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# The benefits of vocational education and training

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# The benefits of vocational education and training

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We provide information on and analyses of vocational education and  
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# Foreword

This European research review of the benefits of vocational education and training (VET) is released at a time when Europe is taking stock of the progress achieved in the Lisbon process and has launched a new strategy for growth and swift recovery from the economic crisis. Investment in human resources by education, training and other forms of learning is essential to achieving smart, sustainable and inclusive growth. VET will continue to play an important role in the shift towards more knowledge-intensive societies. Around half of all jobs in 2020 will require a medium-level qualification, which will often be achieved by some form of VET.

Research on the benefits of education has a long history in education economics. The same cannot be said about the research on the specific benefits of VET, which has only recently started to emerge. For policy-making, however, it is crucial that decisions on actions and measures are sufficiently backed up by sound research evidence. In this research overview, Cedefop, with the help of its ReferNet partners, gathered and analysed research evidence on VET benefits from across Europe. The aim was to collect evidence on the specific benefits of VET at micro, meso and macro levels and to examine the interdependencies of these levels. Both the economic and social benefits of VET are considered and the links between these two types of benefit are explored wherever possible.

Research should inform policy-making and policy-making can provide new directions for future research. The general impression from the country contributions and the Cedefop synthesis is that this cycle is not yet structurally in place. By mapping the evidence in Europe, pointing out how national context impacts on VET benefits, and by identifying areas where the evidence is particularly scarce, Cedefop will continue its efforts to increase the evidence base in VET policy-making, reporting on existing research in Europe and encouraging new research on promising topics. I trust that this publication will help in this process.

Christian F. Lettmayr  
*Acting Director*

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# Table of contents

Foreword.....	1
Acknowledgements.....	2
Executive summary.....	4
Introduction .....	5
1. VET and its benefits .....	6
1.1. A VET classification.....	6
1.2. Classifying VET benefits.....	7
2. Research findings on VET benefits .....	9
2.1. Labour-market outcomes.....	9
2.2. Enterprise performance .....	13
2.3. Social benefits .....	15
3. Conclusions .....	18
3.1. Main findings .....	18
3.2. Tentative grouping of results .....	20
3.3. Concluding remarks.....	21
List of abbreviations .....	23
References.....	24

# Executive summary

Research on the benefits of vocational education and training (VET) has only recently started to emerge. For VET policies, however, decisions on actions and measures should be supported by sound research evidence showing the benefits of different learning alternatives. Cedefop has gathered and analysed research evidence on VET benefits from across Europe, with the help of its ReferNet partners, to provide an initial mapping of research in this field. This European review presents the results of research focusing on VET benefits carried out in 2005-09 in the Czech Republic, Denmark, Germany, Spain, France, Italy, Cyprus, Lithuania, Hungary, the Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland, Sweden and the UK, as well as in Norway and Iceland.

This review mainly uses a qualitative analysis based on comparative research results and secondary data. It has been designed as a reader which not only presents an assessment of the impact of VET on society as a whole, but also gives theoretical support to understanding the basic notions, issues, problems and challenges in VET. Both economic and social benefits of VET are considered and the links between these two types of benefits are explored wherever possible.

The VET benefits countries reported are often difficult to allocate to individual, enterprise and societal level as they occur simultaneously and may reinforce one another. The main economic benefits are labour-market outcomes and enterprise performance. The social benefits were largely examined by studying the positive changes in society occurring as a result of participation in VET programmes.

One key finding of this review is that few countries in Europe are systematically using research as structural input to their VET policy-making. Another problem reported by some countries is that the interplay between institutions, legislation and practice prevents coordination of VET and VET research in a way that benefits VET policy-making. However, although some countries lack sufficient institutional arrangements to develop and improve VET, most countries have identified VET programmes as core components in their long-term development strategies.

# Introduction

This European research review of the benefits of vocational education and training (VET) presents the results of research carried out from 2005 to 2009 in 21 European countries. It relies on contributions from members of the ReferNet, who were asked to provide research-based information on the theme. Countries in this study include the Czech Republic, Denmark, Germany, Spain, France, Italy, Cyprus, Lithuania, Hungary, the Netherlands, Austria, Poland, Portugal, Romania, Slovenia, Slovakia, Finland, Sweden and the UK, plus Norway and Iceland. The remaining countries either did not participate in the exercise or did not report on research exploring VET benefits in their countries.

