Member States. Thus, transparency and comparability of vocational qualifications are a prerequisite for worker migration.

Geographical mobility among skilled workers can also be interpreted as the expression of a qualification-specific mismatch within and between countries. A shortage of skilled workers in a neighbouring country may lead to migration from another country if, all other things being equal, better earning opportunities beckon in the receiving country. However, as yet it is unclear what specific effects qualifications acquired by continuing education/training have on mobility processes and labour migration (Mytzeck and Schömann, 2004, p. 15).

Thus realisation of the single European market presupposes worker mobility is a key principle of European policy; at the same time, it also establishes that a lack of transparency of initial and continuing training qualifications is as much an obstacle to mobility (Cedefop, Pettersson, 2001) as the reactive and defensive national migration policy in Europe, the common characteristic being to prevent legal immigration and naturalisation as far as possible (Straubhaar, 2006).

Realisation of European integration is not the only reason for the need to promote mobility. There are several other reasons, such as:

- (a) improving employment opportunities for workers;
- (b) improving qualifications and expanding the horizons of workers' experience;
- (c) increasing the likelihood of self-employment via

- gaps in the market and business opportunities in domestic markets;
- (d) making recruiting companies more competitive in national and international markets;
- (e) promoting knowledge transfer and cultural exchange between sectors in different countries;
- (f) the positive repercussions of mobility on recognition of national education/training systems;
- (g) the possibility of (temporary) relief for national labour markets in sectors with high unemployment (Mytzek and Brzinsky, 2004, p. 48).

The aim must be to repatriate at least the majority of mobile workers after time spent in another country, which presupposes institutional structures that facilitate and/or simplify this return.

The starting point for all strategies for promoting individual mobility in Europe is a rapid policy response to labour-market needs (Straubhaar, 2006), in combination with problem-free recognition of national educational/training qualifications. This requires European directives on mutual recognition of diplomas, certificates and other evidence of formal qualifications. There are several initiatives aimed at overcoming obstacles to mobility and facilitating individual mobility. They include:

- (a) the SLIM initiative (simpler legislation for the internal market) to simplify the rules on recognition of qualifications;
- (b) decentralised initiatives such as the Commission's 1995 *White paper on education and training* and the 1996 *Green paper on obstacles to transnational mobility*;
- (c) measures under Leonardo da Vinci and Socrates, designed to make vocational qualifications more transparent and to improve the mobility of individuals within the EU;
- (d) programmes as complementary implementation strategies; Leonardo da Vinci, supports and supplements Member States' vocational training policy, implements pilot projects, promotes linguistic competence and establishes networks; Socrates, an EU action programme for closer cooperation in education, with vari-

ous subprogrammes in school, higher and adult education;

- (e) supplementary bilateral agreements, in which the contracting parties commit themselves to mutual recognition of qualifications, and through which the Member States themselves take further steps to improve the transparency of vocational qualifications;
- (f) Europass and the EQF as European-level meta-instruments which, when implemented in individual countries, are designed to improve individual geographical (and also sectoral and social) mobility.

4.1. Geographical mobility

Action at the level of student exchanges and debates on the lack of highly skilled workers no longer suffices to record mobility in all its manifestations (OECD, 2001; 2002; Unesco, 2004). Instead, the question of how Europe can promote mobility in such a way as to close the knowledge gap with other continents (in particular North America) has become one of the most important issues for governments, the academic/scientific world and industry.

Research into, and promotion of, mobility are increasingly focusing on a broader interpretation of mobility, involving more than simply developing policies for obtaining highly skilled workers. Instead, the aim of increasing mobility is to improve human resources at all levels of qualification, hence it also includes sectoral, social and employment mobility (Thomas, 2005; Vincent-Laucrin, 2004) ⁽⁵⁾. This section, however, focuses mainly on geographical mobility; Section 6 examines other forms of mobility in the context of internationalising VET.

There are various starting points for research, depending on the type of geographical mobility. A distinction is made between people who:

- (a) commute between two countries daily or weekly (Hitzelsberger et al., 2001);
- (b) live and work in another European country for

⁽⁵⁾ Examples of this are the MOMO I and II projects (Monitoring system on career paths and mobility flows), investigating the transnational, regional and job-related mobility of highly skilled workers in the Czech Republic, France, Germany, Norway, Poland, Spain, Sweden and the UK, taking particular account of the meaningfulness and statistical validity of indicators for geographical mobility.

only a short period (up to one year) (European Commission, 2002a);

- (c) live and work in another EU country in the medium or long term (over one year) (Mytzek, 2004).

There is a clear profile of migrants themselves: it is primarily young, highly qualified people with no dependents who are mobile. The number of women is also increasing and currently stands at around 45% (Byrska and Venables, 2004). In investigating migrants' mobility, a fundamental distinction is also made between them according to the nature of their qualification and type of employment. A distinction is made between highly-qualified migrants (usually with a higher-education qualification) and migrants with an intermediate qualification (Wickramasekara, 2003, p. 4).

It is often difficult to measure geographical mobility, since internationally comparable data that take account not only of the emigration of workers but also of their immigration (with family members) are lacking or are inadequate. As yet, no country has a comprehensive reporting and/or monitoring system for recording migration flows. As a rule, countries of immigration have more comprehensive and reliable data sets than the countries of emigration (Lowell and Findlay, 2002).

In addition to obtaining adequate data sets, there are several other starting points for investigating mobility. These include the question of factors promoting mobility or obstacles to it and the question of successful strategies and measures.

There are five crucial criteria for developing strategies to promote geographical mobility: volume, migrant profiles, type, time dynamic and regional distribution in the target regions (Krieger, 2004, p. 65).

The Eurobarometer data for 2005 (European Commission, 2005c) show that only some 1.5% of EU workers were born outside the country in which they are currently domiciled, and only 4% of the entire EU population (EU-25) have ever lived outside their country of origin. At the same

time, there are some major differences between countries: some 40% of Scandinavians have lived in another region or another country at least once in their working lives, followed by the Irish and British (approximately 30%) and central Europe (20%) ⁽⁶⁾, while the percentage is much smaller in the countries of southern Europe (15%) and the former communist countries (10%) ⁽⁷⁾ (European Commission, 2005c).

The new Member States also have a particular role here, with the effects of EU enlargement on workers' behaviour being hotly debated in the past few years. For example, Krieger (2004) comes to the conclusion that, in the best-case scenario, between 3% and 4.5% of individuals aged 16 and over from the countries of the east and the Mediterranean and the new Member States will join in the migration process, in 2006 as well. Far fewer people from these countries will migrate to the old Member States on a temporary or long-term basis (partly owing to legal obstacles), and a figure of approximately 1% can be assumed.

However, the Eurobarometer data for 2005 (European Commission, 2005c) show a marked gulf between two groups of new Member States, with countries with a low rate of 1-2% (the Czech Republic, Hungary, Slovenia, Slovakia) and countries with a relatively high mobility rate of 7-9% (Poland and the Baltic States). This compares with a mobility rate of 4-6% in the Scandinavian countries, Ireland and Luxembourg in autumn 2005.

When the different types of mobility in selected OECD countries are brought together on the basis of various criteria, the following picture emerges.

No uniform trend is apparent for mobility rates in the EU in either the old or the new Member States. This means the assumption that membership would trigger substantial labour migration from the new Member States cannot, so far, be confirmed, particularly since western European countries are making it difficult for workers from the new Member States to take up jobs, at least temporarily (Boeri, 2006).

⁽⁶⁾ Except France, where the figure is approximately 30%.

⁽⁷⁾ The data relate to 2005.

Table 3. Types of mobility in selected OECD countries on the basis of various criteria

	Inflows of foreign population in selected OECD countries (in 1 000s)		Inflows of foreign workers (in 1 000s)	Foreign-born as a percentage of the total population	Foreigners or foreign-born as a percentage of the total labour force
	Based on population registers	Based on residence permits or another source			
Austria	92.6	n.a.	24.9	12.5	10.9
Belgium	70.2	n.a.	6.7	10.7	8.3
Czech Republic	43.6	n.a.	n.a.	4.5	n.a.
Denmark	22.0	n.a.	4.8	6.2	3.6
Finland	10.0	n.a.	13.3	2.9	1.8
France	n.a.	156.2	20.5 (permanent)	n.a.	6.2
Germany	658.3	n.a.	374.0	12.5	9.2
Hungary	15.7	n.a.	49.8	3.0	1.0
Ireland	n.a.	39.9	40.3	10.4	5.5
Italy	n.a.	388.1	139.1	n.a.	3.8
Luxembourg	11.0	n.a.	22.4	32.6	62.1
Netherlands	86.6	n.a.	n.a.	10.6	3.7
Norway	30.8	n.a.	n.a.	7.3	6.1
Portugal	n.a.	61.5	52.7	6.3	5.3
Spain	443.1	n.a.	n.a.	5.3	4.5
Sweden	47.6	n.a.	n.a.	11.8	4.9
Switzerland	97.6	n.a.	40.1	22.4	n.a.
UK	n.a.	418.2	88.6	8.3	4.6

NB: All data for 2002. Italicised = based on 2001.

Sources: OECD, 2004; 2005d.

4.2. Framework conditions

There are several factors suggesting that it will be necessary to continue to promote mobility in the next few years, a statement that applies equally to mobility within the EU and labour-market migration to the EU. First, demographic trends can be expected to continue to run along parallel lines, leading to a continuing reduction in potential migration. Over the long term the new Member States will be available to the old Member States as sources of workers

only a limited extent. Instead, the new Member States are likely to need to cover their own need for workers by recruiting foreign workers themselves from countries outside the EU.

Second, some of the new Member States are struggling with high unemployment, for example Poland (16.5%) and Slovakia (15.5%) (Eurostat, 2006). This means the current low migration trend⁽⁸⁾ may be reinforced if economic growth remains minimal and the labour market remains strained.

⁽⁸⁾ See European Labour Force Survey 2003: the group with the highest proportions of EU foreigners in the national employment systems (over 4%) is made up of Belgium and Luxembourg. Their high immigration levels are probably caused by the EU institutions (Belgium) and the dominance of the internationalised banking sector and a strong presence of Portuguese workers in the construction sector (Luxembourg). The group with the second-highest levels (2-4%) comprises Ireland (3.4%), Germany (2.8%), France (2.4%) and Sweden (2.1%). A third group lies below the EU-15 average (EU-foreigner proportions of 1-2%), consisting of the UK (1.7%), Austria (1.6%), the Netherlands (1.6%) and Denmark (1.0%). Last, the fourth group, comprising the countries with the lowest levels of EU immigration (less than 1%), consists of Spain (0.5%), Finland (0.3%), Portugal (0.2%), Italy and Greece (both 0.1%).

One of the measures taken to cushion the impact of demographic trends within the EU by promoting mobility, but above all by immigration from non-EU Member States, is the introduction of the transitional arrangements on free movement of people. The EU Member States agreed on flexible transitional arrangements on free movement of people, under which in the first two years labour migration is governed by national law. There are currently a range of national rules such as quotas, green cards, rules for particular occupational groups or specific rules for seasonal workers (European Commission, 2002b; 2003b).

Several political strategies can be developed to dismantle barriers to mobility with reference to immigration from non-EU Member States. One of these concerns recruitment, remittance and returns (Lowell and Findlay, 2002). There are concrete strategies and measures in the following areas:

- (a) support for repatriation;
- (b) restriction of international mobility to a country's own nationals and foreign workers;
- (c) recruitment of international migrants;
- (d) compensation for lost human capital;
- (e) financial support for returning expatriates;
- (f) recovery via sector-based education policy and economic development.

A crucial part is played here by the search for the connection between degree of transparency and qualification level. It can be assumed that, with increasing complexity and a rising level of qualifications, the content of these qualifications needs to be described transparently. As yet, however, there is no proof to support this assumption (Mytzek, 2004, p. 204). For example, an analysis of the institutional and legal framework conditions for the transparency of vocational qualifications has shown that, to date, successful endeavours in this area have been limited and heterogeneous. While there are some sectors in which rules introduced at European level have been influential (healthcare sector), there are others little affected by European activities to promote mobility (automotive industry, finance sector). There are yet others in which, against a background of a shortage of skilled workers, new paths have been pursued for cooperation between the European Commission and multinational companies in the information and communication technology sector (Section 6).

4.3. Monetary influencing factors

The influences of migration on investment in education and human capital have been studied by several authors (Beine et al., 2003; Mountford, 1997; Reichling, 2000). The ILO (Wickramasekara, 2003) has identified the following factors as effects of migration, i.e. as advantages and possible disadvantages for the countries of origin.

In globalisation and Europeanisation, it is mainly internationally sought-after specialists and people with excellent linguistic and intercultural competences who will make use of the freedom of movement acquired. Here, interactions are apparent between tax revenues, education revenue and incentives providing motivation to learn. At the same time, an increase in mobility may provoke no policy responses (Haupt and Januba, 2003). Whether or not education becomes more attractive when greater freedom of movement is assumed cannot be determined on the basis of theoretical models. Thus, it is equally possible that more open borders may give rise to more opportunities for qualified workers and thus to potentially higher returns from investment in human capital. In this scenario a country's citizens face increased competition from workers from other countries.

It can also be basically assumed that subsidies are required in at least some areas of education, to kick-start mobility movement. If these increase, taxes may initially rise in the short term; in the long term, the tax burden will decrease owing to the pressure of mobility, so that it is no longer necessary to subsidise training costs to the former extent, at least for those who have adequate financial resources of their own (Haupt and Januba, 2003, p. 180). This hypothesis is supported by the fact that in countries with comparatively low taxation on earnings there is a much higher private investment in education (OECD, 2002).

Conversely, there is a conceivable scenario in which the disadvantages of increasing mobility become apparent; public expenditure on education is too high in relation to individual efforts. As a consequence of lessening taxation potential, the State's contribution in these fields falls and private investment increases. Mobility may reduce the opportunity for action available to the State to such an extent that even an optimum volume of State expenditure cannot be achieved. In extreme

Table 4. **Effects of the brain drain from the perspective of sending countries**

Positive effects	Negative effects
Provides rewarding opportunities to educated workers not available at home	Net decrease in human capital stock, especially those with valuable professional experience
Inflow of remittances and foreign exchange	Reduced growth and productivity because of the lower stock of human capital
Induced stimulus to investment in domestic education and individual human capital investments	Fiscal loss of heavy investments in subsidised education
Return of skilled persons increases local human capital, transfer of skills and links to foreign networks	Remittances from skilled migration may taper off after some time
Technology transfer, investments and venture capital by diasporas	Reduced quality of essential services of health and education
Circulation of brains promotes integration into global markets	Students educated at government expense or own resources in foreign countries imply further drain
Short-term movements of service providers generate benefits for both receiving and sending countries	Opportunities for short-term movement of natural persons are seriously constrained by immigration policies of developed countries
Information and communication technology allows countries to benefit from diasporas	Causes increasing disparities in incomes in country of origin

Source: Wickramasekara, 2003, p. 7.

cases, this would mean that well-trained workers would become completely mobile and would want to maximise their opportunities for private consumption. In theory, qualified people would migrate to regions more attractive to them in the event of even the smallest differences in net income. However, this statement is unrealistic insofar as several other factors exert a substantial influence on willingness to be mobile. These include better working conditions, greater proximity to family members in the receiving country, and the wish to get to know new people in a foreign culture and to build up a new circle of friends (European Commission, 2005c; Karppinen et al., 2006).

If State subsidies fail to materialise, not only does taxation policy change, but so too does worker motivation. International migratory movements mean the positive spillovers associated with education are realised only to a limited extent in the countries that financed the training. It is also possible that, as a result of increasing mobility, the desired higher tax revenues may fail to materialise, since a falling number of highly qualified workers available at home may depress the positive effects for society of domestic expenditure on education.

These scenarios suggest that dismantling obstacles to mobility can only benefit an originally immobile society as a whole. Thus 'crowding-in' of private investment in education can increase the stock of human capital and, despite decreasing rates of tax on high incomes, even the scope for redistribution is not necessarily restricted. In contrast, the "ideal" situation of a completely mobile society will tend to lead to ruinous competition between countries, possibly resulting in a sub-optimal human capital and in any case at the expense of socially weak groups' (Haupt and Januba, 2003, p. 183).

4.4. Other impacts

In addition to monetary factors, there are other influences that affect or impede transnational worker mobility. These include pension entitlements acquired within the EU, consideration of the family situation, language barriers, recognition of qualifications at European level via sectoral directives for individual occupations, and recognition procedures for diplomas, certificates and other evidence of formal qualifications. This last

factor relies on case-law of the European Court of Justice as a necessary tool for interpretation and decisions on the recognition of vocational qualifications.

The reasons for mobility must also be considered. The most important reason for moving to another EU Member State is not job-related, but to get to know a new environment (42%). Higher earnings (37%) and better working conditions (36%) are only in second and third place (European Commission, 2005c) ⁽⁹⁾.

These factors can be supported by programmes like Leonardo da Vinci and Socrates, which promote not only job-related foreign stays, but also aspects such as language learning. Promotion of mobility is also an important aim of instruments such as Europass, ECVET and the EQF. Several problems arise, however, since these instruments are designed to promote not only mobility but also, and above all, transparency and comparability of qualifications and learning outcomes.

Issuing credits and classifying qualifications and learning outcomes from different national education systems into a comparative European system may not achieve 100% equivalence. Credits or reference levels are only an indicator for estimated equivalences and do not guarantee unambiguous transferability of learning outcomes. Credit transfer systems simplify mutual recognition via quantitative measurement of learning outcomes, but do not imply qualitative equivalence (Bohlinger, 2005). The question arises of the extent to which particular national features can be tolerated and lead to actual recognition of learning outcomes, which is ultimately based on the principle of mutual trust. Conflict ensues with respect to the ECTS and to ECVET, as a result of two requirements:

- (a) the risk of 'wording rigidity' (Le Mouillour et al., 2003, p. 8), i.e. the risk of recognition of KSC based only on similarities in two or more education systems;
- (b) the risk of artificial recognition of KSC, broadly, loosely structured recognition that loses credibility in the labour market and does not reflect the real value of learning outcomes in the sense of their actual content and their usability.

Developing credit transfer systems constitutes a challenge for all involved in education and training. Since there is still no intention for all the Member States to align their systems, the ECTS and ECVET can only be successfully developed if the players recognise the credit transfer systems as what they were originally designed to be: instruments of a European reference framework, intended to help strengthen the EU and bring it closer together, and not tools for harmonising national education systems or promoting mobility alone.

There are several possible ways of developing future mobility strategies in policy. First, it is possible that countries may change their education policy on their own, by taking appropriate action. Second, they may seek to conclude international agreements on tax harmonisation and on the restriction of competitive taxation. Third, countries may dismantle non-monetary barriers to mobility with international cooperation measures. This is happening in the EU through, for example, programmes such as Leonardo da Vinci, best-practice awards and the transferability of social security benefits, or the introduction of instruments such as credit transfer systems or qualifications frameworks.

⁽⁹⁾ These data relate only to persons who are specifically planning a lengthy stay or have already had a lengthy stay in another country.

5. Strategies for internationalisation of VET

Within VET, internationalisation is a multifaceted phenomenon that means different things to different players in different circumstances. It aims to create a basis for a global education culture and to overcome national restrictions on learning processes. The internationalisation of education and training can be understood as global education, in the sense that learners throughout the world share the same (usually Western) values.

Table 5 provides an overview of some aspects of internationalisation from the perspective of various players.

The topics specified in the EU's Copenhagen work programme on a common education policy of November 2002 include:

- (a) recognition and transparency of qualifications;
- (b) reference levels for classifying vocational qualifications;
- (c) quality assurance in VET.

Several relevant individual instruments were agreed, such as the EQF (Section 4), the introduction of a credit transfer system for VET and developing Europass to promote mobility. These instruments are discussed in detail below.

5.1. Internationalisation concepts

The internationalisation of vocational education and, in particular, vocational training essentially involves two areas, where it is implemented in different ways and through different measures:

- (a) international competences (cognitive objectives), such as foreign-language competence, international specialised competence and Web competence;
- (b) intercultural competences (attitude-related objectives), such as understanding and respect for people from other cultures, high regard for other lifestyles and ways of thinking, and respect for cultural diversity.

It is assumed that these competences (and the associated knowledge, abilities and skills) vary according to the training occupation and occupational position, but there is disagreement as to what degree of internationalisation (assuming it can be quantified) is necessary.

Several strategies are adopted for incorporating international elements into vocational training curricula. They can be summarised as follows (Borch et al., 2003):

Table 5. **Examples of the aims of internationalising VET**

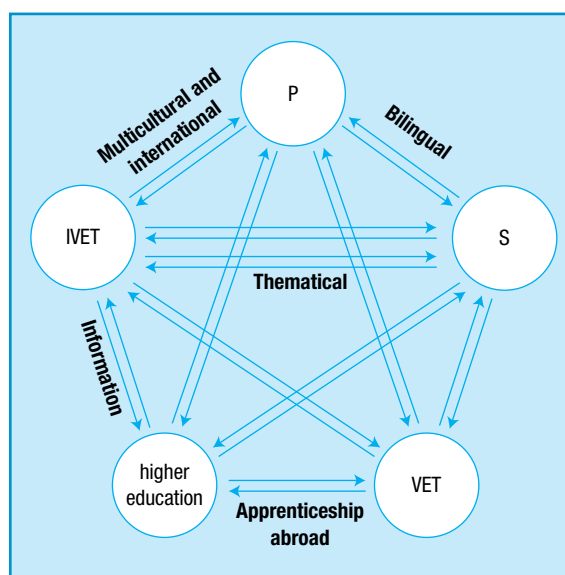
Players	Aims of internationalisation
Individual learners	<ul style="list-style-type: none"> • interaction with individuals from other cultures; • foreign-language learning; • acquisition of competences that cannot be acquired in the home country; • ability to experience learning in an open and foreign environment.
Education providers	<ul style="list-style-type: none"> • reinforcement of international cooperation; • adaptation of their own education provision to the international context; • incorporation of other/international perspectives; • acquisition of new/additional groups of learners; • improvement of their own reputation as a result of improved competitiveness.
Curriculum developers	<ul style="list-style-type: none"> • development of cooperative working arrangements; • development of standards; • widening the scope of a curriculum

- (a) outsourcing the acquisition of international elements of practical vocational competence, i.e. moving it out of the vocational training structure, for example by transferring it to other learning venues, other types of training, or outsourcing of self-financed or self organised additional qualifications, such as the acquisition of language certificates. This still includes transferring the acquisition of competences to other countries if they cannot be acquired in the home country;
- (b) specialisation in two directions:
- existing training programmes are modified and incorporated into various new training programmes conforming to labour-market trends. In the case of such reorganisation, the international aspect is often only indirectly apparent, since it is not a component of the training but forms the basis for it;
 - specialisation in international fields of activity ensues via continuing-training occupations;
- (c) short-term measures, involving workers without a higher-education qualification or trainees, but only on a limited scale. They are mostly short-term training courses imparting intercultural competences, or Web competence or information and communication technology knowledge, which are, in turn, designed to prepare workers for a foreign posting or prospective contact with foreign customers/employees, or for an exchange with other learners;
- (d) creation of new occupations, in which the acquisition of international competences is planned as a training component, for example by working with foreign-language documents and communicating in other languages. It remains unclear, however, how these competences are actually incorporated into the curriculum;
- (e) development of international curricula and/or expansion of existing curricula by adding international content, for example incorporation of education standards, knowledge and competences of international import, and a focus on specific international reference

variables or criteria.

A part is also played in these strategies by benchlearning, which may either be used as a deliberate internationalisation strategy or develop between the players unintentionally in the above strategies without guidance. This is to be understood as learning from other players in other countries and in other circumstances, as shown by the diagram below.

Figure 1. **Benchlearning between various learning pathways (1)**



5.2. ECVET

Under the Copenhagen process, the concept of lifelong learning became a key element of the policy agenda. This started a search for procedures and instruments suitable for assuring transparency, comparability and transferability, recognition of (vocational) know-how, skills and qualifications among different Member States. This calls for the development of common measures, principles of certification and reference levels, including a system for considering education/training outcomes in VET. Developing the ECVET is intended to make a contribution to lifelong learning and to promote learner mobility both within the relevant national education system

⁽¹⁰⁾ Higher education, initial training, VET, primary and secondary levels.

and between national systems. Geographical and occupational mobility (and hence ultimately also to social mobility) are also relevant.

In what follows, we shall concentrate on three aspects of the development of ECVET: transparency and comparability; modularisation and transfer; and recognition and certification.

Transparency and comparability means 'making one's own system easier to understand and calling for and promoting understanding of the differences in the other system' (Le Mouillour, 2006, p. 29). This is to be achieved for VET via several instruments in addition to ECVET: the ECTS, Europass, the EQF and the quality assurance framework. Key features of these instruments are:

- (a) a focus on learners, considering their occupational experience, their work, their sociodemographic characteristics and their reasons for learning, to give them the opportunity to develop and have recognised their own individual learning pathways made up of formal, informal and non formal learning;
- (b) recognition and incorporation of informal and non-formal learning not directly oriented towards a qualification;
- (c) orientation to learning outcomes (KSC), divided into general and occupation-specific outcomes and bundled into common qualification profiles by the stakeholders in individual sectors via lists of qualifications (e.g. in the rail or aviation industries);
- (d) orientation to a common qualifications framework and a common reference level, as currently under discussion in a directive on recognition of professional qualifications (EU internal market Directive).

Modularisation and transfer are designed to help make learning activities and pathways more flexible and individualised. Qualifications and occupational profiles and education programmes are split into smaller learning units, to make them more easily understandable and combinable for both education and the labour market. ECVET is meaningless unless education programmes and qualifications are modularised, since its original remit is recognition of learning outcomes and promotion of mobility.

Modularisation and implementation of the credit system are to be regarded as two initially independent development pathways. The different

forms of modularisation mean there is no question of standardisation, even though modularisation is seen in many European countries as a panacea.

In some areas, recognising and certifying vocational qualifications is already well advanced: the European computer driving licence and the Euregio certificate for successfully completed periods of practical training in certain parts of France, Germany and Switzerland). Here, certification is interpreted as formal validation of KSC, ending with the award of a formal qualification (Cedefop, Tissot, 2004).

Certification of VET competences via ECVET will be facilitated by the award of credits and the establishment of equivalences via definition of units. This recognition is based on national standards and a framework of mobility agreements. There are two different kinds of recognition: formal recognition via a certificate and informal social esteem through recognition of the certificate by various players. One problem here may be that a certificate enjoys unambiguous validity within a Member State, but its credibility tends to be questioned by other countries (Colardyn and Bjørnåvold, 2003).

5.3. Quality assurance

One of the goals of European policy is to transform education systems into a global quality reference by 2010; at the same time this is seen as a fundamental element in linking VET and higher education, for example by combining the Bologna and Copenhagen processes or by creating a common qualifications framework (Section 4).

Continuous progress has been made since 1999 in assuring the quality of higher education. Milestones have been the adoption of European standards and guidelines and the European Register by conferences in Berlin (2003) and Bergen (2005).

Quality assurance in VET was launched in 2002 by the Copenhagen process and was put into practice via common principles and references such as the common quality assurance framework. In June 2005, the quality assurance process in VET at European level acquired a new dimension

with the establishment of the European network on this aspect (ENQA-VET). The intention is to use this to help create an efficient platform ⁽¹¹⁾ to increase the exchange of experiences and to achieve consensus at European level, and then to use this to improve VET quality.

Further, in 2004 the technical working group Quality in VET developed, in the context of the Copenhagen process and on behalf of the European Commission, the common quality assurance framework. The framework model is intended to serve EU Member States as a reference in developing or reforming national VET quality; it includes basic principles, criteria and tools for quality assurance systems in VET. It can be used both at system level and by VET providers. The common quality assurance framework focuses on improving and evaluating VET outcomes to improve employability, better matching of supply to demand, and access to lifelong VET. The common quality assurance framework is designed to increase efficiency, transparency, and mutual trust in VET systems, both within and between individual countries.

Quality in VET has been described as 'the result of cooperation between several participants, such as the organiser of training, the employer, those in charge of theoretical instruction, the students and the interest group. It presupposes the commitment of all those concerned to the goals and principles that have been jointly agreed upon and the seamless cooperation between the participants in the various phases of training' (National Board of Education, 2003, p. 8).

Further, quality is crucially influenced by the quality of VET providers, a learner-focused approach, and measures aimed at helping to achieve the goals set. Quality endeavours in VET originate from various starting points. First is a pedagogic perspective, which calls for (partial) autonomisation of schools to promote quality through empowerment, i.e. by motivating individuals. There is also the perspective of educational organisation, which, against the background of long-drawn-out, centralist decision-making processes, focuses on assuring quality

via increasingly decentralised control. In addition, there is an economic perspective, based on the assumption that public management is not efficient in budgeting its resources, since the prevailing logics seriously impair the efficiency of these systems. Under the motto 'new public management', the aim here is to assure and improve quality with procedural and decision-making processes that make more efficient use of resources (Euler, 2006, p. 11).

Quality is a fact assigned to a subject and is, in this sense, a descriptive entity. Quality targets cannot be scientifically falsified or verified, but are the result of a process of social negotiation; they are or are not socially accepted, and are only to this extent valid or invalid. Therefore, the only possible scientific sources that can be used to review quality are aids such as legal bases, and scientific theories and findings on the effectiveness of VET. These include, for example, learner focus on performance, efficient management of education/training pathways, curriculum quality and evaluation of an educational programme; such factors can definitely be evaluated.

The current goals of quality assurance in both higher education and VET include similar aims, such as the establishment of common principles for quality assurance, mutual support in developing education/training pathways between higher education and VET, common implementation of measures and projects, and achievement of continuous development of quality assurance.

Against this background, the Commission set out several common principles for education and training in a consultation document on the EQF (European Commission, 2005a, p. 26 et seq.). Quality assurance is seen as essential to improving education and training, and as an integrated element of managing education and training institutions. It should cover all levels in an education system and provide for regular evaluations and external monitoring; it should take account of context, input, learning process and learning outcomes. In this interpretation, a

⁽¹¹⁾ One example of a programme for concrete implementation of these aims is Helios, a research programme supported by the Commission set up to review progress of e-learning in Europe with a view to aligning it with the Community's policy aims.

quality assurance system is characterised by:

- (a) clear, measurable targets and standards;
- (b) implementation guidelines;
- (c) appropriate resources and evaluation methods (including self-evaluation and external review);
- (d) improvement and feedback mechanisms;
- (e) freely accessible evaluation results (European Commission, 2005a, p. 26 et seq.; 2006; TWG, 2004).

Implementation of these aims is already apparent

in several projects and measures involving various key elements of quality assurance; evaluation, structural conditions for change, incorporation of the system perspective and the search for/investigation of statistical indicators. The examples below also lie at the interface between higher education and VET and have been in place for several years, which presupposes adequate experience of the concepts/measures and allows corresponding evaluation.

Under the common quality assurance frame-

Table 6. **Examples of best practice in implementing quality assurance in VET**

Country	Main objectives	Brief description
Spain	(Self-)evaluation, reporting, feedback	The Spanish quality assurance system for VET is based on interplay of roles and functions between different levels. Its strength lies in integrating many players and interested parties; it originates from continuous development based on the strategies and goals of the Copenhagen process, and facilitates continuous improvement of VET. A particular feature is the legal basis for quality assurance (e.g. Qualifications and vocational training Act, Organic Act of education), which makes quality assurance and justice inseparable goals (Campbell et al., 2006; Cedefop, 2005).
UK	Structural conditions for change and improvement	Development of a VET control system transferring several decision-making powers to regional institutions in the four countries (England, Scotland, Wales, Northern Ireland). This makes it possible to establish mechanisms to identify labour market qualification requirements (LCSs ⁽¹⁾ , SSDA ⁽²⁾ , Ofsted ⁽³⁾ , self-evaluation of schools for IVET, and external evaluation and monitoring of IVET by these institutions (Cedefop, Cuddy and Leney, 2005; Schmid et al., 2006).
Denmark	Data collection and use of quality indicators	Since the early 1990s, Denmark has established a comprehensive quality assurance framework at institutional level based on uniting initial and continuing training. Against this background, all VET colleges have to provide a quality assurance system and conduct regular self evaluations, which generate a series of data on the quality of VET provision (e.g. institutional management, company contacts, competence development for training personnel) (Danish Ministry of Education, 2005; Lassnigg, 2006).
Germany	Structural conditions, conditions for change and improvement	Quality is assured via strictly regulated input-oriented and formalised training, which may be provided only in recognised training occupations. National regulations lay down minimum standards in respect of learning venues, curricula, training personnel and examinations/tests (BMBF, 2003; Schmid et al., 2006).
Austria	VET quality initiative	Development and implementation of a national quality management system based on the common quality assurance framework. From applicable legislation, an input-oriented approach, the integration of stakeholders and various elements of output oriented management, continuing development of vocational training and quality assurance there of are guaranteed (BMWK, 2006).

⁽¹⁾ Local learning and skills Councils, which are responsible at regional level for establishing priorities and requirements.

⁽²⁾ Sector skills development agency, responsible for laying down occupational standards.

⁽³⁾ Office for standards in education, responsible for monitoring provision in colleges and in work-based training.

work, the following recommendations apply to developing and implementing quality assurance: a combination of self-evaluation and external evaluation, the involvement of various institutions, to cover the needs of the labour market, individuals and the State, and consideration for the system perspective, to be able to take account of education and training system complexity and to do away with isolated solutions.

5.4. The Leonardo da Vinci action programme

The Leonardo da Vinci programme is a European measure to promote mobility and to achieve the objectives of the Lisbon Agenda. In the period

2000-06, some 245 000 mainly young people took part in its exchange programmes, designed to further the European Community's VET policy, and supporting Member States in this respect. The programme's primary aim is to improve the competences and knowledge of young people in initial training.

E-learning plays a particular part here, since many projects are supported that serve several of the objectives of the Lisbon and Bruges/Copenhagen processes, such as promotion of mobility and quality, validation of new training methods, teleworking, distance learning and developing new certification methods.

The fact that promotion of mobility and quality can be developed together is shown by, for example, the European quality in mobility award, bestowed for the first time in 2005, which honoured

Table 7. **Examples of best practice in promoting mobility in VET**

Title	Home country	Host country	Target group	Field of education/training	Activity/target areas supported
Broadening horizons and improving technical skills through the exchange of experiences	Belgium	Malta	Trainees	Aesthetic care	Improving social, linguistic and vocational competences on the job, at a vocational school and through cultural integration
Improving professional and linguistic skills in gas supply according to the requirements of the EU	Bulgaria	Germany	Trainees and trainers	Gas supply	Improving social and occupational integration, new training methods
Clinical skills in transcultural nursing	Czech Republic	UK, Germany	Trainees	Nursing	Improving training quality through international training content
Working in Europe 2004: routes to work	UK	France, Finland, Netherlands	Young people with no training	Agriculture, social work, hotel sector, catering, tourism	Promoting soft skills to promote communication and motivation in preparation for taking up training
Comparison of traditional floristry within flonet mobility	Hungary	Sweden, Spain, Germany	Trainers	Floristry	Motivation, new training methods, foreign language knowledge, vocational knowledge (consolidating floristry methods and styles)

Source: Leonardo da Vinci European quality in mobility award 2006.

the 20 highest-quality projects within the framework of Leonardo da Vinci. The examples that follow show the types of project involved.

The aim of the call for submission of project proposals for 2005/06 was to achieve the objectives of the Copenhagen process and to transform the significance of the entire programme from ‘innovation laboratory’ to design instrument. The priorities of the call were promotion of transparency of qualifications, improvement of the quality of VET systems and procedures, development of relevant and innovative e-learning content and continuing training of teachers and trainers.

Owing to an inadequate budget and insufficient acceptance of the programme in its first phase, 1995-99, for a long time the programme objectives could only be partially achieved. This did not change until the end of the 1990s, when players in regulatory policy increasingly began using projects as political control tools. Successful examples of this are a German ‘car mechatronic’ project, in which a European occupation was created on the basis of international requirements in the automotive service sector; or the NESSIE 2005 project (needed employment skills for students in Europe 2005), aimed at improving the employability of trainees via time spent in another country and implementation of ECVET as a set component of training ⁽¹²⁾.

Europass also helps to promote mobility. The document adopted by the European Parliament in 2004 superseded the earlier Europass VET and extended it, originally designed only to document practical experience in other countries, to cover other experience acquired within and outside the home country. The aim here is to convey a comprehensive overall picture of individuals’ qualifications and competences and to facilitate comparability. It includes the Europass CV, the Europass language passport, Europass mobility (in place of the previous Europass VET), the Europass diploma supplement and the Europass certificate supplement.

5.5. Impact

Internationalisation strategies are found at three different levels: at meso-level as a result of globalisation and competitive pressure; at the macro level of structuring of education/training processes and programmes; and at the micro level of individual curricula or individual institutional structures.

All the strategies include improving the quality of education/training programmes, to ensure and improve individual employability and the competitiveness of an education system or a country.

In developing quality assurance systems, it has proved to be more conducive to success to use, instead of set rules and regulations, transparency (e.g. of evaluation results), examples of best practice, guidelines, instruments developed by joint processes of negotiation, and regular evaluation of appropriate indicators and the collection of relevant data suitable for quality assurance. Here, too, it is apparent that measures and procedural methods that create trust on the one hand and, on the other, are oriented towards output, seem to be potentially the most successful.

Putting such approaches into practice seems problematic, particularly when they involve self-evaluation or quality assurance tools that are not utilised regularly and the results of which are not freely accessible. It often seems just as difficult to identify suitable indicators (e.g. for the effectiveness of a quality assurance measure) as to collect the relevant data. Further action should be undertaken here, for example to clarify the responsibilities for developing and realising quality assurance systems and measures at national level, to conduct quality audits, to ensure the reliability and validity of relevant data and, as one of the basic issues, to be able adequately to evaluate the measurement and evaluation of the outcomes of learning processes (European Commission, 2006).

⁽¹²⁾ We should also mention several core curricula developed under Leonardo da Vinci, some of which pursue a sector-specific approach. Examples of this are the *EU-Kaufmann/-frau für Verkehrsservice* project (Germany), Web-content management for CVET, and the Virtual Academy for the European home textiles sector.

6. VET for the unemployed and for workers threatened by unemployment

VET is part of lifelong learning and plays a part both in making employability reality and in meeting the requirements for a knowledge society. IVET is responsible for basic qualifications for young people, to ensure their entry to the labour market; CVET supports the further development of human resources and the promotion of innovation, social cohesion and economic growth. Both aspects of VET also serve to cushion the impact of demographic trends and to protect individuals against unemployment. CVET has the special function of imparting KSC lacking in the unemployed, workers threatened by unemployment, and groups at risk of social exclusion, and hence making it possible for them to obtain qualifications so that they can find work again.

Some fundamental points can be identified regarding the state of research into VET for disadvantaged groups.

Particularly noteworthy are the use and significance of terms designed to describe workers threatened by unemployment, which at least partly supersede the concepts of disadvantage and exclusion. An unambiguous definition of terms is essential if we are to deal with this problem. The term 'disadvantaged' is used in heterogeneous fashion and partly serves as an allegory of various forms of disadvantage, extending from relative disadvantage through to actual exclusion. Its theoretical and conceptual bases are equally diverse and do not allow either unambiguous use or access to unambiguous analysis.

The following may, for example, have a disadvantageous impact:

- (a) social factors such as social stratum, nationality, regional origin, religion or gender;
- (b) individual factors such as mental and physical impairments, conspicuous behavioural characteristics or learning and performance problems;
- (c) market disadvantages caused by the economic situation, structural influencing factors and regional disparities in the education system.

Another notable point is that this general and all-embracing nature of disadvantage leads to

a substantial gulf between theoretical access and empirical support in planning of measures and investigation of their impacts; it means 'disadvantage' cannot be unambiguously operationalised. Instead, the popular distinction between those subject to market disadvantages and the socially disadvantaged (and all the finer distinctions building on this) currently makes it possible to conclude with certainty only that various combinations of effects are responsible for disadvantage and their underlying factors are cumulative. This is a weak empirical basis for definitively identifying combinations of effects responsible for disadvantage.

So without being more precisely defined, descriptions such as 'disadvantaged' (or underprivileged, people at risk, target groups), 'fringe group' or 'social exclusion' are normally used as synonyms, and only with reference to their characteristics and forms. While it is agreed that characteristics of disadvantage are cumulative, there is no agreement on the extent to which factors contribute to disadvantage and which factors they are. Another problem is that disadvantage is usually exemplified only by the characteristic of lack of provision or failure in the labour market, and hence by the characteristic of occupational exclusion. No account is taken of the fact that disadvantage and the resulting (social) exclusion involve far more aspects than a lack of or inadequate income. This leads both to a blending of phenomenon with victims and to the cutting-out of other parties involved, such as political decision-makers or those benefiting from measures to combat disadvantage (see also the discussion in Cedefop, Preston and Green, 2008).

Another consequence is that the problem is observed and addressed one-sidedly, to be able to continue to regard 'the disadvantaged' as an apparently temporary fringe manifestation of the existing education and economic systems instead of accepting that they are the result and a permanent component of these very same systems.

This gives rise to several requirements that are essential if victims are to receive effective support.

Starting points for action could be derived from these, focused not so much on treating symptoms, but dealing with causes:

- (a) in addition to applied research, there is a need for basic research to bring about lasting improvement of the situation. Terms such as disadvantage, exclusion, unemployment, inequality, marginality, stigmatisation and marginalisation are currently interchangeable and used according to purpose. No distinction is made between the terms as a basis for operationalising further and comparative research into these phenomena;
- (b) the first task facing basic research in this area is to analyse and concretise the countless conceptual views not only in different countries, but also within one country, and to establish a common basis for them. It should be noted that this does not mean endeavouring to harmonise them, but creating a common starting point for research and for starting points for action;
- (c) if decades spent bringing increasing numbers of young people into line with the existing system and integrating them into it have not improved the situation, then changes in the system must be to the fore in future research and action. The inflation of the concept of disadvantage is a clear signal that the current system of taking action is ineffective. Instead, strategies and measures should focus on disadvantageous systems and situations, so that the one-sided 'treatment' of victims via system-oriented interaction can be replaced. However, this also calls for analysis of, and consideration for, the roles of all involved;
- (d) there is a need for transnational and interdisciplinary thought and action to effect successful reforms, to generate a sense of responsibility in all involved and not only in young people, and to exchange misunderstood social security for suitable employment and education, plus vocational training. For example, although the successful Dutch or Swedish model of work and training cannot be directly transferred to other countries, it must surely be possible to transfer the 'exact fit' as the decisive criterion for the large number of successful and suitable arrangements;
- (e) stigmatisation and marginalisation must no longer be legitimised, to give victims long-term

options for paid employment. In Germany, for example, the number of external training places has been increased for many years, although not because the number of disadvantaged people is actually rising, but because young people have an entitlement to training that it has long been impossible to meet by providing training places in enterprise;

- (f) for those affected, and especially for young jobseekers who should be guided into autonomy, independence and a sense of responsibility, it is hardly encouraging if the first thing they discover when they are looking for a suitable opportunity for obtaining a qualification is that they are dependent on State support because there are not enough training options available.

6.1. Global context

It is apparent that there is no uniform picture of VET for the unemployed and workers threatened by unemployment in the various EU Member States, any more than there are full, consistent data for this field. VET (both IVET and CVET) can be understood in the widest sense as all types of initial and continuing VET organised, financed or supported by institutions, the State and companies. This definition also includes CVET within or outside the workplace, and non-formal and informal learning.

A distinction can be made between the VET options provided for the target groups mentioned according to whether their emphasis is primarily geared to imparting practical KSC or includes a more or less substantial proportion of theory.

(Continuing) vocational training essentially serves several purposes and has various functions, which apply equally to the target groups mentioned here and to those in employment.

The importance of VET measures for the unemployed and for risk groups is clear: changes in the labour market as a result of pressure from globalisation and competition are the main reasons for the demand for VET. Thus the call, associated with a demand that has increased in general, for higher qualifications would seem to be a logical conclusion. However, the mechanisms triggering the resulting reduced demand for low-skilled

Table 8. **Functions and objectives of CVET**

Functions	Objectives
Adaptation to changing labour-market challenges	Promotion of personal development, self confidence, self-realisation and a sense of identity
Innovation through constant maintenance of qualifications (usually via activities in businesses)	Improvement of economic efficiency, productivity, individual earnings and the national income
Support for the career path through maintenance and improvement of individual abilities and skills, particularly for employees	Assurance of up-to-date knowledge
Making up ground in the event of inadequate qualifications; primarily measures for particular target groups or to provide basic qualifications	Reduction in particular problems of risk groups such as the low-qualified, women, older workers, workers in precarious living situations, school-leavers
Curative or compensatory function aimed at reorientation of abilities and skills or the provision of missing qualifications in social and labour-market policy	Fulfilling the demands of social and democratic trends in the societies of Europe
Preventive or cumulative function for persons wishing to acquire abilities and skills to keep their jobs or to improve their work.	An increase in cultural participation and social competence

Source: Wickramasekara, 2003, p. 7.

workers are still being hotly debated. Two effects are fundamentally conceivable, caused by the processes of social change:

- (a) an upskilling effect, i.e. an effect in which technological changes result in a fall in demand for low-skilled workers;
- (b) a deskilling effect, i.e. an effect in which new technologies reduce the abilities and skills required and, at least temporarily, increase the demand for low-skilled workers.

Structural change in the labour market is also apparent, in association with increased demand for workers in the service sector, while the demand for workers in the industrial sector is falling. These two factors may lead both to rising unemployment and to increased demand for higher and more specific KSC. It is also evident that the duration of CET courses in general is decreasing in countries in which unemployment is rising (Riordan and Rosas, 2003). Both points apply equally to those in and out of work. At the same time, increasing pressure of competition from low-wage countries can be seen, making itself felt in two areas in particular:

- (a) several European countries are outsourcing production to low-wage countries;
- (b) they outsource their production to low-wage countries in which highly-skilled workers earn

substantially lower wages than highly-skilled workers in European countries.

While it is clear that these effects exist, as yet it is unclear to what extent they are responsible for the falling demand for low-skilled workers.

6.2. Evaluation results to date

Several basic findings have emerged from studies carried out to date on VET for the unemployed and workers threatened by unemployment.

The first is that VET provision (both for the unemployed and for jobseekers) should always build on the existing experience and KSC of participants and hence be linked to their knowledge and (self-)confidence. If this link is not provided or is inadequate, it may lead to demotivation and breaking-off of participation. If too much is expected of participants, not only is this likely to have the same results, but the investment in the measure is also a waste of resources. Many CET programmes are too short: this applies in particular to those geared to reading and arithmetical ability. A focus on basic abilities promotes learner-centred strategies and practices, particularly through the use of information and communication technology.

Acquisition of formal qualifications and recognition and certification of informally and non-formally acquired knowledge and skills should be promoted, since this not only encourages motivation but also affects whether unemployed people and jobseekers find a job. VET for the target groups mentioned should also be clearly linked to labour-market requirements and not simply focus on basic abilities and formal qualifications.

Another factor is improvement of advice and guidance for the unemployed and jobseekers. Various studies have shown that reintegrating the unemployed into the labour market often needs to include a plan attuned to the individual, indicating a realistic way of obtaining a job. VET is only one factor among many in such plans (Cedefop, Brandsma, 2001).

There must be continued development of reliable monitoring of VET provision that is geared to the long term, so quality can be assured and the social partners and education providers directly integrated (Ok and Tergeist, 2003).

New evaluation methods have been developed and existing methods improved (Cedefop, Descy and Tessaring, 2004; Cedefop, Walsh and Parsons, 2004). However, time and again it has been apparent that statements about the influence of CVET/CET can be made only on the basis of country, region, target group and system conditions, for example statements on active national labour-market policy or provision for specific target groups (Cedefop, Hujer et al., 2004; Fischer and Tholoniati, 2006; Kluge, 2006; Martin and Grubb, 2001).

6.3. Impacts

The effects of structural changes in the labour market on VET measures for the unemployed are hotly debated. The discussions are usually based on the – admittedly irregularly compiled and inconsistent – official national unemployment statistics.

Another concept for identifying those affected by unemployment is that of employability. This concept is increasingly used to define and measure unemployment, since it makes it possible to distinguish between different types and levels of unemployment. It also makes it possible to focus on the general ability to educate oneself further

instead of on certificates and earlier periods of unemployment. Its disadvantage lies in the fact that ‘there is the risk that the responsibility for difficult employability will be placed entirely upon the individual’ (Cedefop, Nicaise and Bollens, 1998, p. 121). The concept of employability allows more exact, more detailed identification of groups affected by either unemployment or the threat of unemployment. These groups include, for example, the low-skilled (with a qualification below upper secondary level), the long-term unemployed, the disabled, single parents, older workers and jobseekers, recipients of welfare benefits, or those wishing to return to the labour market.

It is possible and likely that the categories cited here will overlap within these groups, an accumulation of factors increases the risk of unemployment. At the same time, it is safe to assume that for all these groups, the risk of unemployment is associated with inadequate, out-of-date or incomplete qualifications and skills (Brandsma, 1997; Cedefop, Descy and Tessaring, 2001; ILO, 2003).

Regarding the composition of participants (Table 9), it is not necessarily those who should be receiving CET who are actually doing so, and there are various reasons for this. First is the ‘employment trap’: in countries where there is a relatively high State support for the unemployed in relation to the income of those in employment, it is less likely that jobseekers will be highly motivated to seek employment or CET opportunities (OECD, 1996, p. 25 et seq.). There is a clear connection between motivation for lifelong learning, employment policy and the welfare State.

Second, in some countries such as the UK or Germany, access to training programmes is linked to a minimum term of unemployment. The only people entitled to participate are those who have worked for a certain minimum term under particular conditions of employment (e.g. with a contract of employment) and are registered as unemployed (Cedefop, Descy and Tessaring, 2001; OECD, 1999; 2003).

Analysis of the structure of participants in CET measures for the unemployed and workers threatened by unemployment shows over-representation of male, more highly-skilled, single, childless, younger and short-term unemployed. Not only does this apply to analysis of CET

Table 9. Participation in formal and/or non-formal and/or informal and CET by education and employment status (2003), %

	Lower secondary level (employees)	Upper secondary level and post secondary, non-tertiary education (employees)	Tertiary sector (employees)	All areas of education combined (employees)	Participation by the unemployed in non-formal CET
Belgium	24	43	68	43	10
Czech Republic	11	27	65	29	4.0
Denmark	62	77	93	80	35
Germany	19	41	66	42	10
Ireland	50	68	84	66	8.0
Greece	18	28	34	25	4.0
Spain	13	31	48	25	6.0
France	29	52	83	51	17
Italy	34	61	78	49	1.0
Luxembourg	67	86	95	82	n.a.
Hungary	4.0	11	27	12	4.0
Austria	87	89	95	89	18
Poland	9.0	27	74	30	3.0
Portugal	40	82	95	50	4.0
Slovakia	40	59	83	60	5.0
Finland	62	77	91	78	16
Sweden	49	69	88	71	11
UK	12	37	61	38	33

Source: OECD (2005e).

programmes for the adult unemployed in general, but the same is also true of programmes for particular target groups, e.g. the older or long-term unemployed (Brandsma, 1997; Cedefop, Bainbridge, 2003; European Commission, 2000a, 2000b; ETF, 2003).

There is a much larger proportion of results that are unsound, only partly checked or valid only for specific groups, regions and time periods than of results that are sound. The first category includes, for example, findings on the influence of motivation on willingness to participate, strategies for (lifelong) advice and guidance, and cooperation between players and the effectiveness of provision.

With regard to motivation to participate, various studies have shown that several factors impede the participation of jobseekers and the unemployed. The less skilled or more inadequately skilled the unemployed are, and the stronger the cumulative effect of structural disadvantages, the less willing

they are to participate (Brandsma, 1997; Cedefop, Brandsma, 2001; Cedefop, Nicaise and Bollens, 1998). There appear to be several reasons for this:

- (a) uncertainty about possible benefits of participating;
- (b) fear of failure, a negative self-image and fear of exclusion;
- (c) a lack of connection between the programme content and the education/training jobseekers actually need;
- (d) an inner view that essentially gives working/a job precedence over learning activities and possibilities for qualification;
- (e) failure to gear provision to the needs of individuals; for example, it is obvious that older males in long-term unemployment have different qualification needs from younger females in short-term unemployment.

Advice and guidance for the unemployed and

jobseekers can have a positive or negative effect on motivating those who might participate in VET. The most important concept involves not only offering VET, but also imparting an appropriate attitude to working/a job. The significance of this task is often underestimated. Vranken and Frans (2001, p. 142) point out that the unemployed and jobseekers often need more time to accustom themselves to simple tasks such as 'sticking to time schedules, meeting strict requirements, integration into a team, accepting authority, and concentrating on one task for a longer time' than to acquire vocational KSC (Cedefop, Vranken and Frans, 2001, p. 142).

To date little is known about effective cooperation and coordination. The common focus is on establishing plans for cooperation and coordination between players in the labour market at regional, national and supranational levels and institutionalising new labour-market arrangements as part of CET, to facilitate more efficient filling of vacancies.

This process calls for qualified professional coordinators to influence the phase of reaching a consensus among all players. There is as great a need to strengthen cooperation between labour-market players as to create more networks (particularly at regional level). If network creation is used as a form of coordination (e.g. to identify vocational competences), hierarchical forms of cooperation appear to present more reliable possibilities for cooperating and for implementing strategies aimed at proactive qualification-matching than other types of cooperation (Rouault et al., 2002). However, a fundamental problem remains unresolved: most VET programmes for the relevant target groups are offered by independent providers, which often lack up-to-date labour-market orientation. Hence, strengthening of cooperation and coordination should be aimed at improving not only cooperation between policy and education providers, but also cooperation between companies, the academic world, policy and suppliers.

All these factors influence the effectiveness of CET provision, which is usually measured in terms of the labour-market status of participants once their participation is completed (continued unemployment or acquisition of a job). However, it is still unclear how many of these people would have found a job even without the training programme. For this reason, when these effects are measured control groups are able better to assess the effectiveness of measures and provision (counterfactual case). In addition, when such examples of training provision are evaluated, a distinction is made between two different investigative approaches; studies investigating the benefit to the individual and studies attempting to estimate the overall economic benefit by examining the question of the effects that would ensue without VET (Cedefop, Descy and Tessaring, 2004; Cedefop, Walsh and Parsons, 2004). Although it has been confirmed that the impact of VET has more effect on KSC and qualification than (re)integration into the labour market alone, the concept of impact is used almost only in narrower sense.

Several studies (Martin and Grubb, 2001; Cedefop, Walsh and Parsons, 2004) have shown that there is no clear answer to the question of which measures appear to be most effective for which target groups⁽¹³⁾. Instead, the findings show that most measures, such as CET programmes, advice and guidance, cannot be regarded as genuinely effective unless they are combined with other measures and attuned to the individual needs of participants. Examples of this are regular support for, and monitoring of, the activities of those concerned in relation to the labour market, and tests, audits and sampling of work.

A summary review of the current position on the evaluation of research into the impact of active labour-market programmes, considering the differences between developed and transition countries, is given in Table 10.

⁽¹³⁾ For a detailed overview, see Cedefop, Descy and Tessaring, 2005, p. 178 et seq.

Table 10. Summary of findings on the influence of ALMPs

Intervention	Summary of overall impact	Comments
Employment services	Generally positive impacts on employment and earnings in developed and transition countries. Costs relatively low so cost-benefit ratio usually positive.	Programmes have most positive impacts when economy good. Impact limited where lack of labour demand.
Training for the unemployed	Positive impacts on employment but no overall effect on earnings in developed countries. Positive in transition countries.	Programme effectiveness benefits from on-the-job training and employer involvement. Women often seem to benefit more than men. Programmes have most success when economy good.
Retraining for workers in mass layoffs	Often no positive impact on employment and earnings but there are exceptions. Little evidence for transition countries.	Better results may be achieved with integrated training and employment services.
Training for youth	Negative impacts on employment and earnings in developed countries. No evidence from transition countries.	Youth employment problems more effectively addressed through earlier, education-related interventions. Training most effective when combined with other employment, basic education, and social services. Successful programmes require intensive services and, thus, are costly.
Wage/employment subsidies	Overall negative impacts on employment and earnings in developed and transition countries.	Recent evaluations in developed countries more favourable (e.g. welfare-to-work programmes). Programmes may be more effective when combined with training. Deadweight and substitution effects likely important but often not fully assessed
Public works	Overall negative impacts on employment and earnings in developed and transition countries.	Can be effective as a short-term safety net for the poor but generally not as programme to improve future labour-market prospects.
Micro-enterprise/ self-employment assistance	Not enough labour market oriented evaluations to determine overall employment and earnings impacts.	Low take-up. Some evidence of positive impacts for older, better educated individuals. Results likely better when technical and advisory services accompany financial aid.