The main approach is a qualitative analysis based on comparative research results (Bray et al., 2007) and secondary data. The results of the analysis are presented in this report. The first part provides a conceptual overview of possible benefits of VET on different levels of analysis. The second part reviews the main outcomes of research on VET benefits. In the last part, some elements that can explain the nature of VET benefits and the development of VET research are explored.

## Box 1. **Refernet**

ReferNet is a network created by Cedefop in 2002 to provide information on national vocational education and training (VET) systems and policies in Member States, Iceland and Norway. This information is displayed in Cedefop databases and is used for comparative studies: it gives valuable insights into national VET systems. The network builds on national consortia in each partner country. Every consortium is led by a coordinating institution and consists of key organisations involved in VET activities, including social partners.

[www.cedefop.europa.eu/refernet](http://www.cedefop.europa.eu/refernet)

The national research reports can be accessed online at the following URL:

[http://libserver.cedefop.europa.eu/F/?func=find-c&ccl\\_term=\(wjr=national%20research%20reports\)%20and%20\(jnr=2009\)](http://libserver.cedefop.europa.eu/F/?func=find-c&ccl_term=(wjr=national%20research%20reports)%20and%20(jnr=2009))

VET policies are more effective when they are underpinned by sound research results and research can play a crucial role in evaluating policy effectiveness. Designing and implementing long-term development policies without backing them up with sound evidence can be negative, as measures taken can have unwanted, and even opposite, effects. One key finding of this review is that few countries use research coherently as structural input to their VET policy-making processes. Also, for some countries, institutional arrangements and national legislation and practice are insufficiently coherent to coordinate VET activities and research in a way that benefits policy-making.

## CHAPTER 1

# VET and its benefits

## 1.1. A VET classification

VET is designed to prepare individuals for a vocation or a specialised occupation and so is directly linked with a nation's productivity and competitiveness. Most literature generally considers that the concept of VET is restricted to non-university education (Cornford, 2005). More information on different types of VET is provided in Box 1:1.

**Box 2. A classification of VET**

From a theoretical perspective, VET can be classified in the following categories (Grubb and Ryan, 1999):

- pre-employment VET: prepares individuals for the initial entry into employment; in most countries these are traditional programmes of vocational and educational training in schools; they are found both in schools and workplaces as dual systems and are often operated by national ministries of education;
- upgrade training: provides additional training for individuals who are already employed, as their jobs change, as the technology and work environment become more complex, or as they advance within the company;
- retraining: provides training for individuals who have lost their jobs so that they can find new ones, or for individuals who seek new careers to develop the necessary competences for employment; individuals in retraining programmes, by definition have already had a labour-market experience; therefore, retraining may not have a direct connection with the occupation they already have;
- remedial VET: provides education and training for individuals who are in some way marginal or out of the mainstream labour force; typically those who have not been employed for a long period of time or who do not have any labour-market experience; usually people depending on public income;

Cedefop (2008) offered a distinction which encompasses the previous ones: initial and continuous educational training (IVET and CVET)

- IVET refers to general or vocational education and training carried out in the initial education system, usually before entering working life. Some training undertaken after entry into working life may be considered as initial training (e.g. retraining). Initial education and training can be carried out at any level in general or vocational education (full-time school-based or alternate training) pathways or apprenticeship;
- CVET is defined by the area of education or training that comes in after entry into working life and aims to help people to (a) improve or update their knowledge and/or skills; (b) acquire new skills for a career move or retraining; (c) continue their personal or professional development (Cedefop, 2008); continuing education and training is part of lifelong learning and may encompass any kind of education: general, specialised or vocational, formal or non-formal, etc.

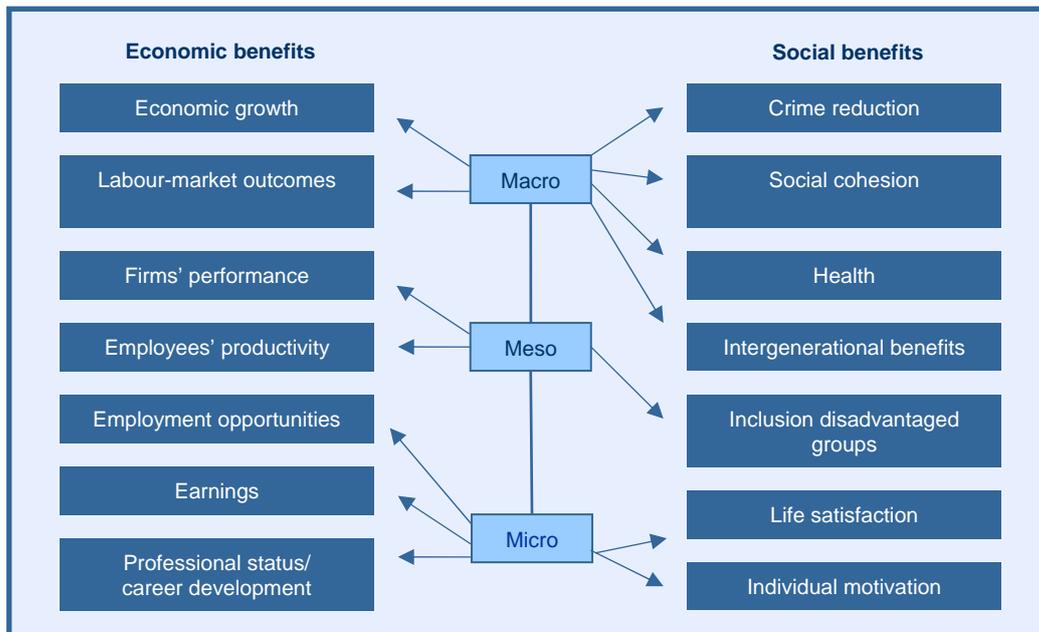
Across European countries, VET is shaped by widely different cultural and social-class values of vocational training status in society. As a result, the role of

VET, as an organised form of education, differs from one country to another. This review examines the role of VET through its benefits.

## 1.2. Classifying VET benefits

VET benefits can be grouped using a classical typology based on the nature of results. Two main categories can be identified: economic benefits and social benefits. Both can be analysed on three different levels: the micro level (the benefits for individuals); the meso level (benefits for enterprises/groups); and the macro level (benefits for society as a whole). Figure 1 gives examples of VET benefits according to the dimension (economic and social) and the level of analysis (micro, meso and macro).

Figure 1 **Types of VET benefits**



Source: Cedefop

Some benefits may occur at the intersection of different levels of analysis, for instance when a training course in an enterprise leads to more satisfied workers that become more productive. VET benefits are interdependent at different levels. Countries did not report on all VET benefits reported in Figure 1. Instead, they focused on some aspects of economic and social benefits that are most prominent in research. Box 3 reviews the types of benefits countries reported.

**Box 3. Economic and social benefits reported by countries**

**The economic dimension**

*Macro level:*

- economic returns on VET: research on the evaluation of public and private investment in VET in terms of profitability and economic growth;
- labour-market outcomes of VET: reduction of unemployment and inequality resulting from more people attaining a VET qualification.

*Meso level:*

- performance of enterprises: costs and benefits of training in terms of profitability and innovativeness;
- employee productivity: individual abilities and capacity to contribute to profit after VET.

*Micro level:*

The benefit of IVET and CVET on individuals: earnings, finding a job, reduction of skill mismatch, integration into the labour market with satisfactory wage, further career development opportunities and professional status.

**The social dimension**

*Macro level:*

- effects of VET across generations within families and how family impacts on skills development;
- relationship between VET and health: how education and VET can support the health of a nation;
- social cohesion: multidimensional concept measured by, for example, tolerance, trust, formal and informal networking (social and relation capital), low grade of social polarisation, etc.;
- how education and VET can reduce delinquent and criminal acts in a society.

*Meso level:*

Inclusion of disadvantaged or marginalised groups through education and VET.

*Micro level:*

Personal well-being: quality of life for individuals and effects on personal development, attitudes and motivation.

Chapter 2 synthesises empirical findings on VET benefits in Europe. Chapter 3 concludes and summarises, explores how to group the results and discusses some of the gaps in current research on VET benefits.

## CHAPTER 2

# Research findings on VET benefits

Countries reported on several VET benefits. These are often difficult to allocate to a specific level as they occur simultaneously at different levels of analysis and may reinforce one another. Therefore, we provide a summary of the economic and social benefits of VET reported on by countries, structuring the findings in terms of economic benefits (labour market outcomes and enterprise performance) and social benefits, without assigning them to specific levels of micro, meso and macro benefits.

## 2.1. Labour-market outcomes

While literature on the economic benefits from VET often cites growth, in the country reports the accent was on labour market outcomes. The impacts of IVET and CVET on labour-market outcomes often reflect direct or indirect aggregate individual productivity effects. The main outcomes stressed by countries are higher participation on the labour market, lower unemployment, the opportunity to acquire a qualification for all categories which did not previously have one, and the chance to advance in a professional hierarchy. Through lifelong learning, individuals can improve their work opportunities and qualification levels. Higher remuneration offers new opportunities which lead to further economic and social outputs, such as economic autonomy, and can also enhance psychological well-being. All these factors ultimately impact individual productivity.