Source: Based on Betcherman et al. (2004).

7. Conclusions

Changed labour-markets require individuals to be capable of assimilating, selecting, processing and applying large quantities of information and knowledge to solve problems, plan tasks and work with other individuals. They must be capable of acquiring a wide range of skills throughout their lives and applying them in various circumstances.

At the same time, individual learners (trainees, students, participants in CET) are seeking broadly-based education and training programmes to do justice to their own needs, interests and learning styles, and hence their life plans.

Various strategies aim to respond to these two trends. They include didactic approaches such as individualised learning pathways, new learning arrangements and an emphasis on orientation to learning outcomes in competence development. At the heart of these innovations is the quest for effective forms of learning, the best possible organisational forms for education/training processes and institutions, and the best possible use of resources by the latter. In these developments, a key question is that of the effect of political strategies and measures on VET, which requires control and measurement of the relevant effects. The OMC is currently regarded as a promising tool in education and training policy, and benefits mechanisms for comparison, for best-practice examples and for blaming and shaming, to fulfil policy aims.

However, lifelong learning, the introduction of an EQF, internationalisation strategies, VET for risk groups and geographical mobility have been cited as examples showing that little scientific evidence is available to review the impact of these control instruments. In addition, little is known about the learning process that was to be initiated in individual countries by the OMC.

In addition to the OMC, there are also soft policy instruments. Dialogue between the players is becoming a fundamental tool for designing and implementing strategies and putting them into action. Provided the players actively involve themselves in this (social) dialogue and consensus-

forming takes place on a voluntary basis, it will become a catalyst for processes of change. Persuasion, negotiation, the quest for supporters and argumentation are all equally important elements of this dialogue. As a tool for negotiating policy, dialogue can make a contribution to good governance and quality assurance.

A shift is clearly apparent in the paths followed in pushing interests through. In contrast to earlier input-oriented direct and indirect approaches such as traditional lobbying, output-oriented indirect approaches such as restraint in introducing new instruments (such as NQFs and the EQF) are increasingly seen (Section 4) (Wolf, 2005). One example of this is the increasing speed with which Member States agree in principle to new instruments, e.g. on the introduction of the EQF, while they are cautious about actually putting such instruments into practice nationally. However, several further studies are needed to establish whether these approaches are establishing themselves on a long-term basis.

Forms of control that are not new but becoming increasingly important include cooperation between the players and the necessary minimum of mutual trust associated with this. Improved coherence and increased cooperation between policy, practice and the academic world, are now at the heart of many strategies aimed at ensuring lasting support for VET development and lasting improvement in various groups of learners. In addition to increasing funding budgets, it is also helpful to improve the institutional structures of VET, for example by employing quality assurance systems.

Improving coordination plans can help to integrate the social partners at various stages, and so improve the quality of VET provision for particular target groups. Here, we anticipate improved transparency, comparability, transferability and recognition of skills and qualifications within and between individual countries.

We have also been able to show that the desired effects of strategies cannot be achieved via dependence on a particular path or a causal

chain. For example, the development and implementation of qualifications frameworks are dependent on many factors for them to be made into an instrument for successful promotion of education and the economy. It is apparent that no conclusions have yet been drawn from the problems and experiences encountered in developing other qualifications frameworks, which gives rise to the suspicion that 'implementing an EQF will inevitably face the same problems, but in an exaggerated form, that have been faced by countries introducing NQFs. It follows that unless lessons are learnt from the experience of introducing national frameworks, a Europe-wide qualifications framework will get similarly bogged down in jargon, bureaucracy and even active opposition and stand no chance of achieving its goals' (Young, 2004, p. 1).

The problems arising for the introduction of qualifications frameworks are also based on the different logics of qualifications frameworks and qualifications systems, namely the inputs principle versus the outcomes principle (Meyer, 2006; Young 2004, p. 2). While a qualifications system follows the fundamental logic according to which different qualifications are based on different types of learning and on the acquisition, in different ways, of different types of knowledge, treating time as a variable component, qualifications frameworks are based on the logic that the true variable is not time but the amount learned.

The difficulty of combining these two logics is particularly apparent when it comes to the question of validating and accrediting informally and non-formally acquired learning outcomes. A combination of these two logics and the incorporation of learning outcomes not acquired

through formal educational programmes are designed to promote both horizontal and vertical mobility. To this end, individual countries have also developed several measures and strategies that, in some cases, have as yet barely been adopted or have not yet been in place for long enough for corresponding empirically established figures to be available. The most important task here is to coordinate and maintain the work of national players and the EU on a sustainable and reliable basis.

These examples show that there is no clear answer to the question of the impact of political strategies and priorities. Instead, there is a need for further basic research asking whether an international education policy is actually developing, since education policy is still regarded as a distributive policy distributing a meritorious product. On the basis of this assumption, it would be impossible for supranational organisations to be in a position to exert sustained influence on such cost-intensive and diversified fields of policy and to bring the institutions of widely varying quality active in these fields into line with each other. Thus education policy remains not only in legal terms, but also in itself, a function of assuring a country's mutuality.

The starting point for future research should, therefore, be the question of whether dependence on a particular path, i.e. the functions, goals and structure of national education policy, is generally demonstrating a shift in its targets that corresponds to the Community's objectives in shared efficiency targets; this, in turn, could lead to reform of the governance structures of education systems. This is particularly apparent in the development of NQFs in the context of the EQF.

List of abbreviations

ALMP	Active labour-market policies
BIBB	German federal vocational training institute
BMBF	German federal ministry of education and research
CET	Continuing education and training
CVET	Continuing vocational education and training
ECTS	European credit transfer system
ECVET	European credit system for vocational education and training
ENQA-VET	European network on quality assurance in vocational education and training
EQF	European qualifications framework
ISCED	International standard classification of education
IVET	Initial vocational education and training
KSC	Knowledge, skills and competences
n.a.	Not available
NQF	National qualifications framework
OMC	Open method of coordination
QCA	Qualifications and Curriculum Authority
VET	Vocational education and training

References

- Aebli, H. *Denken, das Ordnen des Tuns*. Stuttgart: Klett-Cotta, 1980.
- Ahonen, H. et al. Knowledge management – the second generation: creating competencies within and between work communities in the competence laboratory. In Malhotra, Y. (ed.). *Knowledge management and virtual organizations*. London: Idea Group, 2000, p. 282-305.
- Alexiadou, N. Europeanization and education policy. In Coulby, D.; Zambeta, E. *World yearbook of education 2005: globalization and nationalism in education*. London: Routledge, 2005, p. 128-146 (World yearbook of education series).
- Allais, S.M. The national qualifications framework in South Africa: a democratic project trapped in a neo-liberal paradigm? *Journal of Education and Work*, 2003, Vol. 16, No. 3, p. 305-323.
- Arnold, R. Von der Weiterbildung zur Kompetenzentwicklung. Neue Denkmodelle und Gestaltungsansätze in einem sich verändernden Handlungsfeld. In Arbeitsgemeinschaft QUEM (ed.). *Kompetenzentwicklung 97: Berufliche Weiterbildung in der Transformation: Fakten und Visionen*. Münster: Waxmann, 1997, p. 253-307.
- Arnold, R.; Schübler, I. Entwicklung des Kompetenzbegriffs und seine Bedeutung für die Berufsbildung und für die Berufsbildungsforschung. In Franke, G. (ed.). *Komplexität und Kompetenz: Ausgewählte Fragen der Kompetenzforschung*. Bielefeld: Bertelsmann, 2001, p. 52-74.
- Baacke, D. *Kommunikation und Kompetenz*. Munich: Juventa, 1980.
- Baecker, D. Zum Problem des Wissens in Organisationen. *Organisationsentwicklung*, 1998, Vol. 3, p. 5-21.
- Beine, M. et al. Brain drain and LDCs' growth: winners and losers. Bonn: IZA, 2003.
- Bektchieva, J. *Die europäische Bildungspolitik nach Maastricht*. Münster: Lit, 2004.
- Berggreen-Merkel, I. Europäische Harmonisierung auf dem Gebiet des Bildungswesens. *Recht der Jugend und des Bildungswesens*, 1998, Vol. 46, No 1, p. 18-35.
- Betcherman, G. et al. *Impacts of active labor market programs: new evidence from evaluations with particular attention to developing and transition countries*. Working paper of the Social Protection Unit Human Development Network. Washington, DC: World Bank, 2004.
- Beyfuß, J. et al. *Globalisierung im Spiegel von Theorie und Empirie*. Cologne: Deutscher Institutsverlag, 1997.
- BIBB. *BIBB-Statement Der Europäische Qualifikationsrahmen – Ein Transparenz-Instrument zur Förderung von Mobilität und Durchlässigkeit*. Bonn: BIBB, 27.06.2005a.
- BIBB. Neues aus Europa. *BIBB-Beiträge*, 2005b, No 10.
- Bîrzéa, C. *Education for democratic citizenship: a lifelong learning perspective*. Project on Education for democratic citizenship. Strasbourg: Council of Europe, 2000.
- BLK – Bund-Länder-Kommission. *Strategie für lebenslanges Lernen in der Bundesrepublik Deutschland. Materialien zur Bildungsplanung und zur Forschungsförderung*. Bonn: BLK Geschäftsstelle, 2004.
- Blossfeld, H.P.; Shavit Y. Dauerhafte Ungleichheiten – Zur Veränderung des Einflusses der sozialen Herkunft auf die Bildungschancen in dreizehn industrialisierten Ländern. *Zeitschrift für Pädagogik*, 1993, No 39, p. 25-52.
- BMBF – Federal Ministry of Education and Research. *Germany's vocational education at a Glance*. Bonn: BMBF, 2003.
- BMWK – Federal Ministry of Education, Science and Culture. *Quality in education and training. Cases of good practice in vocational education and training and higher education*. Vienna: BMWK, 2006.
- Boeri, T. Eastern enlargement, migration and Euro adaptation. *Journal for Labour Market Research*, Vol. 39, No 1, 2006, p. 143-148.
- Bohlinger, S. ECTS und ECVET: Kredittransfersysteme als Beitrag zur europäischen Integration im Bildungsbereich. *Berufsbildung*, 2005, Vol. 59, No 96, p. 16-18.
- Borch, H. et al. *Internationalisierung der Berufs-*

- bildung*. Bielefeld: Bertelsmann, 2003.
- Brandsma, J. *The effectiveness of labour market oriented training for the long-term unemployed*. Twente: Centre for Applied Research on Education, 1997.
- Buchberger, F. et al. (eds). *High quality teacher education for high quality education and training. Green paper on teacher education in Europe*. Umea: TNTEE – Thematic Network and Teacher Education Research, 2000.
- Buchberger, F.; Buchberger, I. Europa: eine Chance zur Reform von Schule und Lehrerausbildung? In Hilligus, A.H. et al. (eds). *Europa in Schule und Lehrerausbildung*. Münster: Lit, 2002, p. 101-128.
- Bünning, F.; Richter, A. Lissabon – Brügge – Kopenhagen. Grundsätze, Beschlusslagen und zu lösende Probleme für einen europäischen Berufsbildungssektor. *Die berufsbildende Schule*, 2003, Vol. 57, No 7-8, p. 172-175.
- Byrska, M.; Venables, T. *The unfinished enlargement: report on free movement in EU-25*. Brussels: European Citizen Action Service, 2004.
- Campbell, D.F.J. et al. Case studies about higher education in the Netherlands and vocational education and training in Spain. In BMWK – Federal Ministry of Education, Science and Culture. *Quality in education and training. Cases of good practice in vocational education and training and higher education*. Vienna: BMWK, 2006, p. 13-28.
- Castells, M. *The rise of the network society*. Oxford: Blackwell, 2000.
- Cedefop. *Initial and vocational training [Spain]: national VET systems: detailed thematic analysis*. Thessaloniki: Cedefop, 2005. Available from Internet: http://www.trainingvillage.gr/etv/Information_resources/NationalVet/Thematic/analysis.asp [cited 12.12.2007].
- Cedefop; Bainbridge, S. et al. *Learning for employment: second report on vocational education and training policy in Europe: executive summary*. Luxembourg: Publications Office, 2003.
- Cedefop; Bjørnåvold, J.; Tissot, P. *Glossary on identification, assessment and validation of qualifications and competences; transparency and transferability of qualifications*. Working document. Thessaloniki: Cedefop, 2000.
- Cedefop; Brandsma, J. Training and employment perspectives for lower qualified people. In Cedefop; Descy, P.; Tessaring, M. *Training in Europe: second report on vocational training research in Europe 2000: background report*. Luxembourg: Publications Office, 2001, p. 173-206 (Cedefop Reference series).
- Cedefop; Coles, M.; Oates, T. *European reference levels for education and training: promoting credit transfer and mutual trust: study commissioned by the Qualifications and Curriculum Authority*. Luxembourg: Publications Office, 2005 (Cedefop Panorama, 109).
- Cedefop; Cuddy, N.; Leney, T. *Vocational education and training in the United Kingdom: short description*. Luxembourg: Publications Office, 2005 (Cedefop Panorama series, 111).
- Cedefop; Descy, P.; Tessaring, M. (eds). *Impact of education and training: third report on vocational training research in Europe: background report*. Luxembourg: Publications Office, 2004 (Cedefop Reference series, 54).
- Cedefop; Descy, P.; Tessaring, M. (eds.). *Training in Europe: second report on vocational training research in Europe 2000: background report*. (3 Vol.s). Luxembourg: Publications Office, 2001 (Cedefop Reference series).
- Cedefop; Descy, P.; Tessaring, M. *The value of learning: evaluation and impact of education and training: third report on vocational training research in Europe: synthesis report*. Luxembourg: Publications Office, 2005 (Cedefop Reference series, 61).
- Cedefop; Hujer, R. et al. Methods and limitations of evaluation and impact research. In Cedefop; Descy, P.; Tessaring, M. (eds). *The foundations of evaluation and impact research: third report on vocational training research in Europe: background report*. Luxembourg: Publications Office, 2004, p. 131-190 (Cedefop Reference series, 58).
- Cedefop; Nicaise, I.; Bollens, J. Training and employment opportunities for disadvantaged groups. In Cedefop; Tessaring, M. (ed.). *Vocational education and training: the European research field: background report, Vol. 2*. Luxembourg: Publications Office, 1998, Vol. 2, p.121-153 (Reference document, 3002).
- Cedefop; Pettersson, S. Are vocational qualifications becoming more transparent? *Cedefop Info*, 2001, No 2/2001.
- Cedefop; Preston, J.; Green, A. The role of

- vocational education and training in enhancing social inclusion and cohesion. In Cedefop, Descy, P.; Tessaring, M. (eds). *Modernising vocational education and training: fourth report on vocational training research in Europe: background report, Vol. 1*. Luxembourg: Publications Office, 2008 (Cedefop Reference series).
- Cedefop; Rychen, D.S. An overarching conceptual framework for assessing key competences. In Cedefop; Descy, P.; Tessaring, M. (eds). *The foundations of evaluation and impact research. Third report on vocational training research in Europe: background report*. Luxembourg: Publications Office, 2004, p. 313-331 (Cedefop Reference series, 58).
- Cedefop; Straka, G.A. Measurement and evaluation of competence. In Cedefop; Descy, P.; Tessaring, M. (eds). *The foundations of evaluation and impact research: third report on vocational training research in Europe: background report*. Luxembourg: Publications Office, 2004, p. 263-311 (Cedefop Reference series, 58).
- Cedefop; Tessaring, M.; Wannan, J. *Vocational education and training: key to the future: Lisbon-Copenhagen-Maastricht: mobilising for 2010: Cedefop synthesis report*. Luxembourg: Publications Office, 2004.
- Cedefop; Tissot, P. (ed.). *Terminology of vocational training policy: a multilingual glossary for an enlarged Europe*. Luxembourg: Publications Office, 2004.
- Cedefop; Vranken, J.; Frans, M. Selection, social exclusion and training offers for target groups. In Cedefop; Descy, P.; Tessaring, M. (eds). *Training in Europe: second report on vocational training research in Europe 2000: background report*. Luxembourg: Publications Office, 2001, p. 137-171 (Cedefop Reference series).
- Cedefop; Walsh, K.; Parsons, D.J. Active policies and measures: impact on integration and reintegration in the labour market and social life. In Cedefop; Descy, P.; Tessaring, M. (eds). *Impact of education and training: third report on vocational training research in Europe: background report*. Luxembourg: Publications Office, 2004, p. 215-259 (Cedefop Reference series, 54).
- Cedefop; Ward, T. Geographical mobility. In Cedefop, Descy, P.; Tessaring, M. (eds). *Modernising vocational education and training: fourth report on vocational training research in Europe: background report, Vol. 1*. Luxembourg: Publications Office, 2008 (Cedefop Reference series).
- Cedefop; Winterton, J.; Delamare-Le Deist, F. *Extended outline of the study on the developing typology for knowledge, skills and competences* (Cedefop project). Thessaloniki, 21 June 2004 (Working document).
- Centre d'analyse stratégique; Conseil d'orientation pour l'emploi. *Les mobilités professionnelles : une réponse aux tensions du marché du travail?* Colloque, Paris, 2006.
- Chomsky, N. *Aspekte der Syntaxtheorie*. Berlin: Suhrkamp, 1970.
- Colardyn, D.; Bjørnåvold, J. Validation of non-formal and informal learning. A European inventory. Draft version 7 October 2003.
- Cosser, M. The implementation of the national qualifications framework and the transformation of education and training in South Africa: a critique. In Kraak, A.; Young M. (eds). *Education in retrospect: policy and implementation since 1990*. Pretoria: Human Sciences Research Council, 2001.
- Coulby, D. The knowledge economy: technology and characteristics. In Coulby, D.; Zambeta, E. *World yearbook of education 2005: globalization and nationalism in education*. London: Routledge, 2005, p. 23-36 (World Yearbook of Education series).
- Council of Europe. Permanent education: fundamentals for an integrated educational policy. *Studies on Permanent Education*, 1971, No 21.
- Council of the EU. *Detailed work programme on the follow-up of the objectives of education and training systems in Europe*. Conclusions of the Council, 20 February 2002. Brussels: Council of the EU, 2002a.
- Council of the EU. *Detailed work programme on the follow-up of the objectives of education and training systems in Europe*. Communications. *Official Journal of the European Communities*, 14 June 2002b, C 142, p. 1-22.
- Croxford, L. et al. *Young people's experience of national certificate modules. Report to Scottish Office*. Edinburgh: CES, 1991.
- Danish Ministry of Education. *Facts and figures: education indicators: Denmark 2005*. Copenhagen: Danish Ministry of Education, 2005.

- Dawydow, W. et al. *Ausbildung der Lerntätigkeit bei Schülern*. Berlin,: Pedagogika, 1982.
- de la Porte, C.; Pochet, P. Supple coordination at EU level and the key actors' involvement. In de la Porte, C.; Pochet, P. (eds). *Building social Europe through the open method of coordination*. Frankfurt: Peter Lang, 2002.
- Deane, C.; Watters, E. *Towards 2010: common themes and approaches across higher education and vocational education and training in Europe: background research paper*. Dublin: Irish Presidency Conference, 2004.
- DGB. *Stellungnahme des Deutschen Gewerkschaftsbundes (DGB) zum Konsultationsdokument „Der Europäische Qualifikationsrahmen: Ein Transparenz- Instrument zur Förderung von Mobilität und Durchlässigkeit“*. Berlin: DGB, 2005.
- Dolowitz, D.P.; Marsh, D. Who learns what from whom: a review of the policy transfer literature. *Political Studies*, 1996, Vol. 44, No 2, p. 343-357.
- Drexel, I. *Das duale System und Europa: ein Gutachten im Auftrag von ver.di und IG Metall*. Munich: Vereinte Dienstleistungsgewerkschaft, 2005.
- Drexel, I. Europäische Berufsbildungspolitik: Deregulierung, neoliberale Reregulierung und die Folgen – für Alternativen zu EQR und NQR. In Grollmann, P. et al. (eds). *Europäisierung beruflicher Bildung: eine Gestaltungsprozess*. Münster: Lit, 2006, p. 13-33.
- Dreyfus, H. *What computers still can't do: a critique of artificial reason*. Cambridge: MIT, 1992.
- Dreyfus, H.L.; Dreyfus, S.E. *Mind over machine: the power of human intuition and experience in the era of the computer*. Oxford: Blackwell, 1986.
- European Commission. *Continuing training in enterprises in Europe: results of the second European continuing vocational training survey in enterprises*. Luxembourg: Publications Office, 2000a.
- European Commission. *Low skills: a problem for Europe: final report to DGXII of the European Commission on the Newskills programme of research*. Luxembourg: Publications Office, 2000b.
- European Commission. *Memorandum on lifelong learning*. Brussels: European Commission, 2000c (Staff working document, SEC(2000) 1832).
- European Commission. *Communication from the Commission: making a European area of lifelong learning a reality*. Luxembourg: Publications Office, 2001a (COM(2001) 678 final).
- European Commission. Report of the Eurostat task force on measuring lifelong learning. Brussels: European Commission, 2001b.
- European Commission. Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions: Commission action plan on skills and mobility. Luxembourg: Publications Office, 2002a (COM(2002)72 final).
- European Commission. *Free movement for persons: a practical guide for an enlarged European Union*. Brussels: European Commission, 2002b.
- European Commission. *Enhanced cooperation in vocational education and training: stocktaking report of the Copenhagen coordination group*. Luxembourg: Publications Office, 2003a.
- European Commission. *Towards a European qualifications framework for lifelong learning*. Brussels: European Commission, 2005a (Staff working document, SEC (2005) 957).
- European Commission. *The economic costs of non-Lisbon: a survey of the literature on the economic impact of Lisbon-type reforms*. Brussels: European Commission – Directorate-General for Economic and Financial Affairs, 2005b (Occasional papers, No 16).
- European Commission. *Standard Eurobarometer 64. Public opinion in the European Union. Autumn 2005*. Luxembourg: Publications Office, 2005c (TNS opinion and social).
- European Commission. *Implementing the Community Lisbon programme. Proposal for a recommendation of the European Parliament and the Council on the establishment of the European qualifications framework for lifelong learning*. Luxembourg: Publications Office, 2006 (COM (2006) 479 final).
- Engeström, Y. *Learning, working and imaging: twelve studies in activity theory*. Helsinki: Orients-Konsultit, 1990.
- Engeström, Y. Expansive learning at work: toward activity theoretical reconceptualization. *Journal of Education and Work*, 2001, Vol. 14, No 1, p. 133-156.
- Ensor, P. The national qualifications framework

- and higher education in South Africa: some epistemological issues. *Journal of Education and Work*, 2003, Vol. 16, No 3, p. 223-237.
- Erpenbeck, J.; Heyse, V. Berufliche Weiterbildung und berufliche Kompetenzentwicklung. In Arbeitsgemeinschaft QUEM (ed.). *Kompetenzentwicklung '96. Strukturwandel und Trends in der betrieblichen Weiterbildung*. Münster: Waxmann, 1996, p. 15-152.
- ETF – European Training Foundation. *Thirteen years of cooperation and the reforms in vocational education and training in the acceding and candidate countries*. Luxembourg: Publications Office, 2003.
- Euler, D. Ergebnisse der BLK-Studie „Qualitätsentwicklung in der Berufsausbildung“. In BLK – Bund-Länder-Kommission für Bildungsplanung und Forschungsförderung (ed.). *Qualitätsentwicklung in der Berufsausbildung*. Bonn: BLK, 2006, p. 8-19.
- Eurostat. *Eurostat Yearbook 2004: the statistical guide to Europe: data 1992-2002*. Luxembourg: Publications Office, 2004 (Panorama of the European Union).
- Eurostat. *Population scenario (baseline scenario)*. 2005 Available from Internet: http://epp.eurostat.cec.eu.int/portal/page?_pageid=1996,45323734&_dad=portal&_schema=PORTAL&screen=welcomeref&open=/&product=EU_MAIN_TREE&depth=1 [cited 21.11.2007].
- Eurostat. *Europe in figures - Eurostat yearbook 2006-07*. Luxembourg: Publications Office, 2006 (Statistical books).
- Farrugia, J.P. Competency management as an investment: a business perspective. In Rychen, D.S.; Salganik, L.H. (eds). *Defining and selecting key competencies: theoretical and conceptual foundations*. Göttingen: Hogrefe and Huber, 2001, p. 93-120.
- Faulstich, P. *Strategien der betrieblichen Weiterbildung: Kompetenz und Organisation*. Munich: Vahlen, 1998.
- Faure, E. et al. *Wie wir leben lernen. Der Unesco-Bericht über Ziele und Zukunft unserer Erziehungsprogramme*. Reinbek: Rowohlt, 1973.
- Fischer, G.; Tholoniati, L. The European employment strategy in an enlarged EU. *Journal for Labour Market Research*, 2006, Vol. 39, No 1, p. 123-142.
- Friedlander, P. Competency-driven, component-based curriculum architecture. *Performance & Instruction*, 1996, Vol. 35, No 2, p. 14-21.
- Habermas, J. Vorbereitende Bemerkungen zu einer Theorie der kommunikativen Kompetenz. In Habermas, J., Luhmann, N. (eds). *Theorie der Gesellschaft oder Sozialtechnologie. Was leistet die Systemforschung?* Frankfurt am Main: Suhrkamp, 1990, p. 101-141.
- Hanf, G.; Hippach-Schneider, U. Wozu dienen Nationale Qualifikationsrahmen? Ein Blick in andere Länder. *Berufsbildung in Wissenschaft und Praxis*, 2005, Vol. 35, No 1, p. 9-14.
- Haupt, A.; Januba, E. Bildung im Zeitalter mobilen Humankapitals. *Vierteljahreshefte zur Wirtschaftsforschung*, 2003, Vol. 72, No 2, p. 173-187.
- Hedegaard, M.; Lompscher, J. *Learning activity and development*. Aarhus: Aarhus University Press, 1999.
- Heydrich, W. Nachträgliches zur Kompetenz. In Lauffer, J.; Volkmer, I. (eds). *Kommunikative Kompetenz in einer sich verändernden Medienwelt*. Opladen: Leske und Budrich, 1995, p. 223-234.
- Heyns, R.; Needham, S. An integrated national framework for education and training in South Africa: exploring the issues. *SAQA Bulletin*, 2004, Vol. 6, No 2, p. 30-48.
- Hitzelsberger, F. et al. *Scientific report on the mobility of crossborder workers within the EEA: final report: summary*. Munich: MKW Wirtschaftsforschung, 2001.
- Hotz-Hart, B.; Küchler, C. *Wissen als Chance: Globalisierung als Herausforderung für die Schweiz*. Zurich: Rüegger, 1999.
- ILO. *Learning and training for work in the knowledge society*. Geneva: ILO, 2003.
- Immerfall, S. *Einführung in den europäischen Gesellschaftsvergleich: Ansätze, Problemstellungen, Befunde*. Passau: Rothe, 1995.
- Jacques, E. *Requisite organisation*. 2nd ed. Gloucester: Cason Hall, 1996.
- Johnson, G.; Scholes, K. *Exploring corporate strategy*. London: Financial Times Prentice Hall, 2002.

- Karppinen, J. et al. *Geographical mobility: challenges and opportunities*. Dublin: Eurofound, 2006 (Discussion paper).
- Kallen, D.; Bengtsson, J. *Recurrent education: a strategy for lifelong learning*. Paris: CERF – Centre for Educational Research and Innovation, 1973.
- Keating, J. Qualifications frameworks in Australia. *Journal of Education and Work*, 2003, Vol. 16, No 3, p. 271-288.
- Kluve, J. *The effectiveness of European active labour market policy*. Bonn: IZA, 2006 (Discussion paper, No 2018).
- Knoll, J.H. Lebenslanges Lernen“ im internationalen Vergleich. *Hessische Blätter für Volksbildung*, 1983, No 4, p. 279-287.
- Krieger, H. *Migration trends in an enlarged Europe*. Luxembourg: Publications Office, 2004 (Eurofound, Quality of life in Europe series).
- Lassnigg, L. Use of statistical monitoring for quality development and quality assurance – examples of good practice in Denmark and Sweden. In BMWK – Federal Ministry for Education, Science and Culture. *Quality in education and training: cases of good practice in vocational education and training and higher education*. Vienna: BMWK, 2006, p. 59-74.
- Le Mouillour, I. Der Spagat zwischen Differenziertheit und Standardisierung am Beispiel eines Credit Systems für die Berufsbildung. In Clement, U. et al. *Standardisierung und Zertifizierung beruflicher Qualifikationen in Europa*. Bielefeld: Bertelsmann, 2006, p. 28-39.
- Le Mouillour, I. et al. (eds). *First report on the technical working group on credit transfer in VET*. October 2003. Brussels: European Commission, 2003.
- Leney, T. et al. *Achieving the Lisbon goal: the contribution of VET*. Brussels: European Commission, 2004.
- Leontjew, A.N. *Tätigkeit, Bewusstsein, Persönlichkeit*. Berlin: Volk und Wissen, 1979.
- Lipsmeier, A.; Münk, D. *Die Berufsausbildungspolitik der Gemeinschaft für die 90er Jahre. Analyse der Stellungnahmen der EU-Mitgliedstaaten zu Memorandum der Kommission*. Bad Honnef: Bock, 1994.
- Lowell, L.B.; Findlay, A.M. Migration of highly skilled persons from developing countries: impact and policy responses: synthesis report. Geneva: ILO, 2002 (International migration papers, No 44).
- Lutz, B. Employability: Wortblase oder neue Herausforderung für die Berufsausbildung? In Clement, U.; Lipsmeier, A. Berufsbildung zwischen Struktur und Innovation. *Zeitschrift für Berufs- und Wirtschaftspädagogik*, 2003, Vol. 17, p. 29-38.
- Martin, J.P.; Grubb, D. *What works among active labour market policies: evidence from OECD countries' experiences*. Paris: OECD, 2001 (Labour market and social policy occasional papers, No 35).
- Meyer, R. Bildungsstandards in Berufsbildungssystemen. *Zeitschrift für Berufs- und Wirtschaftspädagogik*, 2006, Vol. 101, No 1, p. 49-63.
- Miettinen, R.; Hasu, M. Articulating user needs in collaborative design: towards an activity-theoretical approach. *Computer Supported Cooperative Work*, 2002, Vol. 11, No 1-2, p. 129-151.
- Mikuta, J. *The educational qualifications framework of New Zealand, 1990-1996 (Phil. thesis)*. Oxford: University of Oxford, 2002.
- Mountford, A. Can a brain drain be good for growth in the source economy? *Journal of Development Economics*, 1997, Vol. 53, p. 287-303.
- Mucke, K. Förderung der Durchlässigkeit zwischen beruflicher und schulischer Bildung. *Berufsbildung in Wissenschaft und Praxis*, 2004, Vol. 34, No 6, p. 11-16.
- Muller, J. *Reclaiming knowledge*. London: Routledge, 2000.
- Mytzeck, R. Transparenz von Bildungsabschlüssen und Arbeitsmobilität in Europa. In Schmid, G. et al. (eds). *Arbeitsmarktpolitik und Strukturwandel: Empirische Analysen. Beiträge zur Arbeitsmarkt- und Berufsforschung*. Nürnberg: IAB, 2004, p. 227-245.
- Mytzeck, R.; Schömann, K. Transparenz und Mobilität: ein Überblick. In Mytzeck, R.; Schömann, K. (eds). *Transparenz von Bildungsabschlüssen in Europa: sektorale Studien zur Mobilität von Arbeitskräften*. Berlin: Sigma, 2004, p. 11-22.
- Mytzeck, R.; Brzinsky, C. Struktur und Ausmaß grenzüberschreitender Mobilität von Deutschen in Europa. In Mytzeck, R.; Schömann, K. (eds). *Transparenz von Bildungsabschlüssen in Europa. Sektorale Studien zur Mobilität von Arbeitskräften*. Berlin: Sigma, 2004, p.47-58.

- National Board of Education. *Quality management of apprenticeship training*. Helsinki: National Board of Education, 2003.
- Negt, O. Überlegungen zur Kategorie 'Zusammenhang' als einer gesellschaftlichen Schlüsselqualifikation. In Nuisssl, E. et al. (eds). *Literatur und Forschungsreport Weiterbildung*, 1990, Vol. 26, p. 11-19.
- NQAI – National Qualifications Authority of Ireland. *Determinations for the outline national framework of qualifications*. Dublin: NQAI, 2003.
- OECD. *Manual on the measurement of human resources devoted to S&T-Canberra manual*. Paris: OECD, 1995.
- OECD. *Lifelong learning for all. Meeting of the education committee at ministerial level, 16 and 17 January 1996*. Paris: OECD, 1996.
- OECD. *Overcoming exclusion through adult learning*. Paris: OECD, 1999.
- OECD. *Innovative people: mobility of skilled personnel in national innovation systems*. Paris: OECD, 2001.
- OECD. *International mobility of the highly skilled*. Paris: OECD, 2002.
- OECD. *Beyond rhetoric: adult learning policies and practices*. Paris: OECD, 2003.
- OECD. *Trends in international migration: SOPEMI 2003*. Paris: OECD, 2004.
- OECD. *Teachers matter: attracting, developing and retaining effective teachers*. Paris: OECD, 2005a.
- OECD. *Promoting adult learning*. Paris: OECD, 2005b.
- OECD. *The role of national qualifications systems in promoting lifelong learning. First draft*. Paris: OECD, 2005c.
- OECD. *Counting immigrants and expatriates in OECD countries: a new perspective*. Trends in international Migration: SOPEMI 2004. Paris: OECD, 2005d.
- OECD. *Bildung auf einen Blick*. Paris: OECD, 2005e.
- OECD; BMBF. *Conclusions and comments: policies to strengthen incentives and mechanisms for co-financing lifelong learning*. Bonn: Petersberg, 2003.
- Ok, W.; Tergeist, P. *Improving workers' skills: analytical evidence and the role of the social partners*. Paris: OECD, 2003 (Social employment and migration working papers, No 10).
- Parry, S.B. Just what is a competency? (And why should you care?). *Training*, June 1998, p. 58-64.
- Philips, D. Lessons from New Zealand's national qualifications framework. *Journal of Education and Work*, 2003, Vol. 16, No 3, p. 289-304.
- Polanyi, M. *The tacit dimension*. Garden City/New York: Anchor Books, 1966.
- Raffe, D. Bringing academic education and vocational training closer together. In Oelkers, J. (ed.). *Futures of education II: essays from an interdisciplinary symposium*. Frankfurt am Main: Peter Lang, 2003, p. 49-65.
- Raffe, D. Modular strategies for overcoming academic/vocational divisions. *Journal of Education Policy*, 1994, Vol. 9, No 2, p. 141-154.
- Raffe, D. et al. *The introduction of a unified system of post-compulsory education in Scotland*. Edinburgh: IUS, 2005 (Working papers).
- Raggatt, P.; Williams, S. *Governments, markets and vocational qualifications: an anatomy of policy*. London: Routledge, 1999.
- Rauner, F. et al. *Berufsbildung in Europa: zur Begründung eines europäischen Qualifikationsrahmens (EQF)*. Bremen: ITB, 2005 (Arbeitspapier).
- Rauner, F. et al. *Den Kopenhagen-Prozess vom Kopf auf die Füße stellen: das Kopenhagen-Lissabon-Dilemma*. Bremen: ITB, 2006 (Arbeitspapier).
- Reichling, F. *Brain gain through brain drain: a theoretical analysis of human capital accumulation in the presence of migration*. Stanford: Stanford University, 2000.
- Régent, S. *The open method of co-ordination: a supranational form of governance?* Geneva: International Institute for Labour Studies, 2002.
- Riordan, T.; Rosas, G. *Core work skills: ILO perspective and recent developments*. Geneva: ILO, 2003.
- Roth, H. *Pädagogische Anthropologie*. Hannover: Schroedel, 1971.
- Rouault, S. et al. *Reacting in time to qualification*

- needs: towards a cooperative implementation? Social Science Research Center Berlin Workshop, 27-28 September 2001.* Berlin: WZB, 2002 (Discussion paper, FS I 02-202).
- RWI/ISG – Rheinisch-Westfälisches Institut für Wirtschaftsforschung/ISG Sozialforschung und Gesellschaftspolitik. *Wirkungsbewertung nationaler Politiken im Zusammenhang mit der Europäischen Beschäftigungsstrategie.* Cologne: RWI/ISG, 2002.
- de Saussure, F. *Cours de linguistique générale.* Paris: Payot, 1972.
- Schmid, G.; Kull, S. *Die Europäische Beschäftigungsstrategie. Anmerkungen zur Methode der offenen Koordinierung.* Berlin: Social Science Research Center Berlin, 2004.
- Schmid, K. et al. Institutional arrangements for quality assurance, meeting labour market needs and planning improvement in IVET: good practice in Germany and in the United Kingdom. In BMWK – Federal Ministry for Education, Science and Culture. *Quality in Education and Training: cases of good practice in vocational education and training and higher education.* Vienna: BMWK, 2006, p. 31-42.
- Searle, J.R. *Intentionalität: eine Abhandlung zur Philosophie des Geistes.* Frankfurt am Main: Suhrkamp, 1991.
- Searle, J.R. *Die Wiederentdeckung des Geistes.* Frankfurt am Main: Suhrkamp, 1996.
- Sellin, B. Europäischer Qualifikationsrahmen (EQF): ein gemeinsames Bezugssystem für Bildung und Lernen in Europa. *Berufsbildung in Wissenschaft und Praxis*, 2005, No 8, p. 1-18.
- Sen, A. Inequality, unemployment and contemporary Europe. *International Labour Review*, 1997, Vol. 136, No 2, p. 155-171.
- Severing, E. Europäisierung der beruflichen Bildung? Die Diskussion in Deutschland. In IAB (ed.). *Dokumentation der Konferenz deutschsprachiger Berufsbildungsforschungsinstitute 2005.* Nürnberg: IAB, 2005.
- Spender, J.C. Pluralist epistemology and the knowledge-based theory of the firm. *Organization*, 1998, Vol. 5, No 2, p. 233-256.
- Spitzenverbände der Deutschen Wirtschaft. *Stellungnahme der Spitzenverbände der Deutschen Wirtschaft zur Arbeitsunterlage der EU-Kommission 'Auf dem Weg zu einem europäischen Qualifikationsrahmen für Lebenslanges Lernen'.* Bonn, 2005.
- Straubhaar, T. Labour market relevant migration policy. *Journal for Labour Market Research.* Vol. 39, No 1, 2006, p. 149-158.
- Trinczek, R. Es gibt sie, es gibt sie nicht, es gibt sie, es ...: die Globalisierung der Wirtschaft im aktuellen sozialwissenschaftlichen Diskurs. In Schmid, G.; Rinczek, R. (eds). *Globalisierung, Soziale Welt.* Baden-Baden: Nomos, 1999, p. 55-74.
- Tuijnman, A.; Boström, A.K. Changing notions of education and lifelong learning. *International Review of Education*, 2002, Vol. 48, No 1-2, p. 93-110.
- TWG 'quality in VET' (technical working group). *Fundamentals of a common quality assurance framework (CQAF) for VET in Europe.* European Commission. DG EAC, June 24. Brussels, 2004.
- TWG 'credit transfer' (technical working group). *European credit system for VET (ECVET).* Brussels: Credit transfer technical working group, 2005.
- Unesco. *International roundtable on brain drain and the academic and intellectual labour market in south east Europe.* Bucharest: Unesco, 2004.
- Vincent-Laucrin, S. *Building capacity through cross-border tertiary education.* Paris: OECD, 2004 (working paper).
- Virkkunen, J.; Ahonen, H. Transforming knowledge creation on the shop floor with the help of an activity-theory based intervention method. In Panzar, E. (ed.). *Perspectives on the age of the information society.* Tampere: University Press, 2002, p. 165-184.
- Vonken, M. *Handlung und Kompetenz: theoretische Perspektiven für die Erwachsenen- und Berufspädagogik.* Wiesbaden: VS Verlag für Sozialwissenschaften, 2005.
- Wade, R. Globalization and its limits. In Berger, S.; Dore, R. (eds). *National diversity and global capitalism.* London: Cornell, 1996, p. 60-88.
- Werner, D. Benchmarking: Hoffnungsträger oder Zauberwort? In Brinkmann, C. et al. *Wirkungsforschung und Politikberatung: eine Gratwanderung.* Nürnberg: IAB, 2006, p. 221-244.
- White, R.W. Motivation reconsidered: the concept of competence. *Psychological Review*, 1959, Vol. 66, p. 297-333.

- Wickramasekara, P. *Policy responses to skilled migration: retention, return and circulation*. Geneva: ILO, 2003.
- Wienskowski, P. *Die Theorie der sozial-kognitiven Entwicklung*. Dortmund: Selbstverlag, 1980 (Dissertation).
- Winterton, J. et al. *Typology of knowledge, skills and competences: clarification of the concept and prototype*. Toulouse: Groupe ESC – Centre for European Research on Employment and Human Resources, 2005.
- Wolf, D. Nicht Input, sondern Output, nicht Supply-Side, sondern Demand-Side. Zur Veränderung der Einflusslogik in Europa. In Eising, R.; Kohler-Koch, B. (eds). *Interessenpolitik in Europa*. Baden-Baden: Nomos, 2005, p. 79-94.
- Wollersheim, H.W. *Kompetenzerziehung: Befähigung zur Bewältigung*. Frankfurt am Main: Suhrkamp, 1993.
- Wurzberg, G. *Is adult lifelong learning economically sustainable? Workshop 1: returns to lifelong learning and the implications for cofinancing*. Paris: OECD, 2003.
- Young, M. Contrasting approaches to the role of qualifications in the promotion of lifelong learning. In Evans, K. et al. (eds). *Working to learn: transforming learning in the workplace*. London: Kogan Page, 2002.
- Young, M. National qualifications frameworks as a global phenomenon: a comparative perspective. *Journal of Education and Work*, 2003, Vol. 16, No 3, p. 223-237.
- Young, M. *Towards a European qualifications framework: some cautionary observations*. Paper presented to the Symposium on European Qualifications, Strasbourg, 2004.
- Young, M. *National qualifications frameworks; their feasibility and effective implementation in developing countries*. Report prepared for the International Labour Organisation. London: Institute of Education, 2005.
- Zohlnhöfer, R.; Ostheim, T. Paving the way for employment? The impact of the Luxembourg process on German labour market policies. *European Integration*, 2005, Vol. 27, No 2, p. 147-167.

Towards knowledge-based societies: indicators of European competitiveness

Manfred Tessaring

Abstract

This contribution compiles several indicators on performance in education, training, skills and related aspects which highlight the standing of European countries *vis-à-vis* their main competitors worldwide. They indicate to what extent European countries – many of which lack natural resources – are competitive in the skills and knowledge embodied in their populations, and their efforts to increase and improve their human capital. Are they competitive in terms of educational attainment, investment in education, training, and research and development, and in their economic and employment performance? What about some basic developments such as demographic change, economic and labour-market performance, and their standing in science and technology?

The picture is mixed. For certain indicators, several European countries perform well and are in the top 10 worldwide. This is particularly so for the Nordic countries, but Austria, Ireland, the Netherlands, Switzerland, the UK and some new Member States are often found towards the top in comparisons. In contrast, several non-European countries which are often supposed to perform much better than Europe (such as the US) do not always rank highly when it comes to education, training and skills. The reason why such countries are often cited as top performers is that they are compared with the European Union as a whole, a comparison that ignores the heterogeneity of EU Member States and their different stages of development.

However, indicators can only provide a picture of a certain point in time and cannot sufficiently consider the historic, cultural, economic and social background of countries. Therefore, they have to be complemented by research which goes deeper into the subject and tries to explain differences in performance.

Table of contents

Introduction	246
1. Global competitiveness rankings	248
1.1. United Nations: human development index	248
1.2. World Economic Forum	248
1.3. International Institute for Management Development	248
2. Basic indicators: demography, economy, labour market and science and technology	251
2.1. Ageing populations worldwide	251
2.1.1. Average age	251
2.1.2. Proportion of young and old people	252
2.1.3. Old-age dependency ratio	252
2.2. Economic performance: GDP and labour productivity	252
2.3. Employment and unemployment	254
2.3.1. Employment growth	254
2.3.2. Employment rate	256
2.3.3. Unemployment	256
2.4. Science and technology	256
3. Educational attainment	260
3.1. Educational attainment of adult population	260
3.2. Illiteracy rates	260
4. Performance in education and training	262
4.1. Enrolment, graduation	262
4.1.1. Enrolment in vocational training	262
4.1.2. Graduation rates	262
4.2. Student-teacher ratio and student performance	264
5. Expenditure on education, active labour-market policy and R&D	266
5.1. Total expenditure on education	266
5.2. Expenditure on educational institutions at upper secondary and tertiary level	266
5.3. Expenditure on active labour-market policies	266
5.4. Expenditure on R&D	267
6. Skills and the labour market	270
6.1. Employment, unemployment and skills	270
6.1.1. Qualification equality	270
6.1.2. Gender equality	270
6.2. Skills, earnings and rates of return	274
6.2.1. Relative earnings	274
6.2.2. Rates of return	274
7. Summary	277
List of abbreviations	280
Country abbreviations (ISO codes)	281
Annex: International standard classification of education 1997	282
References	283

List of tables, figures and boxes

Tables

1. Global competitiveness ranking (selected countries)	249
2. Population prospects by world regions, 2005-50	251
3. Indicators of population prospects, 2005-50	253
4. Indicators of economic performance: production and productivity	255
5. Employment and unemployment indicators	257
6. Science and technology indicators	259
7. Educational attainment of adult population and adult illiteracy rate in OECD countries, %	261
8. Enrolment and graduation rates, 2004	263
9. Student-teacher ratio and student performance	265
10. Expenditure on educational institutions in OECD countries, 2003	268
11. Expenditure on active labour-market policies and on R&D	269
12. Employment rates by educational attainment and gender in OECD countries, 2004, %	272
13. Unemployment rates by educational attainment and gender in OECD countries, 2004, %	273
14. Relative earnings and RoR in OECD countries	276
15. Selected indicators and best performing countries	278

Figures

1. Global competitiveness rankings 2006: the top 10	250
2. Economic performance: the top 10	254
3. Employment performance (%): the top 10	258
4. Science and technology 2004: the top 10	258
5. Educational attainment	260
6. Graduation rates at upper secondary and tertiary education 2004: the top 10	262
7. Student-teacher ratios and student performance: the top 10	264
8. Expenditure on education 2003 and on active labour-market programmes 2004-05 (% of GDP): the top 10	267
9. Total expenditure on R&D 2004 in % of GDP: the top 10	267
10. Equality of distribution of employment and unemployment rates by educational attainment and gender 2004: the top 10	271
11. Gender equality in employment and unemployment by educational attainment – % point differences males/females: the top 10	271
12. Relative earnings by level of qualification 2004 (upper secondary education = 100)	274
13. Public internal RoR when an individual immediately obtains the next higher level of education, 2003 (%)	275

Boxes

1. What is an indicator?	246
2. Technical note	247
3. GDP per capita and labour productivity	254

Introduction

The Lisbon agenda has set the ambitious goal for 2010 to make Europe the most competitive knowledge-based economy in the world, in terms of economic performance, employment and social inclusion (Council of the EU, 2000). In the relaunch of the Lisbon strategy 2005, the European Council reinforced education and training as a priority area for growth and competitiveness of the EU (Council of the EU, 2005).

However, competitiveness is a multidimensional and comparative concept encompassing various aspects of performance. In general, it denotes the superior ability of a company or country to supply goods and/or services in a given market. Competitiveness of a country – the focus of this paper – includes the quality and efficiency of the legal, political, institutional, economic and social framework which is decisive for a country's performance. It includes, for example, economic growth and productivity, employment opportunities, educational attainment and investments affecting the living and working conditions of individuals and social cohesion. In economic terms, a competitive country is successful in world markets and attractive both for investors and people.

In measuring competitiveness and performance, there is no single indicator to prove whether a country is competitive or not. Rather, competitiveness may relate to several issues, such as:

- (a) economic and labour-market performance, for example economic growth, productivity, employment;
- (b) societal performance, for example social cohesion; quality and stability of the legal, social, institutional and political infrastructure; equality of life opportunities; effective governance and the provision of a suitable infrastructure for investment and redistribution;
- (c) human capital accumulation and educational attainment, generated by investment by individuals, companies and the State in education, training, knowledge and skills;
- (d) performance in science, technology, research and development (R&D).

Box 1. What is an indicator?

An indicator is a data point or quantitative measure of a complex socioeconomic condition. The 'purpose of indicators is to characterize the nature of a system through its components; how they are related and how they change over time. This information can then be used to judge progress toward some goal or standard, against some past benchmark, or by comparison with data from some other institution or country' (Shavelson et al., 1991).

For the case of educational indicators, the following definition is proposed: an indicator is an individual or composite statistic that relates to a basic construct in education and is useful in a policy context.

The objective of this paper is to compare European countries with several non-European competitor countries by presenting a set of quantitative indicators on competitiveness, directly or indirectly associated with, and affecting, the formation of knowledge-based societies. Knowledge, human capital and R&D are increasingly regarded as decisive factors of competitiveness in a globalised world, in particular for those countries which lack natural resources. High quality products and services, innovation, creativity and the capability to adapt to fast changing economic and social developments are closely associated with the skills and competences of workers, and thus with the capability of education and training systems to provide 'modern' and future-oriented skills.

This notion of 'knowledge-based competitiveness' refers to issues such as the generation of, and investment in, skills and knowledge, teachers and trainers, participation by young and old in learning activities and equity considerations. It also includes the benefits of education, training and skills for individuals, companies and the economy, such as economic growth, production per capita and productivity, earnings, employment growth, avoidance of unemployment.

The indicators selected in this paper are derived from international comparative surveys and databases. Although they cannot – because of a lack of data – cover all aspects of the wide

range of issues associated with competitiveness, learning, skills and innovation, they can give a first impression of where a country stands in a worldwide comparison.

The indicators are grouped as follows:

- (a) demographic change and general economic, labour market and science/technology performance;
- (b) the generation of skills and knowledge including educational attainment and performance in

education and training, enrolment/graduation and expenditure on education and training and associated fields;

- (c) the links between skills and the labour market, indicating the value the economy and labour market attach to people with different skill levels, in terms of employment, unemployment risks and earnings.

Box 2. Technical note

The data presented here come from international comparative sources (in particular Eurostat, OECD, United Nations and IMD) which provide detailed indicators on the performance of several European and non-European countries. They refer in most cases to the years 2002-06, depending on data availability. Due to the large variance of performance data across EU Member States, the comparison of EU-averages with single non-EU countries such as the US and Japan would provide an inadequate picture.

Most indicators used are ranked across European and non-European countries. Rankings may be subject to reservations for several reasons, e.g. they do not sufficiently consider the social, economic, cultural, and historical background of countries. This can only be done by in-depth country analyses of economic, labour market, technological, and education and training systems and by comparative research as, for

example, conducted by Cedefop and the OECD. Nonetheless, rankings may provide a rough comparative overview on where a single country stands worldwide in regard to a specific indicator.

The top 10 performing countries ^(a) are in bold, although the gap between these and others are sometimes marginal (and are changing over time). Blank cells refer to missing or not applicable data.

Three groups of countries are distinguished:

- EU Member States;
- other European countries including two candidate countries Croatia and Turkey;
- non-European countries.

^(a) In cases where several countries have the same scores, the number of the 'top 10' performing countries can be more than 10.

1. Global competitiveness rankings

Table 1 provides rankings of global competitiveness for European and non-European countries, based on composite indicators. These indicators or indexes are regularly published by the United Nations, the World Economic Forum and the International Institute for Management Development (IMD) ⁽¹⁾.

1.1. United Nations: human development index

Since 1990, the United Nations has published an annual human development index which combines many economic, social and educational indicators. It is a composite index measuring the average achievements of a country in three basic dimensions of human development:

- (a) a long and healthy life, measured by life expectancy at birth as an indicator for health care, nutrition and hygiene;
- (b) knowledge, measured by the adult literacy rate, combined with gross enrolment ratios for primary, secondary and tertiary schools;
- (c) a decent standard of living, measured by the gross domestic product (GDP) per capita in purchasing power parities (PPP USD) ⁽²⁾.

The *Human development report 2006* (United Nations, 2006), includes 2004 data for 177 countries. It shows several European countries scoring rather well, particularly Iceland, Ireland, the Netherlands, Norway, Sweden and Switzerland. Australia, Canada, Japan and the US are among the 10 best performing countries outside Europe.

Since 1990, the following countries have scored best on the human development index: Canada (1990, 1992, 1994, 1996-2000); Japan (1991, 1993); Norway (1995, 2001-2006).

1.2. World Economic Forum

The global competitiveness and innovation ranking, carried out regularly by the World Economic Forum, compiles a large set of data for 125 economies (World Economic Forum, 2006). The growth-competitiveness index is composed of a technology index, a public institutions index and a macroeconomic environment index. The index is based on both 'hard' statistical data and opinion survey data.

In the 2006 World Economic Forum index several European countries are found among the top 10 (the Nordic countries and Switzerland, Germany, the Netherlands, the UK) as well as Japan and the US.

1.3. International Institute for Management Development

The IMD publishes a competitiveness yearbook which contains around 300 single criteria of economic performance, government efficiency, business efficiency and infrastructures. Criteria refer to both 'hard' statistical data and opinion survey data. The 2006 edition (IMD, 2006) covers 61 countries and regions all over the world.

The overall picture shows that several European countries (Denmark, Finland, Iceland, Ireland, Luxembourg, Norway, Switzerland) are among the top 10 performers, alongside Australia, Canada and the US ⁽³⁾.

These global rankings show that several European countries – and in particular the Nordic countries and Switzerland – are highly competitive in the global economy. Other European countries

⁽¹⁾ The IMD indicators are compilations of various international databases, for example OECD, United Nations, WTO, and national data.

⁽²⁾ A purchasing power parity (PPP) exchange rate equalises the purchasing power of different currencies in their home countries for a given basket of goods. These special exchange rates are often used to compare the standards of living of two or more countries.

⁽³⁾ Other top 10 performers in IMD ranking are Hong Kong and Singapore.

NB: the *IMD world competitiveness yearbook 2007* (IMD, 2007; which could not be analysed in this paper) states that although the US is still number one, other countries are catching up quickly: China, Germany, the Netherlands, Sweden and Switzerland.

– Germany, Ireland, the Netherlands, Austria and the UK – although not always among the top 10, display a satisfactory performance.

Figure 1 shows the top 10 performing countries according to these composite indexes.

Table 1. **Global competitiveness ranking (selected countries)**

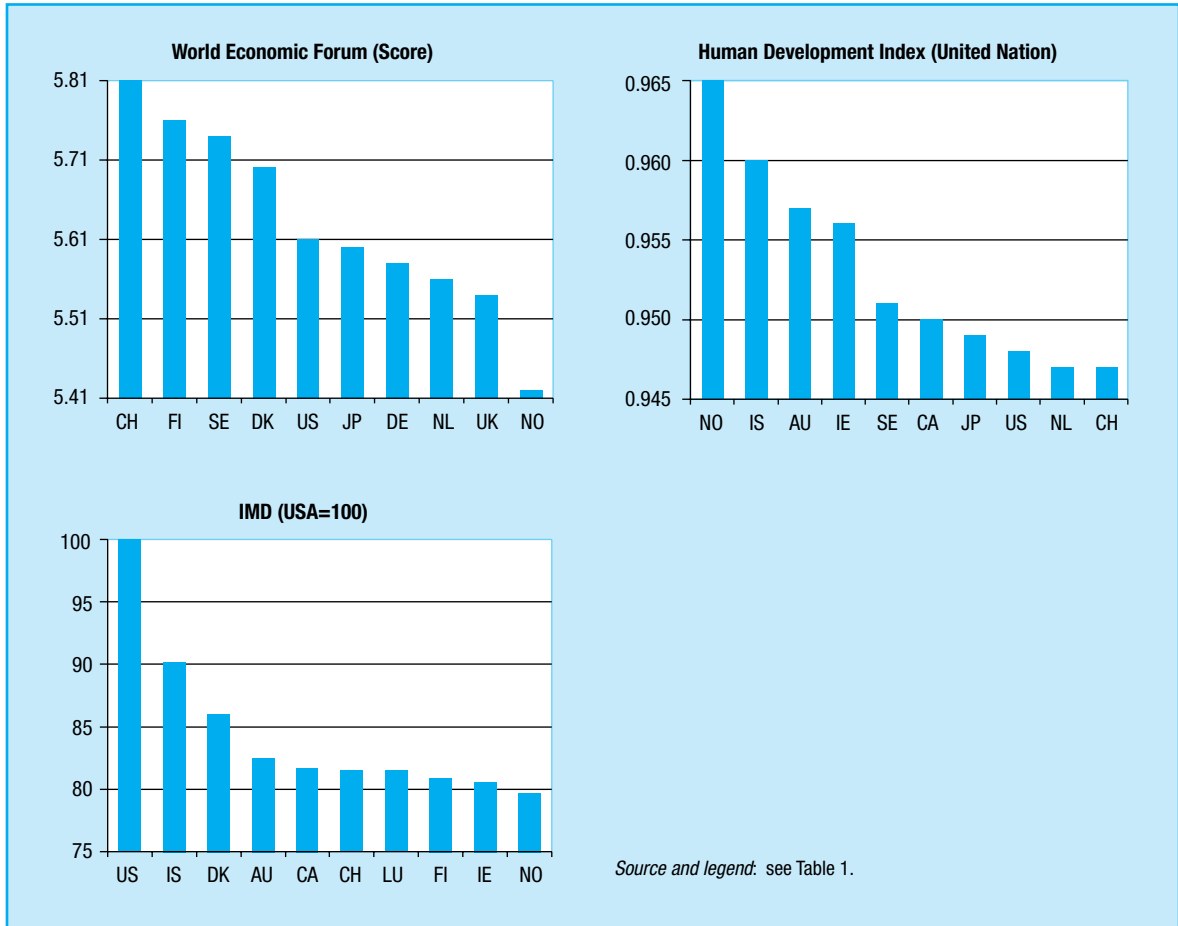
	Human Development Index (United Nations) 2004		Global competitiveness and innovation (World Economic Forum) ranking 2006		Overall competitiveness 2006 (IMD)	
	Index	Ranking	Score	Ranking	USA=100	Ranking
Austria	0.944	14	5.32	17	79.3	13
Belgium	0.945	13	5.27	20	68.1	27
Bulgaria	0.816	54	3.96	72	50.9	47
Cyprus	0.903	29	4.36	46		
Czech Republic	0.885	30	4.74	29	63.0	31
Denmark	0.943	15	5.70	4	86.0	5
Estonia	0.858	40	5.12	25	71.4	20
Finland	0.947	11	5.76	2	80.9	10
France	0.942	16	5.31	18	60.8	35
Germany	0.932	21	5.58	8	68.6	26
Greece	0.921	24	4.33	47	54.1	42
Hungary	0.869	35	4.52	41	57.3	41
Ireland	0.956	4	5.21	21	80.6	11
Italy	0.940	17	4.46	42	43.5	56
Latvia	0.845	45	4.57	36		
Lithuania	0.857	41	4.53	40		
Luxembourg	0.945	12	5.16	22	81.5	9
Malta	0.875	32	4.54	39		
Netherlands	0.947	10	5.56	9	75.9	15
Poland	0.862	37	4.30	48	40.0	58
Portugal	0.904	28	4.60	34	52.8	43
Romania	0.805	60	4.02	68	42.1	57
Slovakia	0.856	42	4.55	37	57.4	39
Slovenia	0.910	27	4.64	33	51.6	45
Spain	0.938	19	4.77	28	58.4	36
Sweden	0.951	5	5.74	3	77.0	14
United Kingdom	0.940	18	5.54	10	71.4	21
Croatia	0.846	44	4.26	51	39.0	59
Iceland	0.960	2	5.40	14	90.2	4
Norway	0.965	1	5.42	12	79.7	12
Switzerland	0.947	9	5.81	1	81.5	8
Turkey	0.757	92	4.14	59	47.1	51
Australia	0.957	3	5.29	19	82.5	6
Canada	0.950	6	5.37	16	81.7	7
China	0.768	81	4.24	54	71.6	19
India	0.611	126	4.44	43	64.4	29
Japan	0.949	7	5.60	7	74.2	17
Korea	0.912	26	5.13	24	57.7	38
Russian Fed.	0.797	65	4.08	62	44.7	54
USA	0.948	8	5.61	6	100.0	1

Other top performers:

• World Economic Forum ranking: Singapore. • IMD ranking: Hong Kong, Singapore.

Sources: United Nations, 2006; World Economic Forum, 2005; IMD, 2006.

Figure 1. **Global competitiveness rankings 2006: the top 10**



2. Basic indicators: demography, economy, labour market and science and technology

This chapter presents a selection of basic indicators on projected demographic developments to 2050, general economic and labour-market performance, and science and technology. The indicators provide an overall picture of the standing of European countries compared with selected non-European competitors.

2.1. Ageing populations worldwide

Demographic developments, in particular the shrinking and ageing of populations, the reduction in younger cohorts entering education and training, and subsequently the labour market, are closely linked with the competitiveness of a country. If expanding, innovative companies face lack of young talent and skill mismatch, their productivity and growth may be affected adversely. An increasing number of older people may lead to a burden on the younger workforce in terms of increasing social and health security contributions to support the elderly. Also, increasing numbers of older people need investment in healthcare and related fields, and could lead to higher social insurance payments. Because such investments may be less beneficial than alternatives in high-productivity fields and sectors, demographic

change is most probably detrimental to economic growth and productivity.

However, demographic change could also incorporate opportunities. Expenditures not used in general education or initial training can be used to upskill the elderly and other target groups, or to improve the quality of provision, for example by recruiting more teachers/trainers and supporting their development. This could be good for economic performance.

Whether the benefits of demographic change exceed the costs can only be seen in the long term. We assume in the following indicators that slower ageing, and a correspondingly lower proportion of older people, has a positive effect on economic performance.

The ageing of populations is predominantly a European phenomenon although several non-European countries – in particular Asian and American countries – increasingly facing similar challenges, occasionally at a higher speed. Table 2 summarises the long-term (2005-50) demographic change by world regions.

2.1.1. Average age

The average age of Europeans will increase from 39 years to 47 years. Europe is and will remain the 'oldest' continent in this context. However, countries outside Europe are also affected by

Table 2. Population prospects by world regions, 2005-50

World region	Median age (years)		Population aged 65 and more (%)			Population aged 15-24 (%)			Old-age dependency ratio	
	2005	2050	2005	2050	Difference (°)	2005	2050	Difference (°)	2005	2050
Africa	18.9	27.4	3.4	6.7	3.3	20.8	18.1	-2.7	6	10
Asia	27.7	39.9	6.4	17.5	11.1	18.2	12.5	-5.7	10	27
Europe	39.0	47.1	15.9	27.6	11.7	13.9	10.2	-3.7	23	48
Latin America	25.9	39.9	6.1	18.4	12.3	18.8	12.6	-6.2	10	29
Northern America	36.3	41.5	12.4	21.1	8.7	14.2	12.0	-2.2	18	34

(°) Difference between percentage 2050 and 2005 (in percentage points). This difference is an indicator of the speed of ageing over time.

Source: United Nations, 2004 and 2005.

demographic change. Although their average age is, and will remain, lower than Europeans, Asian and Latin American populations are ageing at a higher speed (expressed by the increase of their average age, 2005-50). Whereas the average age of European populations will increase by around eight years, the age of Latin American populations is expected to increase by 14 years (from 26 to 40 years), and the Asian populations by 12 years (from roughly 28 to 40 years).

2.1.2. Proportion of young and old people

By 2050, the proportion of young people will be the lowest in Europe (10.2%), followed by Northern America, Asia and Latin America (12-12.6%); the highest proportion will be found in Africa (18.1%). The reverse is true for older people. However, the speed of ageing (expressed by the percentage point differences between the 2005 and 2050 figures for older/younger people) in Latin America (+12.3 percentage points for older people; -6.2 percentage points for younger people) and Asia (+11.1 respectively -5.7 points) is higher or roughly equal to Europe (+11.7/-3.7 points).

2.1.3. Old-age dependency ratio

The number of people of working age (15-64 years) who have to support older people is indicated by the old-age dependency ratio. By 2050, Europe will have the highest dependency ratio (48); this means that, on average, around two people of working age will have to support one older person: in 2005 the ratio was around 4:1. Africa has the lowest ratio (10:1); in other regions around three to four people of working age will have to support one older person.

Table 3 provides more detailed indicators on demographic change by individual country. Rankings refer to the average age (ascending order), the proportion of people over 65 years (ascending order) and below 25 years (descending order), and the old-age dependency ratio (ascending order). The table shows that:

- (a) by 2050 the median age of people over 50 will be particularly high in Italy and in several central and eastern European countries,

such as Bulgaria, the Czech Republic, Latvia, Lithuania, Austria, Poland, Romania, Slovenia and Slovakia;

- (b) in 2050, the proportion of young people aged 15-24 will be the lowest in Denmark, Iceland, the Netherlands, Norway, Sweden, Turkey and the UK ;
- (c) the proportion of people aged 65 years and more will be more than 25% by 2050 in most European countries, and also in Canada, Japan and Korea. In Europe, figures below 25% will only be found in Cyprus, Denmark, Luxembourg, Turkey and the UK;
- (d) the lowest old-age dependency ratios in 2050 (below 40) will be found in China, India, the Russian Federation, the US, and in a few European countries (Cyprus, Luxembourg, Denmark, Turkey, and the UK,). In all other European countries, around two people in working age will have to support one older person (ratios between 45-56).

2.2. Economic performance: GDP and labour productivity

Economic performance is the most common and traditional evidence of competitiveness. The main general indicators of economic performance at macro level are GDP and its growth, and labour productivity. As research has shown ⁽⁴⁾, economic growth is significantly influenced by education, training and the skills of population. 'Broadly, the weight of evidence suggests that a 1% increase in school enrolment rates has led to an increase of GDP per capita growth of between 1 and 3%. An additional year of secondary education, which increases the stock of human capital, rather than simply the flow into education, has led to a more than 1% increase in economic growth each year' (Wilson and Briscoe, 2004, p. 60).

Table 4 displays these basic economic indicators by single countries and Figure 2 the 10 best performing countries.

- (a) GDP per capita (PPP) in the 10 best performing economies ranges between USD 70 900

⁽⁴⁾ See Cedefop's third report on VET research in Europe (Cedefop, Descy and Tessaring, 2005; Cedefop, Descy and Tessaring, 2004).

Table 3. Indicators of population prospects, 2005-50

	Median age(years)			Population aged 65 and more (%)					Population aged 15-24 (%)					Old-age dependency ratio		
	2005	2050	Ranking: age 2050	2005	2050	Ranking: % in 2050	Difference (°) (%-points)	Ranking: difference	2005	2050	Ranking: % in 2050	Difference (°) (%-points)	Ranking: difference	2005	2050	Ranking: % in 2050
Austria	40.6	50.0	29.0	16.7	30.7	34.0	14.0	29.0	11.9	9.4	28.0	-2.5	17.0	25.0	55.0	33.0
Belgium	40.6	46.3	20.0	17.6	27.2	20.0	9.6	10.0	11.9	10.6	18.0	-1.3	8.0	27.0	47.0	19.0
Bulgaria	40.6	51.2	33.0	16.8	30.2	30.0	13.4	26.0	13.7	8.8	34.0	-4.9	28.0	24.0	53.0	30.0
Cyprus	35.3	44.1	11.0	12.1	23.0	6.0	10.9	14.0	15.5	10.7	17.0	-4.8	27.0	18.0	38.0	5.0
Czech Republic	39.0	51.6	34.0	14.2	32.0	35.0	17.8	38.0	13.1	8.8	34.0	-4.3	24.0	20.0	58.0	35.0
Denmark	39.5	42.8	4.0	15.0	22.8	5.0	7.8	3.0	11.0	12.1	3.0	1.1	1.0	23.0	38.0	5.0
Estonia	38.9	45.6	17.0	16.5	25.3	14.0	8.8	6.0	15.7	10.1	22.0	-5.6	30.0	24.0	43.0	14.0
Finland	40.9	45.6	17.0	15.9	26.6	18.0	10.7	13.0	12.5	10.9	12.0	-1.6	11.0	24.0	46.0	18.0
France	39.3	45.5	16.0	16.6	27.1	19.0	10.5	12.0	12.7	10.9	12.0	-1.8	12.0	25.0	47.0	19.0
Germany	42.1	47.4	22.0	18.8	28.4	23.0	9.6	10.0	11.8	10.4	20.0	-1.4	10.0	28.0	50.0	23.0
Greece	39.7	49.3	26.0	18.2	30.2	30.0	12.0	20.0	12.4	9.2	29.0	-3.2	20.0	27.0	54.0	31.0
Hungary	38.8	49.6	27.0	15.2	29.0	27.0	13.8	27.0	12.8	9.5	27.0	-3.3	21.0	22.0	51.0	27.0
Ireland	34.2	45.8	19.0	10.9	25.9	17.0	15.0	31.0	14.9	9.7	26.0	-5.2	29.0	16.0	44.0	16.0
Italy	42.3	52.5	39.0	20.0	35.5	39.0	15.5	32.0	10.2	9.0	32.0	-1.2	6.0	30.0	69.0	39.0
Latvia	39.5	50.5	31.0	16.9	29.1	28.0	12.2	21.0	15.6	8.8	34.0	-6.8	37.0	25.0	51.0	27.0
Lithuania	37.8	51.7	35.0	15.5	28.8	26.0	13.3	25.0	15.7	8.8	34.0	-6.9	38.0	23.0	50.0	23.0
Luxembourg	38.1	42.9	5.0	13.8	21.6	4.0	7.8	3.0	11.0	10.8	15	-0.2	2.0	21.0	35.0	4.0
Malta	38.1	48.0	23.0	13.5	28.2	22.0	14.7	30.0	14.6	10.3	21.0	-4.3	24.0	20.0	49.0	21.0
Netherlands	39.3	45.3	15.0	14.1	25.4	15.0	11.3	16.0	11.7	11.2	8.0	-0.5	3.0	21.0	43.0	14.0
Poland	36.5	50.8	32.0	12.9	29.8	29.0	16.9	35.0	16.3	8.9	33.0	-7.4	40.0	18.0	52.0	29.0
Portugal	39.5	48.7	24.0	17.1	30.2	30.0	13.1	24.0	12.3	10.1	22.0	-2.2	15.0	25.0	55.0	33.0
Romania	36.7	50.1	30.0	14.8	28.7	25.0	13.9	28.0	15.3	9.1	30.0	-6.2	34.0	21.0	50.0	23.0
Slovakia	35.6	51.8	36.0	11.8	30.5	33.0	18.7	39.0	15.8	8.7	38.0	-7.1	39.0	17.0	54.0	31.0
Slovenia	40.2	51.9	37.0	15.6	32.8	36.0	17.2	36.0	13.2	8.6	39.0	-4.6	26.0	22.0	60.0	36.0
Spain	38.6	49.9	28.0	16.5	34.1	37.0	17.6	37.0	12.0	9.8	24.0	-2.2	15.0	24.0	66.0	38.0
Sweden	40.1	43.9	10.0	17.2	24.7	12.0	7.5	2.0	12.3	11.1	9.0	-1.2	6.0	26.0	42.0	12.0
UK	39.0	42.9	5.0	16.0	23.2	8.0	7.2	1.0	13.1	11.8	5.0	-1.3	8.0	24.0	38.0	5.0
Croatia	40.6	48.8	25.0	17.2	28.5	24.0	11.3	16.0	13.1	9.8	24.0	-3.3	21.0	26.0	50.0	23.0
Iceland	34.1	44.1	11.0	11.8	24.7	12.0	12.9	23.0	14.8	11.4	7.0	-3.4	23.0	18.0	42.0	12.0
Norway	38.2	43.8	9.0	15.0	24.3	11.0	9.3	8.0	12.2	11.6	6.0	-0.6	4.0	23.0	41.0	11.0
Switzerland	40.8	46.5	21.0	16.0	27.7	21.0	11.7	19.0	11.9	10.9	12.0	-1.0	5.0	24.0	49.0	21.0
Turkey	26.3	39.5	2.0	5.4	17.0	2.0	11.6	18.0	18.4	12.7	1.0	-5.7	31.0	8.0	26.0	2.0
Australia	36.6	43.6	8.0	12.7	23.8	10.0	11.1	15.0	14.0	11.1	9.0	-2.9	19.0	19.0	40.0	10.0
Canada	38.6	45.2	14.0	13.1	25.6	16.0	12.5	22.0	13.5	11.0	11.0	-2.5	17.0	19.0	44.0	16.0
China	32.6	44.8	13.0	7.6	23.6	9.0	16.0	33.0	16.5	10.6	18.0	-5.9	32.0	11.0	39.0	9.0
India	24.3	38.7	1.0	5.3	14.8	1.0	9.5	9.0	19.1	12.6	2.0	-6.5	36.0	8.0	22.0	1.0
Japan	42.9	52.3	38.0	19.7	35.9	40.0	16.2	34.0	11.0	9.1	30.0	-1.9	13.0	30.0	71.0	40.0
Korea	35.1	53.9	40.0	9.4	34.5	38.0	25.1	40.0	14.5	8.5	40.0	-6.0	33.0	13.0	65.0	37.0
Russian Fed.	37.3	43.5	7.0	13.8	23.0	6.0	9.2	7.0	17.0	10.8	15.0	-6.2	34.0	19.0	38.0	5.0
USA	36.1	41.1	3.0	12.3	20.6	3.0	8.3	5.0	14.2	12.1	3.0	-2.1	14.0	18.0	33.0	3.0

(°) Difference between percentage 2050 and 2005 (in percentage points). This difference is an indicator of the speed of ageing over time.

Source: United Nations, 2004 and 2005.

Box 3. GDP per capita and labour productivity

- GDP is a measure of the economic standing of an economy. It represents the market value of all final goods and services produced within a country in a given period of time. Consumption, investments, government spending and the balance of (gross) exports minus imports are components of GDP;
- GDP per capita denotes the value of goods and services produced by one inhabitant in a country and thus can be seen as a proxy measure of the standard of living in an economy;
- labour productivity per hour is the ratio of the real value of output (GDP) to the input of hours worked. It is thus a more suited indicator for productivity than GDP per capita. However, this measure should be interpreted with caution because it reflects more than just the efficiency of workers. Labour productivity is influenced by many factors outside the workers' control (e.g. physical capital, new technologies, management, and work organisation).

(Luxembourg) ⁽⁵⁾ and USD 31 900 (Canada). Other European countries which score relatively high include Austria, Denmark, Iceland, Ireland, the Netherlands, Norway and Switzerland. The US (rank 2) and Canada (rank 10) are the only non-European countries in this group of top 10 performers. Ireland and Norway display a GDP per capita very close to that of the US (around USD 40 000);

- (b) concerning the growth rate of real GDP ⁽⁶⁾ per capita 2005/04, Estonia scores best (almost 10% growth). However, economic growth per capita was also high in China, India and the Russian Federation, as well as in Bulgaria, Croatia, the Czech Republic, Hungary, Romania and Slovakia, which are all among the top 10;

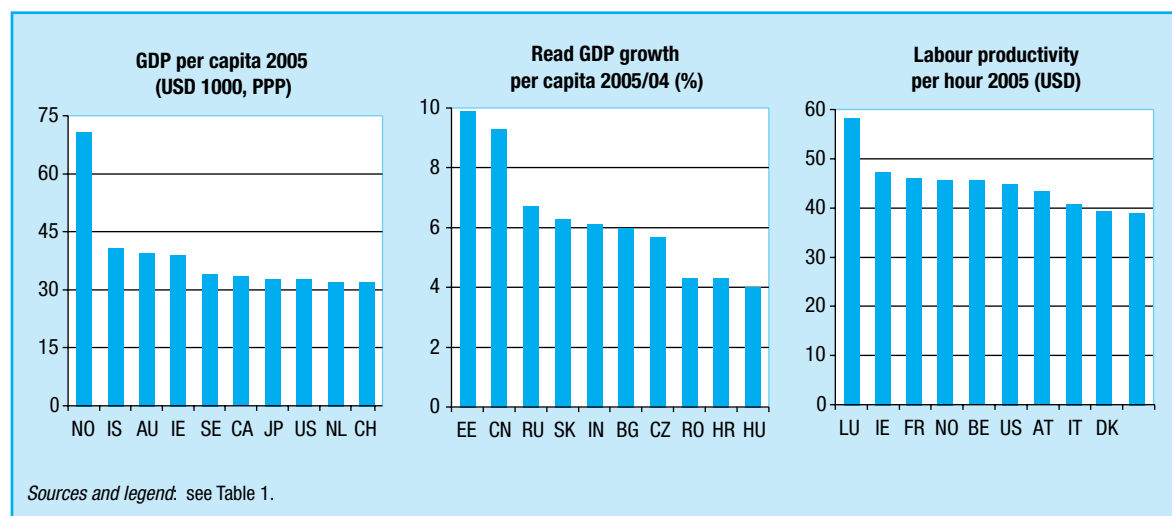
- (c) regarding labour productivity per hour, nine European countries are among the 10 best performers: Austria, Belgium, Denmark, Finland, France, Italy, Ireland, Luxembourg, and Norway. Of non-European countries, only the US is in this group (rank 6).

2.3. Employment and unemployment

2.3.1. Employment growth

Employment growth indicates how well an economy translates economic growth, productivity increase and working time regimes into jobs. The creation

Figure 2. Economic performance: the top 10



⁽⁵⁾ Luxembourg's outstanding performance in terms of GDP per capita and labour productivity may also be due to the fact that many financial and EU services are concentrated in this country.

⁽⁶⁾ Real GDP for a given year is the nominal GDP stated in the base-year price level. Real GDP growth on an annual basis is the nominal GDP growth rate adjusted for inflation.

Table 4. Indicators of economic performance: production and productivity

Country	GDP per capita 2005 (PPP)		Real GDP growth per capita 2005/04 based on national currency in constant prices		Labour productivity per hour, 2005 GDP (PPP) per person employed per hour	
	USD 1 000	Ranking	% change	Ranking	USD	Ranking
Austria	32.7	8.0	1.3	29.0	43.4	7.0
Belgium	31.6	11.0	1.7	25.0	45.5	5.0
Bulgaria	8.6	33.0	6.0	6.0	10.6	33.0
Czech Republic	20.5	24.0	5.7	7.0	22.4	24.0
Denmark	32.8	7.0	3.1	15.0	39.3	9.0
Estonia	16.0	27.0	9.9	1.0	19.5	28.0
Finland	30.5	14.0	1.8	24.0	38.9	10.0
France	29.5	17.0	0.8	32.0	46.1	3.0
Germany	28.5	18.0	0.7	33.0	36.4	14.0
Greece	23.0	21.0	3.5	13.0	33.4	19.0
Hungary	17.5	26.0	4.0	10.0	22.5	23.0
Ireland	39.6	3.0	2.0	21.0	47.2	2.0
Italy	27.9	19.0	-1.0	36.0	40.7	8.0
Luxembourg	70.9	1.0	2.5	19.0	58.3	1.0
Netherlands	32.0	9.0	0.6	34.0	37.3	12.0
Poland	13.4	29.0	3.1	15.0	18.7	30.0
Portugal	19.6	25.0	+0.0	35.0	22.4	24.0
Romania	8.8	32.0	4.3	8.0	10.4	34.0
Slovakia	15.5	28.0	6.3	4.0	20.0	26.0
Slovenia	21.8	22.0	3.7	11.0	24.9	22.0
Spain	25.4	20.0	1.3	29.0	33.5	18.0
Sweden	30.1	15.0	2.0	21.0	37.5	11.0
United Kingdom	31.3	12.0	1.5	27.0	36.3	15.0
Croatia	12.7	30.0	4.3	8.0	19.5	28.0
Iceland	34.1	5.0	3.1	15.0	37.0	13.0
Norway	39.1	4.0	1.7	25.0	45.7	4.0
Switzerland	33.4	6.0	1.2	31.0	31.5	21.0
Turkey	8.1	34.0	3.7	11.0	12.3	32.0
Australia	30.8	13.0	1.4	28.0	35.6	16.0
Canada	31.9	10.0	2.0	21.0	34.0	17.0
China	6.3	35.0	9.3	2.0	5.4	35.0
India	3.3	36.0	6.1	5.0	3.5	36.0
Japan	30.0	16.0	2.7	18.0	32.4	20.0
Korea	21.2	23.0	3.5	13.0	19.8	27.0
Russian Fed.	10.6	31.0	6.7	3.0	12.6	31.0
USA	40.7	2.0	2.5	19.0	44.9	6.0

Other top performing countries in IMD ranking:

- GDP per capita: Hong Kong (USD 33.6)
- Real GDP growth per capita: Argentina (8.5%); Venezuela (7.5%); Hong Kong (6.4%)

Source: IMD, 2006.

of new jobs is dependent on many factors such as legal and social infrastructure, support of entrepreneurship, demand for products and services – and their quality and price – and, of course, on the availability of workers for specific jobs in sectors in which employment is increasing.

Table 5 shows that employment growth 2004-05 was rather weak in most European countries, except Cyprus, Iceland, Ireland, Luxembourg and Spain, where it exceeded or was equal to 3%. Employment change was zero or even negative in Germany, Hungary, the Netherlands and Portugal.

Inadequate employment growth is not only a European phenomenon. It was equally weak in several non-European countries such as Japan (0.4%), China (0.8%), Russian Federation (1.2%), Korea (1.3%) and Canada (1.4%). Only Australia realised a growth rate higher than 3%.

2.3.2. Employment rate

The employment rate ^(?) is an indicator of the ability of an economy to provide work opportunities for all those who are able and willing to work, and to utilise their skills and competences. The EU has set, in its Lisbon strategy, a benchmark of an average employment rate of 70% to be achieved until 2010.

In 2005, Denmark, the Netherlands, Sweden and the UK had already surpassed this benchmark. Several other European countries are approaching it (Table 5). With employment rates below 60%, Bulgaria, Croatia, Hungary, Italy, Malta, Poland, Romania, Slovakia and Turkey are still far from the EU benchmark. Outside Europe, where data are available, Australia, Canada, Japan and the US all have employment rates higher than 65%.

2.3.3. Unemployment

The unemployment rate is a measure of the degree of non-utilisation of the labour force. Table 5 shows that Denmark, Iceland, Ireland, Luxembourg, the Netherlands, Norway, Switzerland and the UK belong to the 10 best performers, with rates less than 5%. China, Japan and Korea are also found among the top 10. The highest unemployment rates in Europe (around 10% and more) are found in Bulgaria, Croatia, Greece, Poland, Slovakia, and Turkey. In the US, the unemployment rate is higher than 5%.

Youth unemployment rates indicate how well a

country is able to integrate young people and school leavers into the labour market. This issue becomes increasingly important in the context of demographic change demanding no wastage of human resources, particularly among young people. Further, it is difficult and costly to reverse or compensate later on disadvantages experienced at a younger age.

Youth unemployment rates vary considerably across Europe, ranging from 7.2% (Iceland) to almost 37% (Poland). European countries with youth unemployment rates higher than 25% are Croatia, Poland and Slovakia; outside Europe the Russian Federation is included. Six European countries are performing best in an international comparison: Austria, Denmark, Iceland, Ireland, the Netherlands and Switzerland. Of the non-European countries, Australia, Japan, Korea and the US are found among the 10 top performers. Figure 3 displays the top 10 performing countries for employment and unemployment indicators.

2.4. Science and technology

Science and technology are key issues for the international competitiveness of a given country. They are closely associated with the country's skills, education and training opportunities and the science-sympathetic infrastructure.

Table 6 and Figure 4 show several selected science and technology indicators: the number of patents, R&D personnel and high-tech exports. In all these, several European countries score well and are among the top 10, for example:

- (a) the number of patents in force per 100 000 people: nine European countries plus Japan;
- (b) R&D personnel per 1 000 people: seven European countries plus Australia, Canada and the US;
- (c) the proportion of high-tech exports as a percentage of all manufactured exports: six European countries, China, Japan, Korea and the US.

More anecdotal is that the number of Nobel prize winners per one million people since 1950 is higher in several European countries – Norway, Sweden, Switzerland and the UK – than, for example, in the US (Table 6).

(?) The employment rate should be distinguished from the 'activity rate' which includes employed and unemployed people

Table 5. Employment and unemployment indicators

Country	Employment growth 2005/04		Employment rate 2005 Employed persons aged 15-64 years as % of working age population		Unemployment rates 2005			
					Total unemployment rate Unemployed aged 15-64 years as % of total active population of same age		Youth unemployment rate Unemployed aged 15-24 years as % of labour force of same age	
	% change	Ranking	%	Ranking	%	Ranking	%	Ranking
Austria	0.5	29.0	68.6	12.0	5.2	13.0	10.3	8.0
Belgium	1.0	22.0	61.1	27.0	8.4	28.0	21.5	30.0
Bulgaria	2.7	7.0	55.8	33.0	10.1	36.0	22.3	31.0
Cyprus	3.6	3.0	68.5	13.0	5.2	13.0	13.0	14.0
Czech Republic	1.6	14.0	64.8	19.0	7.9	24.0	19.2	23.0
Denmark	0.7	28.0	75.9	3.0	4.8	10.0	8.6	3.0
Estonia	2.0	11.0	64.4	20.0	7.9	24.0	15.9	19.0
Finland	1.4	16.0	68.4	14.0	8.4	28.0	20.1	27.0
France	0.5	29.0	63.1	25.0	9.7	34.0	22.7	32.0
Germany	-0.1	40.0	65.4	18.0	9.5	32.0	14.8	17.0
Greece	0.9	23.0	60.1	28.0	9.8	35.0	26.0	34.0
Hungary	0.0	37.0	56.9	32.0	7.2	18.0	19.4	25.0
Ireland	4.6	1.0	67.6	15.0	4.3	4.0	8.6	3.0
Italy	0.3	33.0	57.6	30.0	7.7	23.0	24.0	33.0
Latvia	1.5	15.0	63.3	23.0	8.9	30.0	13.6	15.0
Lithuania	2.5	8.0	62.6	26.0	8.3	27.0	15.7	18.0
Luxembourg	3.0	6.0	63.6	22.0	4.5	6.0	13.7	16.0
Malta	1.8	12.0	53.9	35.0	7.3	20.0	16.4	22.0
Netherlands	0.0	37.0	73.2	5.0	4.7	9.0	8.2	2.0
Poland	2.3	10.0	52.8	36.0	17.7	40.0	36.9	38.0
Portugal	0.0	37.0	67.5	16.0	7.6	22.0	16.1	21.0
Romania	0.2	35.0	57.6	30.0	7.2	18.0	20.2	28.0
Slovakia	1.4	16.0	57.7	29.0	16.3	39.0	30.1	36.0
Slovenia	0.3	33.0	66.0	17.0	6.5	16.0	15.9	19.0
Spain	3.8	2.0	63.3	23.0	9.2	31.0	19.7	26.0
Sweden	0.4	31.0	72.5	6.0	7.4	21.0	21.2	29.0
United Kingdom	0.9	23.0	71.7	8.0	4.8	10.0	12.9	13.0
Croatia	0.8	26.0	55.0	34.0	12.6	38.0	33.1	37.0
Iceland	3.3	5.0	83.8	1.0	2.7	1.0	7.2	1.0
Norway	1.0	22.0	74.8	4.0	4.6	8.0	11.6	11.0
Switzerland	0.1	36.0	77.2	2.0	4.5	6.0	8.8	6.0
Turkey	1.4	16.0	46.0	37.0	10.2	37.0	19.2	23.0
Australia	3.5	4.0	71.6	9.0	5.2	13.0	10.8	9.0
Canada	1.4	16.0	72.5	6.0	6.8	17.0	12.4	12.0
China	0.8	26.0			4.2	3.0		
India	2.5	8.0			9.5	32.0		
Japan	0.4	31.0	69.3	11.0	4.4	5.0	8.7	5.0
Korea	1.3	20.0	63.7	21.0	3.9	2.0	10.2	7.0
Russian Fed.	1.2	21.0			8.1	26.0	28.1	35.0
USA	1.7	13.0	71.5	10.0	5.1	12.0	11.3	10.0

Sources: Eurostat, 2007; OECD 2006a; IMD, 2006.

Figure 3. **Employment performance (%): the top 10**

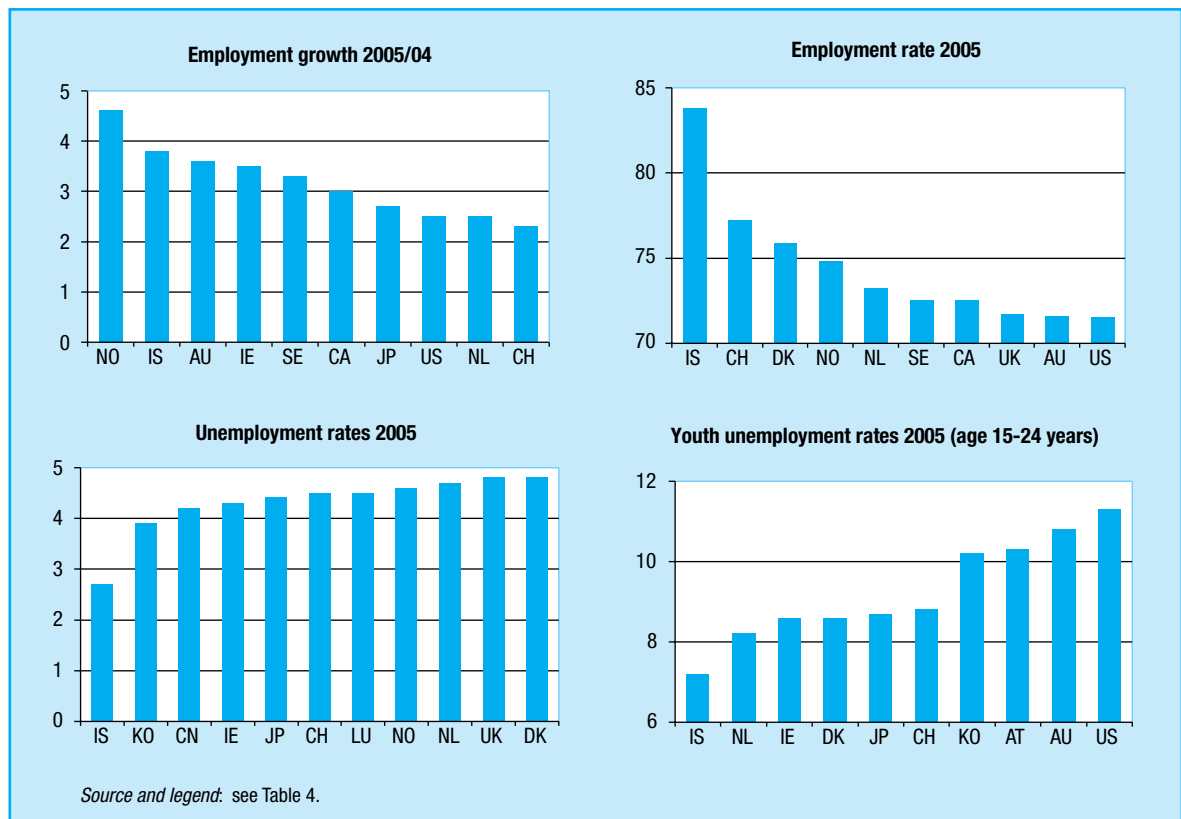


Figure 4. **Science and technology 2004: the top 10**

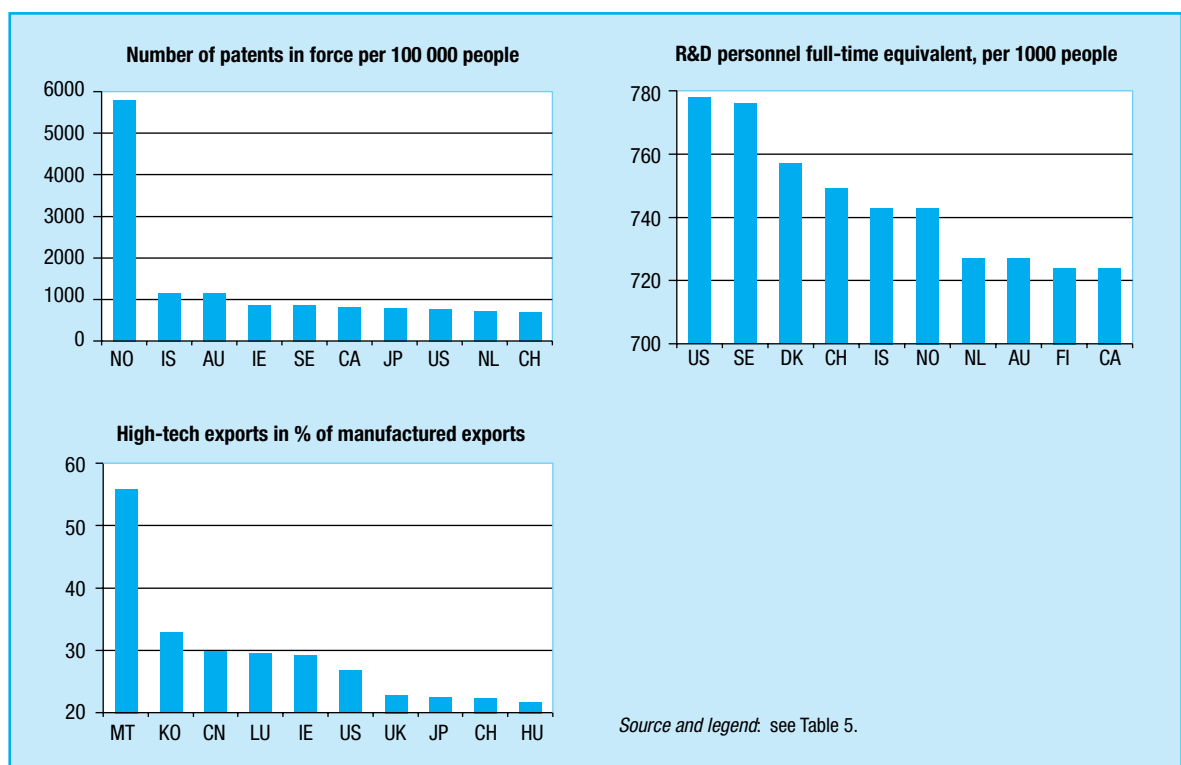


Table 6. Science and technology indicators

Country	Number of patents in force, 2004		Computers per capita, 2005		R&D personnel per capita, 2004 (FTE)		High-tech exports 2004 as % of manufactured exports		Nobel prizes 1950-2005 ^(a)
	per 100 000 people	Ranking	per 1 000 people	Ranking	per 1 000 people	Ranking	%	Ranking	per million people
Austria	128.0	21.0	4.8	16.0	605.0	15.0	14.7	16.0	0.12
Belgium	851.0	5.0	5.0	15.0	612.0	13.0	7.1	26.0	0.19
Bulgaria	26.0	30.0	2.0	29.0	126.0	32.0	2.9	36.0	
Cyprus							15.9	14.0	
Czech Republic	91.0	23.0	2.8	22.0	296.0	24.0	13.7	18.0	0.10
Denmark	701.0	10.0	8.0	5.0	757.0	3.0	13.3	21.0	0.74
Estonia	89.0	24.0	2.8	22.0	373.0	22.0	10.1	23.0	
Finland	714.0	9.0	11.0	1.0	724.0	9.0	17.8	13.0	
France	644.0	12.0	5.8	10.0	534.0	19.0	20.1	11	0.20
Germany	498.0	14.0	5.7	11.0	611.0	14.0	15.4	15.0	0.35
Greece	283.0	19.0	2.8	22	180.0	30	7.1	26	
Hungary	94.0	22.0	2.2	28.0	223.0	27.0	21.7	10.0	
Ireland	831.0	6.0	3.9	18.0	601.0	16.0	29.1	5.0	0.24
Italy			2.9	21.0	447.0	20.0	7.1	26.0	0.07
Latvia							3.2	35.0	
Lithuania							2.7	37.0	
Luxembourg	5804.0	1.0	8.9	3.0	694.0	11.0	29.5	4.0	
Malta							55.9	1.0	
Netherlands	776.0	8.0	5.4	13.0	727.0	7.0	19.1	12.0	0.37
Poland	37.0	29.0	2.0	29.0	202.0	28.0	2.7	37.0	
Portugal	349.0	17.0	2.4	27.0	282.0	26.0	7.5	25.0	
Romania	53.0	27.0	1.5	31.0	101.0	33.0	3.8	33.0	
Slovakia	70.0	26.0	2.7	25.0	289.0	25.0	4.6	32.0	
Slovenia	314.0	18.0	4.3	17.0	385.0	21.0	5.2	30.0	
Spain	180.0	20.0	3.6.0	20.0	297.0	23.0	5.7	29.0	
Sweden	1144.0	3.0	8.1	4.0	776.0	2.0	14.1	17.0	1.22
United Kingdom	792.0	7.0			639.0	12.0	22.8	7.0	0.92
Croatia	24.0	31.0	2.5	26.0	198.0	29.0	10.8	22.0	
Iceland			10.1	2.0	743.0	5.0	2.4	39.0	
Norway			6.4	9.0	743.0	5.0	3.5	34.0	0.87
Switzerland	1152.0	2.0	7.3	6.0	749.0	4.0	22.3	9.0	1.21
Turkey	41.0	28.0	0.4	33.0	64.0	34.0	2.3	40.0	
Australia	481.0	15.0	5.4	13.0	727.0	7.0	13.7	18.0	0.25
Canada	457.0	16.0	5.7	11.0	724.0	9.0	13.6	20.0	0.22
China	5.0	32.0	0.9	32.0	48.0	35.0	29.8	3.0	+0.00
India	1.0	33.0			16.0	36.0	4.9	31.0	+0.00
Japan	865.0	4.0	6.9	7.0	577.0	18.0	22.4	8.0	0.06
Korea	689.0	11.0	3.9	18.0	588.0	17.0	32.8	2.0	
Russian Fed.	75.0	25.0	6.6	8.0	159.0	31.0	9.1	24.0	0.08
USA	556.0	13.0			778.0	1.0	26.8	6.0	0.76

^(a) Awarded in physics, chemistry, physiology or medicine and economics.

FTE: Full time equivalent.

Source: Eurostat, 2007; IMD, 2006.

3. Educational attainment

3.1. Educational attainment of adult population

The educational attainment – a proxy for the qualification levels – of the population is the most straightforward indicator for the level of human capital accumulated by a country. As research on the determinants of economic growth has shown (e.g. Cedefop, Descy and Tessaring, 2005), human capital, together with R&D, yield considerable economic and social benefits and are closely associated with economic growth, productivity and social cohesion. To reduce the substantial number and proportion of low-skilled people is among the highest priorities on the EU's education and training agenda ⁽⁸⁾.

Table 7 displays the educational attainment of working age populations (age 25-64) for three main levels of education: primary and lower secondary; upper secondary; and tertiary education. The ranking is carried out as a proportion of highly qualified persons with completed education or

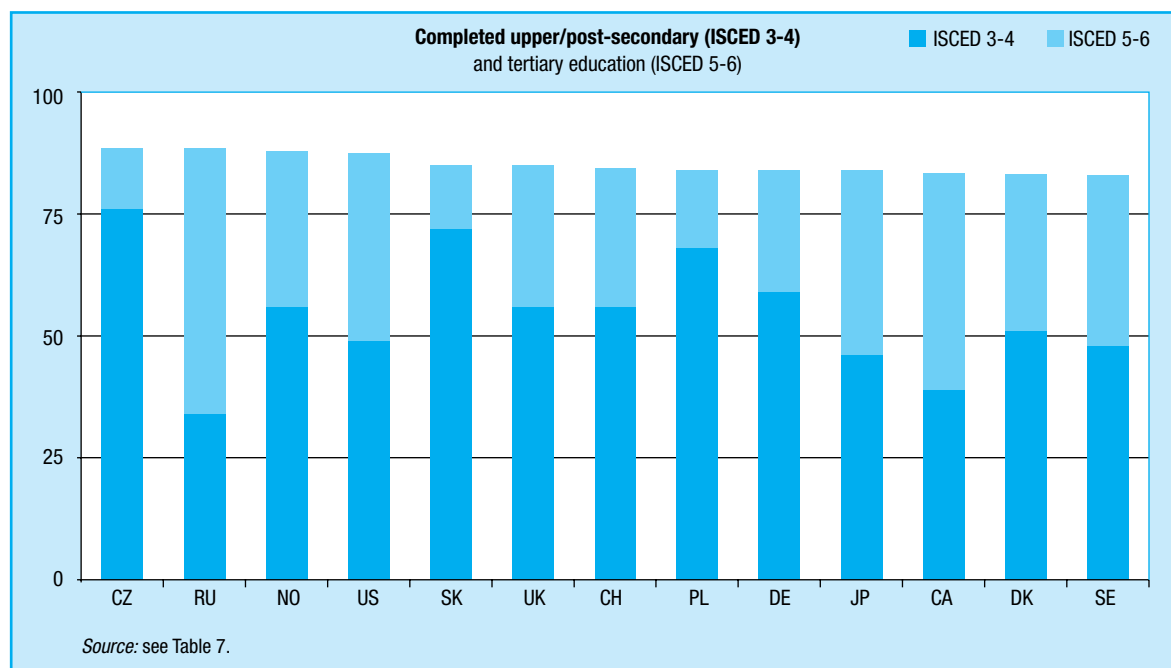
training at upper/post-secondary and at tertiary level. The gap to 100% represents the proportion of low-skilled people in a country.

Among the 10 highest skilled economies in the world, there are eight European countries (Figure 5). They have between 83 and 89% highly qualified people who have completed upper secondary or tertiary education, with the Czech Republic, Denmark, Germany, Norway, Poland, Slovakia, Switzerland and the UK highest. The Russian Federation (89%) ranks first in the international comparison; also Japan, Canada, and the US populations are among the 10 most highly skilled worldwide.

3.2. Illiteracy rates

Table 7 also shows illiteracy rates (without ranking). In most European and non-European countries this rate varies between 1 and 3%. Exceptionally high illiteracy rates are found in India (39%), Turkey (11.7%), China (9.1%), Greece (9%) and Portugal (7.5%).

Figure 5. **Educational attainment**



⁽⁸⁾ See e.g. the *Maastricht communiqué* (European Commission, 2004) and the *Helsinki communiqué* (European Commission, 2006).

Table 7. Educational attainment of adult population (a) and adult illiteracy rate (b) in OECD countries, %

Country	Educational attainment of population, 2004 (c)					Illiteracy rate, 2003
	Primary, lower secondary education (ISCED 0-2) and ISCED 3C short (e)	Upper and post-secondary education (ISCED 3-4) (e)	Tertiary education (ISCED 5-6) (f)	Total upper secondary and tertiary education (ISCED 3-6) (g)		
				%	Ranking	%
Austria	20	62	18	80	14	1.0
Belgium	35	34	30	64	22	1.0
Bulgaria						1.8
Czech Republic	11	76	12	89	1	1.0
Denmark	19	49	32	83	12	1.0
Estonia						1.0
Finland	23	43	34	78	15	1.0
France	35	41	24	65	21	1.0
Germany	16	58	25	84	8	1.0
Greece	44	35	20	56	25	9.0
Hungary	25	59	16	75	17	1.0
Ireland	37	34	27	63	24	1.0
Italy	52	36	11	49	26	1.5
Luxembourg	37	39	22	77	16	1.0
Netherlands	29	42	28	71	19	1.0
Poland	50	35	16	84	8	1.0
Portugal	75	13	13	25	29	7.5
Romania						2.7
Slovakia	16	72	13	85	5	1.0
Slovenia						1.0
Spain	55	18	26	45	27	2.3
Sweden	17	48	34	83	12	1.0
United Kingdom	35	36	29	85	5	1.0
Croatia						1.9
Iceland	39	33	28	67	20	1.0
Norway	11	56	32	88	3	1.0
Switzerland	17	54	28	85	5	1.0
Turkey	74	17	9	26	28	11.7
Australia	36	34	31	64	22	1.0
Canada	16	39	44	84	8	1.0
China						9.1
India						39.0
Japan	16	47	38	84	8	1.0
Korea	26	44	30	74	18	2.1
Russian Fed.	11	34	55	89	1	1.0
USA	13	49	38	88	3	1.0

(a) 25 to 64 year old population by highest education attained.

(b) Adult (over 15 years) illiteracy rate as a percentage of population.

(c) Japan and Russian Federation: 2003.

(d) The Netherlands, Portugal, Slovakia, the US and Russian Federation including ISCED 3 C short programmes.

(e) Without ISCED 3 C short; the Netherlands, Portugal, Slovakia, the US, Russian Federation: including ISCED 3C short.

(f) Sweden: including post-secondary non tertiary education.

(g) For comparability reasons including ISCED 3C short programmes. Differences by rounding of figures.

Sources: Educational attainment: OECD 2006b; illiteracy: IMD, 2006.

4. Performance in education and training

4.1. Enrolment, graduation

Enrolment in, and successful graduation from, education and training pathways is a precondition to raising the skill level of populations and reducing the number of low-skilled people (currently around 80 million in the EU (Cedefop, Lipinska et al., 2007). Enrolment, graduation and raised skill levels contribute to the competitiveness of a country. Both skilled people with vocational education and training and higher education qualifications are indispensable in meeting the demand for highly qualified people and for those with intermediate qualifications.

4.1.1. Enrolment in vocational training

Table 8 shows enrolment patterns in vocational training programmes and the proportion of combined school and work-based training. In several European countries, the majority of students are enrolled in vocational training routes within upper secondary education and training; in some countries, vocational training takes place in a combination of school and work-based training (apprenticeship/alternance training, or the dual system). Countries where general education programmes dominate at upper secondary level are Greece, Hungary, Iceland, Italy, Portugal, Spain

and Turkey. Of the non-European countries, only Australia has a significant share of vocational training programmes at this level.

Because there is no obvious link between country performance and enrolment in vocational pathways versus general education, no ranking has been made for these indicators.

4.1.2. Graduation rates

The proportion of young people who complete their education and training is measured by graduation rates. They represent the capability of education and training to lead students to a full qualification either in a vocational or in an academic field. Graduation rates are thus an indicator of the effectiveness of countries' education and training systems and efforts to reduce the number of early school leavers and dropouts.

However, graduation rates differ substantially between countries (Table 8). Most of the top 10 performers in upper secondary graduation are European, together with Japan, Korea and the Russian Federation. The situation is similar for tertiary education graduation (type A programmes): Australia is the only non-European country among the top 10 performers. Figure 6 shows the top performing countries.

Figure 6. Graduation rates at upper secondary and tertiary education 2004: the top 10

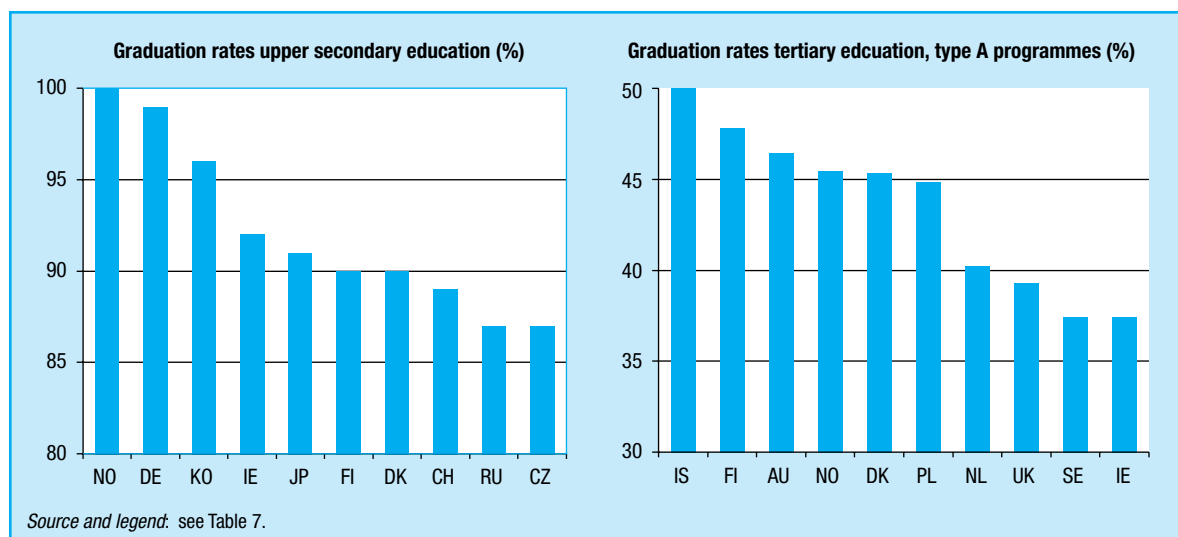


Table 8. Enrolment and graduation rates, 2004

Country	Enrolment patterns in vocational programmes of upper secondary education in public and private institutions (total enrolment in upper secondary education = 100)		Graduation rates 2004 ^(a)			
	Enrolment in vocational programmes ^(b)	of which combined school and work-based	Upper secondary graduation rates ^(c)		Tertiary graduation rates (type A programmes) ^(d)	
			%	Ranking	%	Ranking
Austria	72.4	33.6			19.6	22.0
Belgium	68.2	2.6				
Czech Republic	79.3	36.2	87.0	9.0	19.7	21.0
Denmark	46.8	46.1	90.0	6.0	45.3	5.0
Finland	60.1	11.2	90.0	6.0	47.8	2.0
France	56.5	11.4	81.0	14.0	26.0	18.0
Germany	61.2	47.0	99.0	2.0	20.6	20.0
Greece	34.0					
Hungary	12.1	12.1	86.0	11.0	28.8	16.0
Ireland			92.0	4.0	37.4	9.0
Italy	25.5		81.0	14.0	36.8	11.0
Luxembourg	63.9	13.9	69.0	19.0		
Netherlands	69.1	22.9			40.2	7.0
Poland	49.5		79.0	16.0	44.8	6.0
Portugal	9.1				32.8	14.0
Slovakia	74.1	37.2	83.0	13.0	27.7	17.0
Spain	38.7	3.8	66.0	20.0	32.6	15.0
Sweden	53.4		78.0	17.0	37.4	9.0
United Kingdom	71.5				39.3	8.0
Iceland	37.2	17.0	84.0	12.0	50.0	1.0
Norway	60.5		100.0	1.0	45.4	4.0
Switzerland	64.8	58.7	89.0	8.0	25.9	19.0
Turkey	37.3	8.5	53.0	21.0	10.8	23.0
Australia	62.5				46.4	3.0
China ^(e)			31.0	22.0		
India ^(e)			21.0	23.0		
Japan	23.8		91.0	5.0	36.1	12.0
Russian Fed.	29.1		87.0	9.0		
Korea	29.5		96.0	3.0		
USA			75.0	18.0	33.6	13.0

^(a) Graduates as % of the population at typical age of graduation. Denmark, France, Finland: reference year 2003.

^(b) The UK: including pre-vocational programmes.

^(c) Unduplicated.

^(d) First-time graduation.

^(e) Year of reference 2003.

Source: OECD, 2006b.

4.2. Student-teacher ratio and student performance

The ratio of students per teacher can be regarded as an indicator of a country's effort to ensure optimal learning conditions and individual and tailored support of learners. Although a good student-teacher ratio says nothing about the quality of teachers and trainers, it can be an indicator for the quality of the learning environment and the promotion of pupils who need special support. This contributes to the performance of education and training systems as well as individual learners, reflecting teachers/trainers as the most important agents of innovation and knowledge transfer.

Table 9 shows that European countries have invested a lot in teacher employment, and have

the lowest student-teacher ratios worldwide. The only non-European country which is found below the 10 best performers is Japan, at the level of tertiary education. The ranking for student performance at the age of 15 (OECD PISA study) shows several European countries among the best performers regarding proficiency in mathematics and problem-solving. Of non-European countries, Australia, Canada, Japan and Korea are among the 10 best performers, whereas the US takes a place in the lower part of the scale (rank 23).

Figure 7 shows the 10 best performers in terms of student-teacher ratios at lower and upper secondary levels, and on the proficiency and problem-solving scale.

Figure 7. Student-teacher ratios and student performance: the top 10

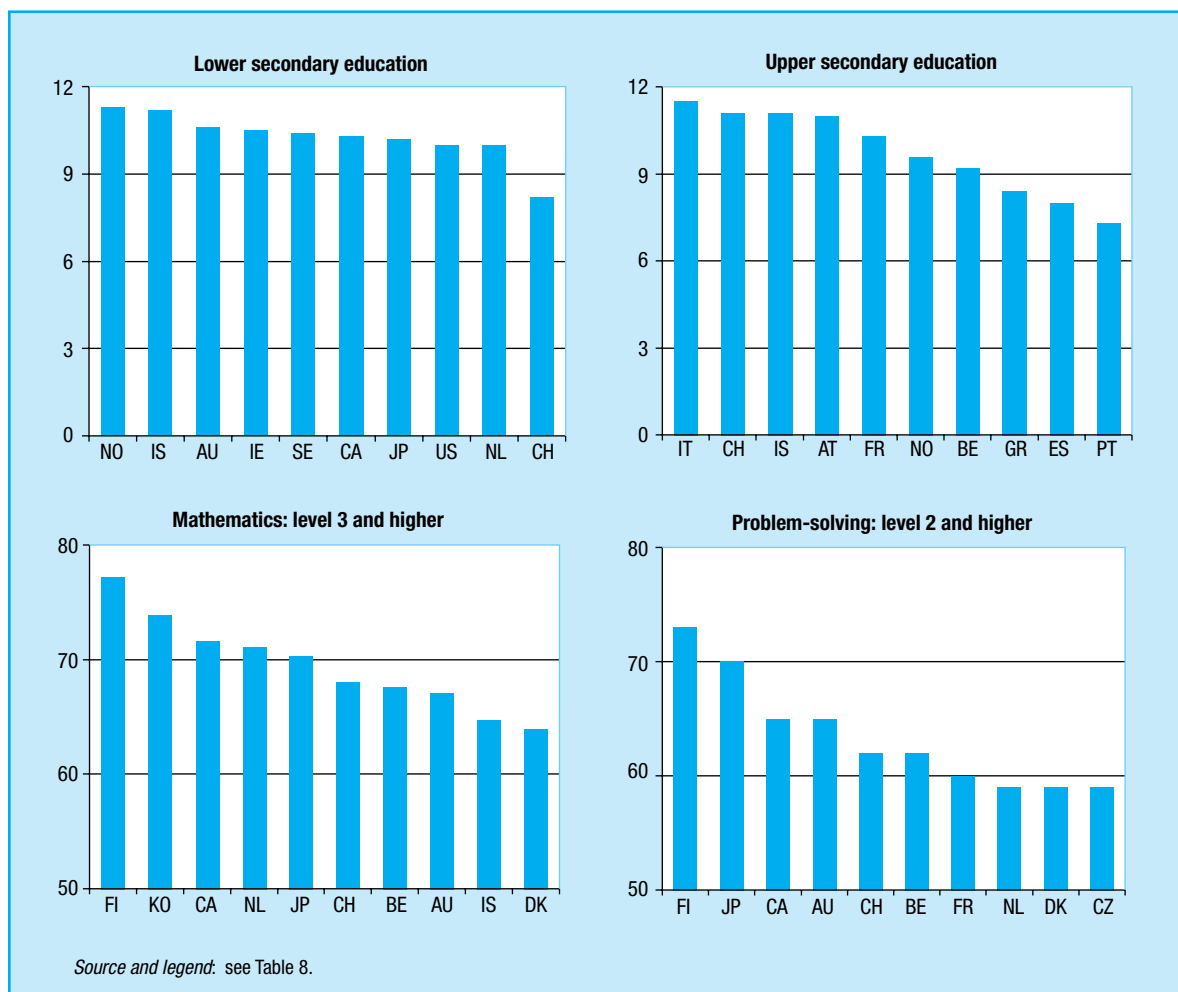


Table 9. Student-teacher ratio and student performance

Country	Ratio of students to teaching staff, 2004 (FTE)						Student performance 2003 (%) *			
	Lower secondary education ^(a)		Upper secondary education ^(b)		Tertiary education ^(c)		Proficiency level 3 and higher on OECD PISA mathematics scale		Proficiency level 2 and higher on OECD PISA problem-solving scale	
	Ratio	Ranking	Ratio	Ranking	Ratio	Ranking	Scores	Ranking	Scores	Ranking
Austria	10.4	6.0	11.0	7.0	14.8	13.0	59.6	14.0	54.0	15.0
Belgium	10.6	8.0	9.2	4.0	19.4	19.0	67.6	7.0	62.0	6.0
Czech Republic	13.5	15.0	12.6	13.0	17.9	18.0	63.3	11.0	59.0	9.0
Denmark	11.3	10.0					64.0	10.0	59.0	9.0
Finland	10.0	2.0	16.2	21.0	12.4	8.0	77.2	1.0	73.0	1.0
France	14.1	17.0	10.3	6.0	17.8	17.0	63.1	12.0	60.0	8.0
Germany	15.6	20.0	13.9	16.0	12.7	9.0	59.5	15.0	58.0	12.0
Greece	8.2	1.0	8.4	3.0	28.1	23.0	34.8	26.0	31.0	26.0
Hungary	10.2	4.0	12.3	11.0	15.6	14.0	53.2	20.0	52.0	16.0
Ireland					13.7	12.0	59.5	15.0	50.0	17.0
Italy	10.3	5.0	11.5	10.0	21.6	20.0	43.3	24.0	41.0	24.0
Luxembourg							55.5	18.0	49.0	18.0
Netherlands					13.6	11.0	71.1	4.0	59.0	9.0
Poland	12.6	13.0	13.5	15.0	-	18.0	53.1	21.0	46.0	21.0
Portugal	10.0	2.0	7.3	1.0	13.5	10.0	42.8	25.0	40.0	25.0
Slovakia	13.9	16.0	14.2	18.0	10.9	2.0	56.5	17.0	48.0	19.0
Spain	12.9	14.0	8.0	2.0	11.7	5.0	52.3	22.0	45.0	22.0
Sweden	11.9	12.0	14.0	17.0	9.0	1.0	61.0	13.0	55.0	13.0
United Kingdom	17.1	21.0	12.3	11.0	11.8	6.0				
Iceland	11.4	11.0	11.1	8.0	10.9	2.0	64.7	9.0	55.0	13.0
Norway	10.5	7.0	9.6	5.0	12.0	7.0	55.5	18.0	48.0	19.0
Switzerland	11.2	9.0	11.1	8.0			68.0	6.0	62.0	6.0
Turkey			16.9	23.0	16.8	16.0	25.8	27.0	16.0	27.0
Australia							67.1	8.0	65.0	4.0
Canada							71.6	3.0	65.0	4.0
China ^(d)	20.0	22.0	16.3	22.0						
India ^(d)	37.2	24.0	27.5	24.0	22.2	21.0				
Japan	15.3	19.0	13.2	14.0	11.0	4.0	70.3	5.0	70.0	3.0
Korea	20.4	23.0	15.9	19.0	25.2	22.0	73.9	2.0	73.0	1.0
USA	15.2	18.0	16.0	20.0	15.8	15.0	50.4	23.0	42.0	23.0

^(a) Denmark, Iceland: including primary education.

^(b) Belgium, Norway, the UK: including post-secondary non tertiary education; Finland: including post-secondary non tertiary education and tertiary-part B education; Japan: including part of post-secondary non tertiary education.

^(c) Japan: including part of post-secondary non tertiary education.

^(d) Year of reference: 2003.

* OECD PISA study 2003 (15 year olds).

Source: OECD, 2006b.

5. Expenditure on education, active labour-market policy and R&D

5.1. Total expenditure on education

Although increased levels of education expenditure do not necessarily improve competitiveness, they express a country's willingness (and priority) to invest in its human capital for longer-term goals of social cohesion, economic performance and the individual's development and civic participation. However, as Table 10 shows, total public and private expenditure on education (at all levels) as a percentage of GDP displays large differences between European countries, ranging between 8% (Iceland) and 3.7% (Turkey). Among the non-European countries, Korea and the US score highest with 7.5%. The variation among the top performing countries – mostly European – is quite small, between 6 and 8% (Figure 8).

5.2. Expenditure on educational institutions at upper secondary and tertiary level

It is not only the total expenditure on education and training that is important, but also its allocation to different levels. Table 10 and Figure 8 show public and private expenditure on educational institutions at upper secondary and tertiary level of education as a percentage of GDP.

Most European countries score best on upper secondary education, which includes vocational education and training. Of the non-European countries, only Canada and the Russian Federation spend a comparable amount of their GDP on this option. Expenditures range between 0.7% (Ireland and the Netherlands) and 5.2% (Iceland) in Europe, and between 0.9% and 3.6% elsewhere.

Expenditure on higher education is more of a priority for the US, Korea, Canada and Australia with figures between 1.5% and 3%. No European

country spends more than 2% for tertiary education; the top performing are Denmark, Finland and Sweden with 1.8%.

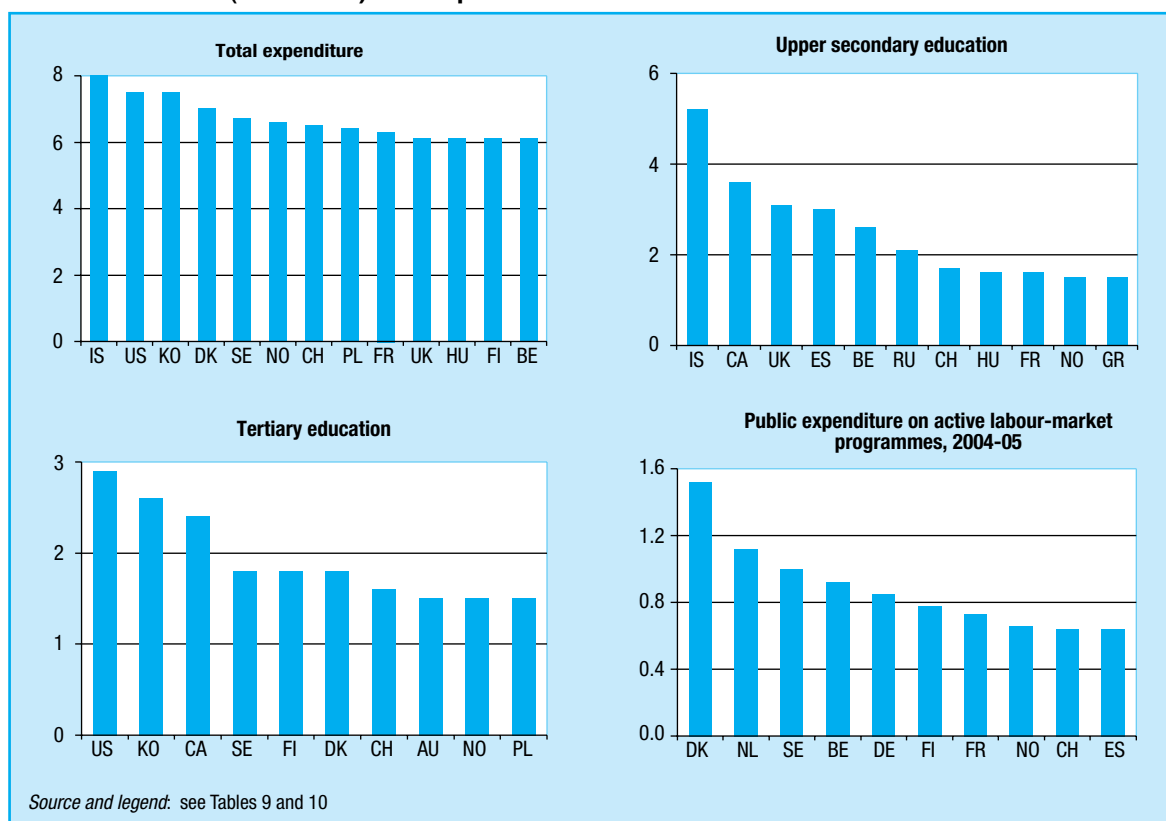
A different picture appears when looking at the expenditure per student in upper secondary and higher education (USD). Most countries – except Greece and Korea – spend more on their students at tertiary level than on those at upper secondary level. In some countries (e.g. Canada, Finland, India, the Netherlands, Sweden, the US) students at tertiary level receive twice as much (or higher) the amount per capita as students at upper secondary level.

5.3. Expenditure on active labour-market policies

All countries – to varying degrees – are exposed to unemployment and under-utilisation of their labour forces. The integration of younger and older people, of women and disadvantaged groups, are common challenges. However, the approach to coping with unemployment is different. Active labour-market policies attempt to (re)integrate people into the world of work, to increase employment and create new jobs. They differ from passive labour-market policies which ensure that people, once unemployed, receive benefits or transfers to make a living. Although passive measures are, and will always be, necessary and are guaranteed in most countries by law (their scope depends on the number of unemployed people in a given country); active labour-market policies are becoming more popular in many countries. In most cases, the majority of active measures include a training or retraining component. Therefore, with some reservations, they may be regarded as an indicator for competitiveness similar to the expenditure for education and training outlined above.

European countries, in particular Denmark, Belgium, Finland, France, Germany, the

Figure 8. **Expenditure on education 2003 and on active labour-market programmes 2004-05 (% of GDP): the top 10**



Netherlands, Norway, Spain, Sweden and Switzerland, spend most on active labour-market programmes (Table 11 and Figure 8). However, the range is quite large, between 0.1% (Slovakia) and 1.5% (Denmark). Non-European countries do not spend more than 0.2% of their GDP on such programmes. In most European countries, expenditure on training measures forms the major part of active labour-market programmes. Only Greece, Spain, Italy, Hungary and Poland spend more on employment incentives. Direct job creation is funded relatively little, the exceptions being Belgium, Ireland, Poland, Slovakia and – outside Europe – Australia.

5.4. Expenditure on R&D

Expenditure on R&D is one of the most straightforward indicators for competitiveness as it expresses a country's ability and willingness to seek innovative products and systems, with a view to staying ahead of its competitors. Innovation is seen as the main element for competitive advantage in

the world market in the medium and longer-term.

Several European countries compare well in the international ranking of expenditure on R&D relative to GDP (Figure 9 and Table 11): Austria, Denmark, Finland, Germany, Iceland, Sweden and Switzerland are among the top 10 with between 4% and 2.3%, together with Japan (3.2%), the US (2.7%) and Korea (2.6%).

Figure 9. **Total expenditure on R&D 2004 in % of GDP: the top 10**

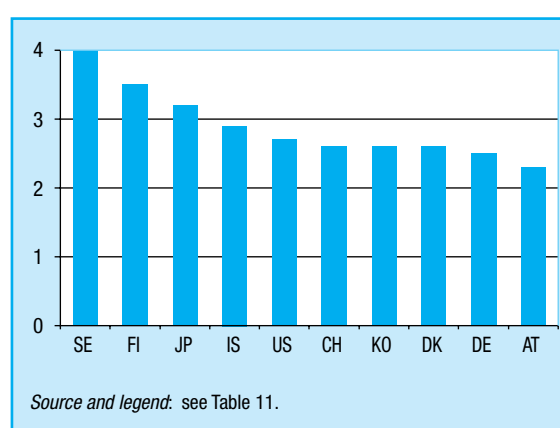


Table 10. Expenditure on educational institutions (a) in OECD countries, 2003

Country	Total expenditure on education and training (^c)		Expenditure on educational institutions (^b)							
			Upper secondary education (^d)		Tertiary education (^e)		Upper secondary education (^f)		Tertiary education (^g)	
	% of GDP						per student			
	%	Ranking	%	Ranking	%	Ranking	USD	Ranking	USD	Ranking
Austria	5.5	17.0	1.3	16.0	1.1	20.0	9 189	7.0	12 344	9.0
Belgium	6.1	10.0	2.6	5.0	1.3	12.0	7 708	12.0	11 824	12.0
Czech Republic	4.7	22.0	1.2	20.0	1.1	20.0	4 241	25.0	6 774	23.0
Denmark	7.0	4.0	1.2	20.0	1.8	4.0	8 401	8.0	14 014	5.0
Finland	6.1	10.0	1.4	12.0	1.8	4.0	6 654	16.0	12 047	10.0
France	6.3	9.0	1.6	8.0	1.4	11.0	9 992	6.0	10 704	15.0
Germany	5.3	18.0	1.3	16.0	1.1	20.0	10 232	4.0	11 594	13.0
Greece	4.2	26.0	1.5	10.0	1.3	12.0	4 954	23.0	4 924	24.0
Hungary	6.1	10.0	1.6	8.0	1.3	12.0	4 620	24.0	8 576	19.0
Ireland	4.4	25.0	0.7	29.0	1.2	17.0	6 428	19.0	9 341	16.0
Italy	5.1	19.0	1.4	12.0	0.9	26.0	8 108	10.0	8 764	18.0
Luxembourg			1.0	25.0			17 364	1.0		
Netherlands	5.0	20.0	0.7	29.0	1.3	12.0	6 271	21.0	13 444	7.0
Poland	6.4	8.0	1.3	16.0	1.5	8.0	3 184	26.0	4 589	26.0
Portugal	5.9	14.0	1.2	20.0	1.1	20.0	6 022	22.0	7 200	21.0
Slovakia	4.7	22.0	1.2	20.0	0.9	26.0	2 737	27.0	4 678	25.0
Spain	4.7	22.0	3.0	4.0	1.2	17.0	6 418	20.0	8 943	17.0
Sweden	6.7	5.0	1.3	16.0	1.8	4.0	7 848	11.0	16 073	4.0
United Kingdom	6.1	10.0	3.1	3.0	1.1	20.0	7 290	15.0	11 866	11.0
Iceland	8.0	1.0	5.2	1.0	1.2	17.0	6 459	18.0	8 023	20.0
Norway	6.6	6.0	1.5	10.0	1.5	8.0	12 380	3.0	13 772	6.0
Switzerland	6.5	7.0	1.7	7.0	1.6	7.0	15 014	2.0	25 900	1.0
Turkey	3.7	27.0	0.8	28.0	1.1	20.0	1 428	29.0		
Australia	5.8	16.0	0.9	26.0	1.5	8.0	8 362	9.0	12 406	8.0
Canada	5.9	14.0	3.6	2.0	2.4	3.0	6 482	17.0	19 992	3.0
India			1.4	12.0	0.8	28.0	1 155	30.0	2 486	27.0
Japan	4.8	21.0	0.9	26.0	1.3	12.0	7 552	13.0	11 556	14.0
Russian Fed.			2.1	6.0	0.7	29.0	1 436	28.0	2 451	28.0
Korea	7.5	2.0	1.4	12.0	2.6	2.0	7 442	14.0	7 089	22.0
USA	7.5	2.0	1.1	24.0	2.9	1.0	10 105	5.0	24 074	2.0

(^a) Public and private expenditure in equivalent USD (PPP), based on full-time equivalents. Canada, Hungary, Italy, Poland, Portugal, Switzerland, Turkey: public expenditure only.

(^b) Canada: 2002.

(^c) Turkey: 2002.

(^d) Belgium, Finland, Norway, the UK: including post-secondary non tertiary education;
Denmark, Japan: including part of post-secondary non tertiary education;
Canada: including pre-primary education (for children three years and older), all primary education and secondary education;
Iceland: including all primary education and post-secondary non tertiary education, primary and lower secondary education and part of post-secondary non tertiary education;
Russian Federation: including all primary education, secondary non tertiary education and post-secondary non tertiary education;
Slovakia: including post-secondary non tertiary education and tertiary-type B education;
Spain: including primary and lower secondary education and post-secondary non tertiary education.

(^e) Denmark, Iceland, Japan: including part of post-secondary non tertiary education;

Canada: including post-secondary non tertiary education.

(^f) Austria, Hungary: including post-secondary non tertiary education;
Denmark, Iceland, Japan: including part of post-secondary non tertiary education;

Belgium, Spain, the UK: including lower secondary education and post-secondary non tertiary education;

Canada: including lower secondary education, pre-primary education (for children three years and older) and primary education;

Greece: including lower secondary education;

Slovakia: including post-secondary non tertiary education and tertiary-type B education;

Russian Federation: including primary education, lower secondary education post-secondary non tertiary education.

(^g) Denmark, Iceland, Japan: including part of post-secondary non tertiary education.

Source: OECD, 2006b (for more detailed footnotes see this source).

Table 11. Expenditure on active labour-market policies and on R&D

	Public expenditure for active labour-market programmes ^(a) in OECD countries in % of GDP, 2004-05					Total expenditure on R&D 2004 in % of GDP	
	Total	Ranking	Of which for:			%	Ranking
			Training ^(b)	Employment incentives ^(c)	Direct job creation		
Austria	0.43	14.0	0.28	0.06	0.04	2.3	10.0
Belgium	0.92	4.0	0.20	0.15	0.46	1.9	12.0
Bulgaria						0.5	33
Czech Republic	0.13	22.0	0.02	0.05	0.03	1.3	20.0
Denmark	1.52	1.0	0.54	0.46		2.6	6.0
Estonia						0.9	27
Finland	0.78	6.0	0.41	0.18	0.09	3.5	2.0
France	0.73	7.0	0.31	0.10	0.23	2.2	11.0
Germany	0.85	5.0	0.36	0.09	0.13	2.5	9.0
Greece	0.17	20.0	0.03	0.04		0.6	32.0
Hungary	0.21	16.0	0.05	0.09	0.05	0.9	27.0
Ireland	0.49	13.0	0.18	0.07	0.20	1.2	22.0
Italy	0.55	11.0	0.23	0.25	0.01	1.1	25.0
Luxembourg	0.29	15.0	0.12	0.10	0.03	1.8	15.0
Netherlands	1.12	2.0	0.36	0.03	0.18	1.7	16.0
Poland	0.19	18.0	0.03	0.06	0.06	0.5	33.0
Portugal	0.55	11.0	0.29	0.17	0.04	0.7	30.0
Romania						0.4	36.0
Slovakia	0.07	25.0	0.01	0.01	0.04	0.5	33.0
Slovenia						1.5	19.0
Spain	0.64	9.0	0.16	0.26	0.11	1.1	25.0
Sweden	1.00	3.0	0.35	0.19		4.0	1.0
United Kingdom	0.16	21.0	0.13			1.9	12.0
Croatia						1.3	20.0
Iceland						2.9	4.0
Norway	0.66	8.0	0.09	0.03		1.7	16.0
Switzerland	0.64	9.0	0.30	0.08		2.6	6.0
Turkey						0.7	30.0
Australia	0.20	17.0	0.04	0.01	0.09	1.7	16.0
Canada	0.18	19.0	0.12		0.01	1.9	12.0
China						1.2	22.0
India						0.8	29.0
Japan	0.06	26.0	0.04	0.02		3.2	3.0
Korea	0.10	24.0	0.06	0.01		2.6	6.0
Russian Fed.						1.2	22.0
USA	0.12	23.0	0.05		0.01	2.7	5.0

^(a) Training, employment incentives, integration of the disabled, direct job creation, start-up incentives.

^(b) Institutional training, workplace training, integrated training, special support for apprenticeship.

^(c) Recruitment incentives, employment maintenance incentives.

Source: Expenditure on active labour-market programmes: OECD, 2006a (for detailed notes see this source); expenditure on R&D: IMD, 2006.

6. Skills and the labour market

6.1. Employment, unemployment and skills

Key indicators on total employment and unemployment were given in Table 3 and Figure 3, in the context of employment performance. Breaking these down by levels of educational attainment (ISCED) ⁽⁹⁾, the well-known close association between qualification levels and employment/unemployment rates is also confirmed in this international comparison. With a few exceptions, the higher qualified people are, the more they are active in the labour market and the lower are their unemployment rates. This applies to both males and females, although – for the same educational level – females are generally in relative lower employment and higher unemployment than males. This highlights two dimensions of equality: equality between qualification levels, and equality between men and women. Tables 12 and 13 and Figures 10 and 11 show, for these indicators, the differences between qualification levels and gender respectively.

6.1.1. Qualification equality

Tables 12, 13 and Figure 10 show employment and unemployment equalities: the lower the difference between the lowest and highest educational levels (in percentage points), the more balanced and equally distributed are employment opportunities and unemployment risks for different qualification groups.

Looking at the equality of qualification concerning male employment (Table 13), 10 European countries perform best, ranging from

2% (Portugal) to 9% (Italy, the Netherlands, Sweden). Korea is the only non-European country among the top 10 (7 points). For females, several non-European countries have achieved equal distribution along qualification levels; these are Australia, Canada, Japan and Korea. These and six European countries are below the top 10. The US has more unequal distribution, alongside some European countries such as the Czech Republic, Hungary, Poland, Turkey, Slovakia and the UK.

European countries are, again, the majority of top performers both for men and women in equality of unemployment along levels of educational attainment (Table 13). Korea (for men and for women) and Australia (for women) are the only non-European countries below the top performers where unemployment rates are rather equal between qualification levels.

6.1.2. Gender equality

Gender equality is a declared goal of the Lisbon agenda but employment rates for men and women still differ, in some countries quite considerably. Figure 11 shows – for people with completed upper secondary and tertiary education. The best performing countries in terms of the smallest difference between rates are Finland at upper secondary, and Portugal and Sweden at tertiary level. Other European countries have also achieved progress in reducing these gaps. In unemployment gender equality (Figure 11), rates for males are higher than for females in several countries. Those countries with the highest difference (in favour of females) are the Netherlands at upper secondary and Iceland at tertiary level.

⁽⁹⁾ A person with completed education and training at ISCED level 3 and higher (i.e. upper-/post-secondary and higher education) is regarded here to have acquired a respective qualification.

Figure 10. **Equality of distribution of employment and unemployment rates by educational attainment and gender 2004: the top 10 (*)**



Figure 11. **Gender equality in employment and unemployment by educational attainment – % point differences males/females (*): the top 10**

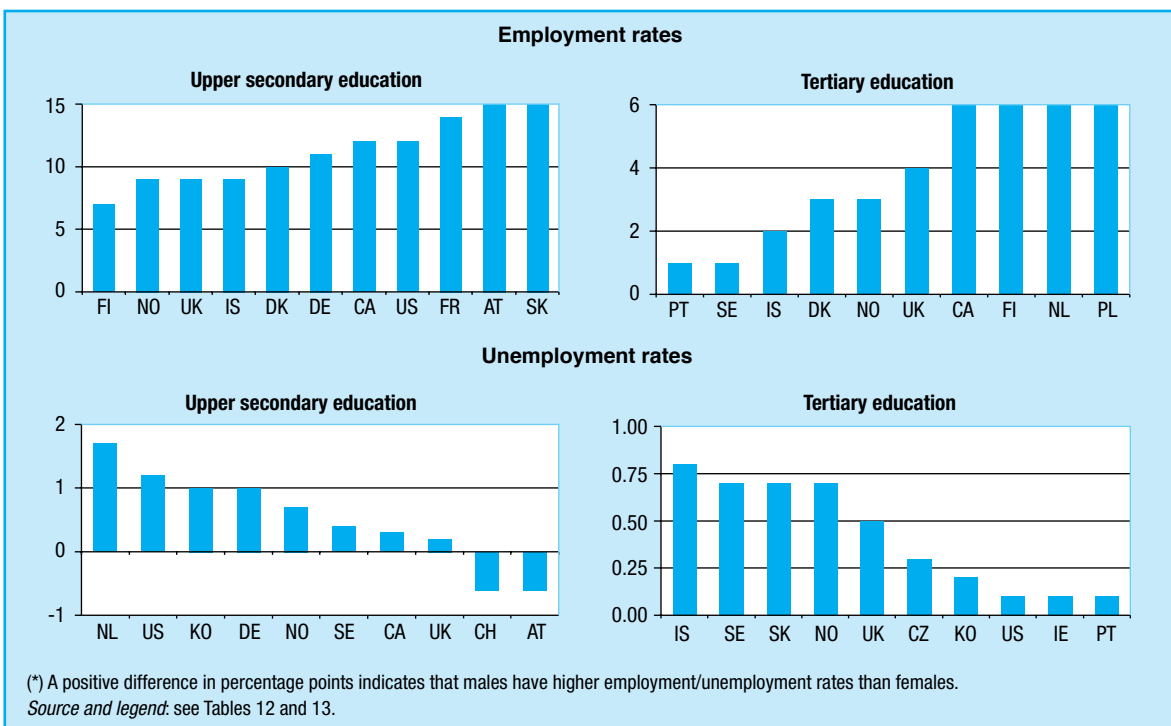


Table 12. **Employment rates by educational attainment (a) and gender in OECD countries, 2004, %**

Country	Educational attainment							
	Lower secondary education ^(b)	Upper secondary education, (ISCED 3C long/3B) ^(c)	Tertiary education type A and advanced research programmes ^(d)	Ranking: qualification equality ^(e)	Lower secondary education ^(b)	Upper secondary education, long (ISCED 3C long/3B) ^(c)	Tertiary education type A and advanced research programmes ^(d)	Ranking: qualification rate equality ^(e)
	Males				Females			
Austria	64	80	89	22	45	65	79	18
Belgium	73	81	88	14	45	59	81	20
Czech Republic	52	81	92	25	39	61	79	24
Denmark	73	85	88	14	55	75	85	11
Finland	70	77	89	18	60	70	83	7
France	76	81	84	6	59	67	77	5
Germany	62	75	87	22	43	64	79	20
Greece	86	80	89	2	43	30	76	16
Hungary	46	76	88	27	35	60	79	25
Ireland	84		92	6	46		83	22
Italy	79	85	88	9	44	59	78	18
Luxembourg	72	83	91	18	43	55	75	15
Netherlands	80	82	89	9	52	66	83	13
Poland	45		86	26	31		80	27
Portugal	87		89	1	74		88	2
Slovakia	29	72	91	28	20	57	79	28
Spain	84	88	87	2	48	61	78	11
Sweden	79		88	9	66		87	6
UK	60	84	90	24	47	75	86	23
Iceland	87	94	95	6	76	85	93	4
Norway	71	83	91	20	55	74	88	16
Switzerland	80	89	95	14	59	73	82	7
Turkey	79	82	82	2	18	31	63	26
Australia	74	87	90	17	53	66	81	9
Canada	72	82	86	12	52	70	80	9
Japan	79		93	12	53		67	2
Korea	83	86	90	5	59	54	57	1
USA	68	79	88	20	47	67	78	13

(a) Number of 25 to 64 year olds as % of the total population of same age and gender.

(b) Australia, Austria, Denmark, Japan, Poland, the UK: including pre-primary and primary education.

(c) Canada, Finland, Korea: including ISCED 3a;
the US: including ISCED 3c short and ISCED 3a;
Netherlands, Slovakia: including ISCED 3c short.

(d) Czech Republic: including post-secondary non tertiary education and tertiary education type B;
Poland, Portugal, Turkey: including tertiary education type B.

(e) Difference between employment rates at tertiary and lower secondary educational levels (percentage points).

Source: OECD, 2006b.

Table 13. Unemployment rates by educational attainment and gender in OECD countries, 2004, %

Country	Educational attainment							
	Lower secondary education ^(a)	Upper secondary education, long (ISCED 3C Long/3B ^(b))	Tertiary education Type A and advanced research programmes ^(c)	Ranking: unemployment equality ^(d)	Lower secondary education ^(a)	Upper secondary education, long (ISCED 3C Long/3B ^(b))	Tertiary education Type A and advanced research programmes ^(c)	Ranking: unemployment equality ^(d)
	Males				Females			
Austria	7.7	3.6	2.4	19.0	7.9	4.2	4.8	8.0
Belgium	8.0	7.5	3.9	13.0	12.6	10.8	4.3	20.0
Czech Republic	24.7	5.9	2.1	26.0	22.1	12.3	1.8	25.0
Denmark	7.1	3.9	2.9	15.0	8.0	5.4	3.5	13.0
Finland	12.7		3.3	22.0	13.4		5.1	20.0
France	10.9	5.5	6.6	16.0	12.6	10.2	7.0	17.0
Germany	22.6	12.3	5.1	24.0	16.5	11.3	6.0	24.0
Greece	5.4	5.7	4.8	1.0	18.3	35.3	9.5	22.0
Hungary	11.4	5.6	1.5	23.0	9.2	7.3	2.4	18.0
Ireland	5.8		1.9	12.0	5.4		1.8	10.0
Italy	5.6	3.0	3.5	9.0	11.1	7.9	6.0	16.0
Luxembourg	4.2	2.3	2.0	10.0	5.0	4.3	4.9	2.0
Netherlands	5.8	5.2	2.5	11.0	4.4	3.5	2.9	4.0
Poland	27.3		5.9	25.0	28.3		6.5	26.0
Portugal	5.4	4.5	4.5	3.0	8.4	7.0	4.4	11.0
Slovakia	48.4	17.4	5.0	27.0	44.4	21.3	4.3	27.0
Spain	7.3	6.5	5.3	7.0	16.4	16.4	8.8	19.0
Sweden	5.5	6.0	4.3	5.0	6.3	5.6	3.6	6.0
United Kingdom	7.9	3.6	2.5	20.0	5.1	3.4	2.0	8.0
Iceland	3.2	1.7	1.2	7.0	1.9	2.4	0.4	4.0
Norway	3.9	4.1	2.8	4.0	2.9	3.4	2.1	3.0
Switzerland	6.3	3.3	1.9	17.0	7.5	3.9	3.0	13.0
Turkey	9.0	8.5	7.2	6.0	14.4	17.0	10.3	12.0
Australia	6.8	2.5	2.7	13.0	5.6	5.6	2.9	6.0
Canada	9.3	6.3	4.6	18.0	9.4	6.0	4.8	15.0
Korea	3.5	3.9	2.7	2.0	2.2	2.9	2.5	1.0
USA	10.3	6.2	3.0	21.0	11.8	5.0	2.9	23.0

^(a) Australia, Austria, Poland, the UK: including pre-primary and primary education.

^(b) Canada, Korea: including upper secondary education ISCED 3a;

Netherlands, Slovakia: including upper secondary education ISCED 3c short and ISCED 3a;

Sweden: including upper secondary education ISCED 3a and post-secondary non tertiary education;

the US: including upper secondary education ISCED 3c short and ISCED 3a, and post-secondary non tertiary education.

^(c) the Czech Republic, Turkey: including post-secondary non tertiary education and tertiary education type B;

Poland, Portugal: including tertiary education type B.

^(d) Difference between unemployment rates at tertiary and lower secondary educational level (percentage points).

Source: OECD, 2006b (for detailed footnotes see this source).

6.2. Skills, earnings and rates of return

6.2.1. Relative earnings

The earnings of people with different qualification levels are an indicator of demand for them in the labour market, their productivity and the value attached to them by employers. Earnings differentials also serve as a basis for individual decisions on investments in education and training.

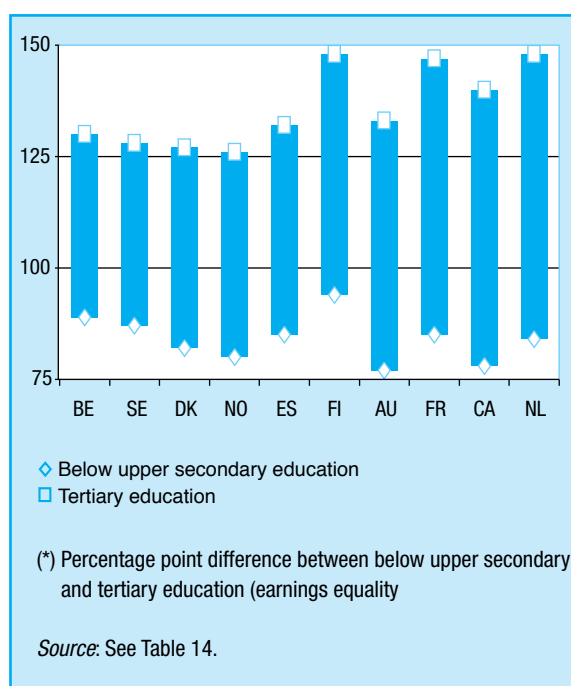
Whether or not earnings differentials between workers with different skills are linked with the competitiveness of a country is not easy to judge. It can be assumed that there is a positive association – and not a trade off – between a country's level of social inclusion and economic performance. In a long-term perspective, a high level of social inclusion yields lower social costs and thus more scope for private and public investment in profitable areas. In turn, high economic performance will facilitate policies of social integration. Thus, social and economic equality is likely to ensure the durable and long-term competitiveness of a country and vice versa. Earnings differentials between workers with different skill levels can be regarded as an indicator of equality and a lower degree of polarisation between low-skilled/low-paid workers on the one hand and highly-skilled and well-paid workers on the other.

Similar to unemployment rates, there is a direct (positive) relationship between skill levels and relative earnings. However, relative earnings of people who have attained lower secondary and tertiary education levels (upper secondary education = 100) shows a considerable range (Table 14 and Figure 12).

In most countries people with lower secondary education and below earn from 20% to over than 30% less (Korea, the UK, the US) than those with skills at upper secondary level. Only in Finland is the difference quite small (-6%).

In turn, earnings of people with tertiary education exceed those at upper secondary level by around 30% to 60%. The highest earnings differential is

Figure 12. **Relative earnings by level of qualification 2004 (upper secondary education = 100) (*)**



found in Hungary (117%); the differential is also high in the Czech Republic, Poland, Switzerland and the US, where people with tertiary education earn around two thirds more than those with upper secondary education.

The ranking is carried out according to the percentage point differences between lower and tertiary education (upper secondary education = 100). These differences indicate earnings (in) equalities in relation to qualification. The most equal distribution is found in the Nordic countries, Belgium, Spain, France and the Netherlands and, outside Europe, in Australia and Canada.

6.2.2. Rates of return

Public internal rates of return (RoR) ⁽¹⁰⁾ indicate 'the effect on public-sector accounts of individuals' choices to invest in education' (OECD, 2006b) and include the costs and benefits of education and training for society. Costs include direct expenditure on educational institutions and public

⁽¹⁰⁾ Another measure are private RoR which calculate the private costs of education (including earnings forgone) and the additional net lifetime earnings of an individual when obtaining additional education. However, OECD data (2006b) on private RoR refer to a small number of countries only and have, therefore, not been considered in this international comparison.

private transfers (such as public subsidies or grants to households). The costs also include lost income tax revenues on students' foregone earnings. The benefits include increased revenues from income taxes or social insurance payments on higher wages.

Table 14 and Figure 13 display the public RoR for two cases:

- when an individual immediately (after lower secondary education) obtains an upper or post-secondary non-tertiary education;
- when an individual obtains, after completion of a lower or upper/post-secondary education a university-level degree.

However, as these calculations (OECD, 2006b) are available only for a few countries, no ranking was made.

Case 1: for an individual who obtains an upper or post-secondary education, public RoRs for males are between 2% (Switzerland) and more than 14% (Denmark). Also in countries such as Belgium, Sweden, the UK and the US these RoRs are high (more than 10%). For females, RoRs range between 3% (Korea, Switzerland) and 11.6% (Denmark); for males, RoRs are also high in Sweden, the UK and the US.

Case 2: obtaining a university degree yields even higher public RoRs in most countries (except in Denmark and Sweden). For males, the range is between more than 6% (Switzerland) and almost 19% (Hungary), for females: between 6% (Switzerland) and almost 18% (Belgium). Belgium, Finland, Hungary, Korea, the UK and the US have the highest public RoR of this type.

Figure 13. **Public internal RoR when an individual immediately obtains the next higher level of education (*), 2003 (%)**

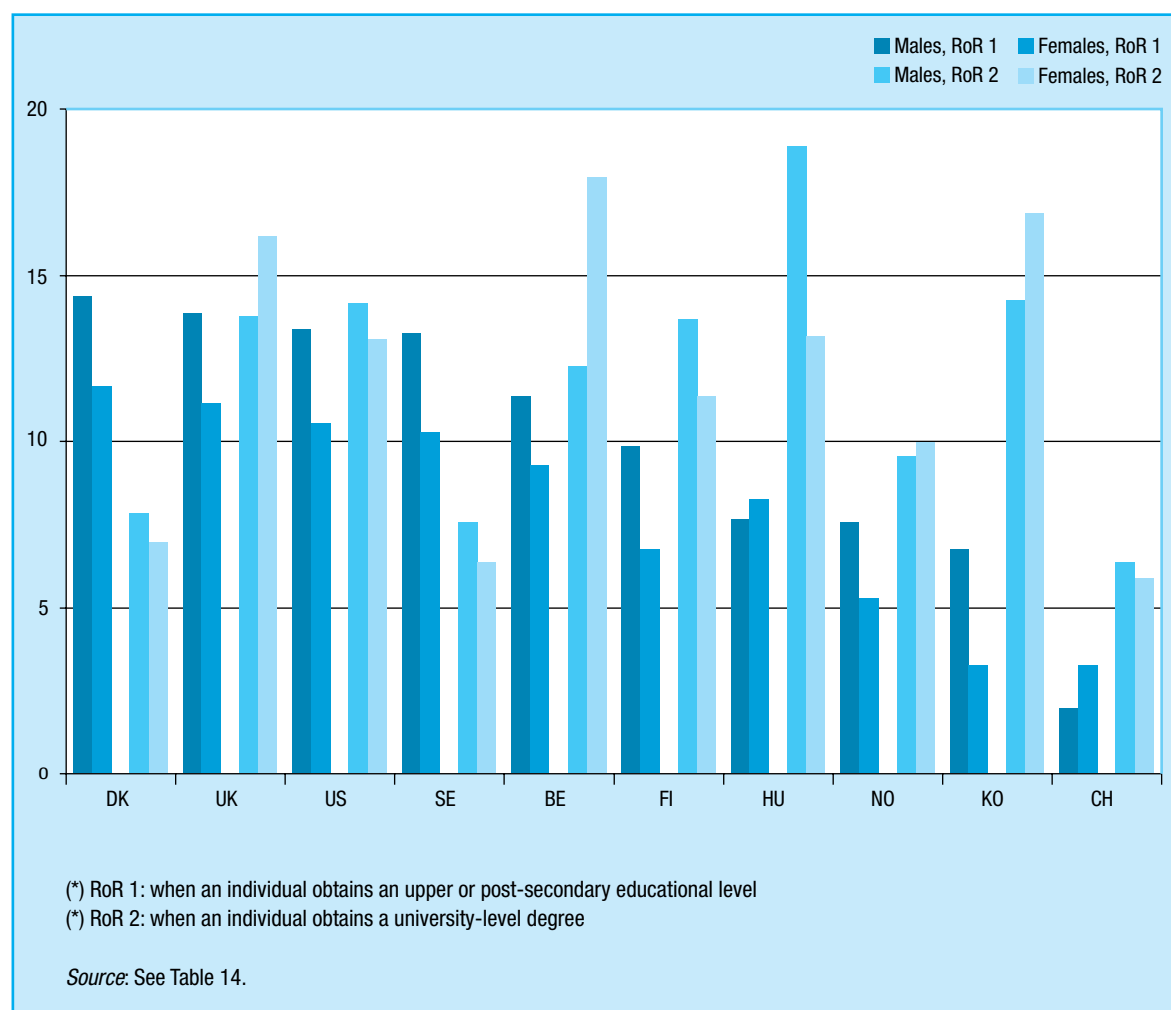


Table 14. **Relative earnings and RoR in OECD countries**

Country	Relative earnings ^(a) 2004 ^(b) Upper secondary education = 100			Public internal RoR when an individual immediately obtains the next higher level of education, 2003 (%)			
	Below upper secondary education	Tertiary education	Ranking: earnings equality (c)	RoR for an individual obtaining an upper or postsecondary non tertiary education (ISCED 3/4)		RoR for an individual obtaining a university-level degree (ISCED 5/6)	
				Males	Females	Males	Females
Belgium	89.0	130.0	1.0	11.3	9.2	12.2	17.9
Czech Republic	73.0	182.0	20.0				
Denmark	82.0	127.0	3.0	14.3	11.6	7.8	6.9
Finland	94.0	148.0	6.0	9.8	6.7	13.6	11.3
France	85.0	147.0	8.0				
Germany	88.0	153.0	11.0				
Hungary	73.0	217.0	21.0	7.6	8.2	18.8	13.1
Ireland	76.0	144.0	13.0				
Italy	78.0	153.0	15.0				
Luxembourg	78.0	145.0	12.0				
Netherlands	84.0	148.0	10.0				
Poland	78.0	163.0	16.0				
Spain	85.0	132.0	5.0				
Sweden	87.0	128.0	1.0	13.2	10.2	7.5	6.3
United Kingdom	67.0	158.0	18.0	13.8	11.1	13.7	16.1
Norway	80.0	126.0	4.0	7.5	5.2	9.5	9.9
Switzerland	74.0	164.0	17.0	1.9	3.2	6.3	5.8
Australia	77.0	133.0	7.0				
Canada	78.0	140.0	8.0				
Korea	67.0	141.0	14.0	6.7	3.2	14.2	16.8
USA	65.0	172.0	19.0	13.3	10.5	14.1	13.0

^(a) Income from employment for 25 to 64 year olds.

^(b) For latest year available (2001 for Australia; 2002 for Ireland, Italy, Luxembourg, the Netherlands; 2003 for Belgium, Canada, Denmark, Finland, Korea, Norway, Sweden; 2004 for the Czech Republic, France, Germany, Hungary, Poland, Spain, Switzerland, the UK, the US)

^(c) Difference between earnings for tertiary and below lower secondary education in percentage points.

Source: OECD, 2006b.

7. Summary

'Competitiveness' is not a well-defined term, but comprises many aspects and issues. This contribution focuses on competitiveness related to the shift towards knowledge-based societies. It compiles several indicators on global, economic, labour market and skills worldwide and displays the relative standing of countries regarding these indicators. However, indicators and rankings have to be interpreted with some caution, because they do not consider the specific cultural, historical and political background of a given country. Further, rankings may change in the course of time.

Looking at indicators which display the standing of countries particularly associated with skills, knowledge, education and training and related fields, European countries – though not the EU as a whole – are performing quite satisfactorily in worldwide comparison. Many European countries are competitive in several aspects: this applies particularly to their performance in education, training, skills and science, and also to some labour-market performance indicators. However, there is a broad variation between European countries which make generalisations difficult. In most cases, the cluster of Nordic countries, plus Austria, Ireland, the Netherlands and the UK, are among the best performers.

Table 15 provides a summary picture of the best performing countries as regards indicators selected for this contribution.

Several European countries are on a par with the US and some other non-European countries in economic performance, particularly with regard to growth and labour productivity. The same can be said of employment growth and employment/unemployment rates. For enrolment in education and training and student-teacher ratios, European countries tend to perform best except in graduation rates from upper secondary education where

Japan, Korea and the Russian Federation score equally well. Expenditure on education and training is similar: most of the top 10 performers are European, except for expenditure on tertiary education where Australia, Canada, Korea and the US score highly.

In terms of population skill levels, several European countries can compete with Japan, the Russian Federation and the US. Many European countries have higher equality of employment and unemployment for people with different qualifications than the US. This is also true of how the economy rewards higher skills in terms of earnings and of RoR: many European countries, alongside Australia and Canada, are ranked higher than the US.

What makes some countries more competitive than others in terms of education, training and skills? What are the links between investment in human capital – particularly in vocational education and training – and economic and employment performance? Which statistics are needed to construct better and more coherent indicators? These and other questions call for more comparative research and investigation into the particular situation of individual countries, including their political, social and economic environments, and the links between education, training and skills on the one hand, and economic, employment and social performance on the other. Only with this information is it possible to construct a system of indicators which are comparable across countries and provide substantiated evidence on the many facets of a knowledge-based economy. The indicators then can be used by policy-makers for benchmarking and measures to shape future-oriented education and training systems which improve both social and economic competitiveness in a longer term.

Table 15. Selected indicators and best performing countries

		Best performing countries (rankings)															
		AT	AU	BE	BG	CA	CH	CN	CY	CZ	DE	DK	EE	ES	FI	FR	GR
Basic indicators	Lowest median age of population 2050		8								4						
	GDP per capita 2005 (USD 1000, PPP)	8				10	6				7						
	Real GDP growth per capita 2004-05 (%)			6			2		7		1					8	
	Labour productivity per hour (USD)	7		5							9			10	3		
	Employment growth 2004-05 (%)		4		7				3				2				
	Employment rate 2005 (%)		9			6	2				3						
	Total unemployment rate 2005 (%)					7	3			10							
	Youth unemployment rate (15-24 years) 2005 (%)	8	9				6				3						
	R&D personnel 2004 (/1000 people)		8			10		4			3			9			
	High-tech exports 2004 (% of manufactured exports)						9	3									
Educational attainment and performance	Educational attainment of adult population 25-64 years, 2004, ISCED 3 and higher (%)						7			1	9						
	Graduation rates at upper secondary education 2004 (%)						8			9	2	6		7			
	Student-teacher ratio in upper secondary education 2004	4		7			3						9		5	8	
	Problem solving: level 2 and higher, 2003 (PISA)		4	6		5	7			9		10			1	8	
	Total expenditure on education 2003 (% of GDP)			10			7				4					9	
	Expenditure on upper secondary education 2003 (% of GDP)			5		2	7						4			8	10
	Total expenditure on R&D 2004 (% of GDP)	10					8				9	6			2		
Skills and the labour market	Gender equality of employment rates 2004, people with completed upper secondary education (%-point difference men-women)	10				7					6	5			1	9	
	Gender equality of unemployment rates 2004, people with completed upper secondary education (%-point differences men-women)	9				7	10				3						
	Earnings equality 2004 (difference between earnings for tertiary and lower secondary education; upper secondary education = 100)		7		1	9						3		5	6	8	

NB: For country abbreviations see below.

	HR	HU	IE	IN	IS	IT	JP	KO	LT	LU	MT	NL	NO	PL	PT	RO	RU	SE	SK	TR	UK	US	
				1						5			9				7	10		2	6	3	
			3		5					1		9	4									2	
	10		5				9									3		4					
			2			8				1			4									6	
			1	8	5				9	6				10									
					1							5	4					7			8	10	
		4		1		5	2		6		9	8											
			4		1		5	7				2										10	
					5							7	6					2				1	
		10	5				8	2		4	1										7	6	
							10						3	8			2		5		6	4	
			4				5	3					1				10						
					2	1							6		10								
						3	2																
					1			2					6	8				5				3	
		9			1												6					3	
					4		3	7										1				5	
					2								3									4	8
								4				1	5					6				8	2
												10	4					2					

List of abbreviations

IMD	International Institute for Management Development
OECD	Organisation for Economic Development
UNDP	United Nations Development Programme
GDP	Gross domestic product
PPP	Purchasing power parity
R&D	Research and development
PISA	Program for International Students Assessment
ISCED	International Classification of Education
RoR	Rate of return
USD	United States dollar
WTO	World Trade Organisation

Country abbreviations (ISO codes)

AU	Australia	JP	Japan
AT	Austria	KO	Korea
BE	Belgium	LT	Lithuania
BG	Bulgaria	LV	Latvia
CA	Canada	LU	Luxembourg
CN	China (PR)	MT	Malta
HR	Croatia	NL	Netherlands
CZ	Czech Republic	NO	Norway
CY	Cyprus	PL	Poland
DK	Denmark	PT	Portugal
EE	Estonia	RO	Romania
FI	Finland	RU	Russian Federation
FR	France	SK	Slovakia
DE	Germany	SI	Slovenia
GR	Greece	ES	Spain
HU	Hungary	SE	Sweden
IS	Iceland	CH	Switzerland
IN	India	TR	Turkey
IE	Ireland	UK	United Kingdom
IT	Italy	US	United States

Annex: International standard classification of education 1997

The ISCED classification of education 1997 takes account of complementary dimensions, compared with the previous ISCED:

- the type of subsequent education or destination for which those completing education are eligible, or the type of labour-market positions for which they prepare graduates;
- the programme orientation, in terms of the degree to which the programme is oriented towards a specific class of occupations or trades.

The following distinctions are made:

- Pre-primary, primary and lower secondary education:
 - ISCED 0: pre-primary education;
 - ISCED 1: primary education or first stage of basic education;
 - ISCED 2 (*): lower secondary education or second stage of basic education, giving direct access to ISCED 3A, 3B or 3C or entry into the labour market;
- Upper and post-secondary education:
 - ISCED 3A: upper secondary education giving access to ISCED 5A
 - ISCED 3B: upper secondary education giving access to ISCED 5B
 - ISCED 3C: upper secondary education not giving access to level 5, but to labour market, level 4 or other level 3 programmes. Further distinction by duration;
 - ISCED 4 (*): post-secondary non-tertiary level programmes that straddle the boundary between upper secondary and tertiary education. These may be more advanced programmes at upper secondary or post-secondary level, preparing either for entry to ISCED 5 or into the labour market;
- Tertiary education:
 - ISCED 5A: theoretically based tertiary education, research preparatory or giving access to programmes for professions with high skill requirements;
 - ISCED 5B: practical, technical or occupationally specific programmes at tertiary level;
 - ISCED 6: tertiary education leading to an advanced research qualification.

(*) Further differentiation is made for ISCED 2 and 4.

Source: Unesco 1997. International Standard Classification of Education. 151 EX/8, Annex II (March 1997). <http://unesco.stat.unesco.org/uisen/pub/pub0.htm>.

References

- Cedefop; Descy, P.; Tessaring M. *The value of learning: evaluation and impact of education and training: third report on vocational training research in Europe: synthesis report*. Luxembourg: Publications Office, 2005 (Cedefop Reference series; 61).
- Cedefop; Descy, P.; Tessaring, M. (eds). *Impact of education and training: third report on vocational training research in Europe: background report*. Luxembourg: Publications Office, 2004 (Cedefop Reference series; 54).
- Cedefop; Lipinska, P. et al. *Zooming in on 2010. Reassessing vocational education and training*. Luxembourg: Publications Office, 2007.
- Cedefop; Wilson, R.A.; Briscoe, G. The impact of human capital on economic growth: a review. In Cedefop; Descy, P.; Tessaring, M. (eds). *Impact of education and training: third report on vocational training research in Europe: background report*. Luxembourg: Publications Office, 2004, p. 9-70 (Cedefop Reference series; 54).
- Council of the EU. *European Council Brussels 22 and 23 March 2005: Presidency conclusions* (7619/1/05 REV 1, CONCL 1). Brussels: Council of the EU, 2005.
- Council of the EU. *European Council Lisbon 23 and 24 March 2000. Presidency conclusions*. Brussels: Council of the EU – General Secretariat, 2000.
- European Commission. *Helsinki communiqué on enhanced cooperation in vocational education and training. Communiqué of the European Ministers of Vocational Education and Training, the European social partners and the European Commission, convened in Helsinki on 5 December 2006 to review the priorities and strategies of the Copenhagen process*. Brussels: European Commission, 2006.
- European Commission. *Maastricht communiqué on the future priorities of enhanced cooperation in vocational education and training (VET): review of the Copenhagen declaration of 30 November 2002*. Brussels: European Commission, 2004.
- Eurostat. *New Cronos database*. Available from Internet: http://epp.eurostat.cec.eu.int/portal/page?_pageid=1996,45323734&_dad=portal&_schema=PORTAL&screen=welcomeref&open=/&product=EU_MAIN_TREE&depth=1 [cited in 2006 and 2007].
- IMD – International Institute for Management Development. *IMD world competitiveness yearbook 2006*. Lausanne: IMD, 2006.
- IMD – International Institute for Management Development. *IMD world competitiveness yearbook 2007*. Lausanne: IMD, 2007.
- OECD. *Economic outlook 2006*. Paris: OECD, 2006a.
- OECD. *Education at a glance*, Paris: OECD, 2006b.
- OECD. *OECD programme for international student assessment (PISA)*. Available from Internet: http://www.pisa.oecd.org/pages/0,2987,en_32252351_32235731_1_1_1_1_1,00.html [cited 3.1.2008].
- Shavelson, R.J. et al. What are educational indicators and indicator systems? *Practical Assessment, Research and Evaluation*, 1991, Vol. 2, No 11.
- United Nations. *World urbanization prospects: the 2003 revision*. New York: United Nations, 2004 (Economic and social affairs series).
- United Nations. *World population prospects: the 2004 revision: highlights*. New York: United Nations, 2005 (Economic and social affairs series).
- United Nations. *Human development report 2006: beyond scarcity: power, poverty and the global water crisis*. Basingstoke: Palgrave Macmillan, 2006.
- World Economic Forum. *Global competitiveness report 2005-2006: policies underpinning rising prosperity*. Basingstoke: Palgrave Macmillan, 2005.
- World Economic Forum. *Global competitiveness report 2006-2007*. Basingstoke: Palgrave Macmillan, 2006.

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