In Sweden, VET programmes main outcomes include a higher rate of labour-market participation coupled with lower unemployment. Two-year programmes at the upper secondary level registered lower unemployment rates than comprehensive education (nine years of schooling). But the unemployment rate for graduates in three-year programmes is higher than for those in two-year programmes. Also, the inactivity rate <sup>(1)</sup> is higher for those in a three-year programme than for those in a two-year programme. The probability of dropping out from a VET programme is higher for individuals enrolled in three-year secondary schools. Advanced VET (AVET) was introduced on a trial basis and in 2002 the programme became a permanent type of education. AVET is a form of

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<sup>(1)</sup> Proportion of the population not in the labour force, out of the total population. In Sweden it also includes those who did not complete their studies or those with an income under one price basic amount (PBA). OECD glossary of statistical terms, available from Internet: <http://stats.oecd.org/glossary/detail.asp?ID=4823>.

post-secondary school which aims to support the continuation of studies. It has been organised in cooperation with companies who emphasised the importance of on-the-job training. The programme was designated for students who finished upper secondary school but also for employees who wanted to develop their skills. The main stimulating factor was the financial support accorded to individuals who participated in the programme. In 2004 an evaluation study showed that 83% of the former participants had a job or were running their own business, with a slight difference between men and women (83% to 82%). 80% worked in a branch where AVET was relevant, compared to only 50% of individuals who followed IVET courses working in their qualified specialisation. In 2008 a follow up study confirmed the results.

Sweden also provided information on the profitability of VET programmes in terms of wage returns in a cohort study of a representative sample of people born in 1976. The reference year for the results is 2002, when the people in the cohort were 26 and had a potential of 7-8 years of work experience. The unit of analysis is 3 PBA, being a general indicator for a very low income. In 2002 the equivalent for 3 PBA was SEK 113 700. In the upper secondary school 11 qualifications stood out with positive return rates, above 3 PBA. The highest returns were found for construction, industry, vehicle and electrical programmes (84-90% above 3 PBA) which are dominated by males. This was followed by child and recreation and health care programmes (77-81%).

In Denmark the evidence is a similar. Studies found a positive relationship between employment growth and CVET and revealed that employees who participate in training programmes are less likely to remain in the same job. Research also highlighted that CVET can increase productivity in terms of hours worked but not in terms of cost reduction. Adult education and further training have a positive impact on participants' professional lives, which depend on the nature of the training. They enjoyed more stability compared to those that did not follow any IVET or CVET. The attendance rate is higher for people without higher level studies, followed by individuals with academic credentials.

The positive relationship between CVET and labour-market needs is underlined by Norway which demonstrated that the number of apprenticeship places is dependent on the economic cycle. When unemployment rises, the available apprenticeship positions decreases. Stability in the VET system is maintained by government measures which create the institutional framework to stimulate enterprises to offer apprenticeship positions.

In Germany the principal labour-market outcome of VET is intertwined with social benefit: it creates a sense of stability among workers facing fierce competition. VET outcomes can be linked to the dual system approach because of the institutional settings which promote skills development. Practice-based and on-the-job learning company orientations do not only shape professional aptitudes but also social and personal abilities necessary for individual growth. At

the same time, the dual system fosters low unemployment, although there are regional differences between East and West Germany. Data available from 2003 showed that, after one month of completed training, unemployment was 37.7% in the East Germany compared with 19.4% in the western states due to structural factors.

Austria reported on research into individual returns by gender from different types of education. From 1999 to 2005 the returns were generally high, and characterised by high income disparities between women and men. The 1990s brought wage gap reductions between genders and different academic backgrounds, although some slight differences remained: business-oriented and technical specialisations are more profitable. In these sectors, apprenticeship graduates earned 15 to 20% more than graduates from compulsory schooling. BHS (VET college) graduates earned 40 to 50% more than AHS (general academic-oriented upper secondary education) graduates. Positive returns were hard to find for specialisations such as services, agriculture and forestry and even for the graduates of BMS (VET) schools. Returns for women were about the same for all occupations, but business degrees within universities and VET colleges stand out because of higher returns, followed by health and welfare sectors. For male graduates, the highest returns were in business, followed by engineering and social science. The outcomes of apprenticeship training depend on the training company's specialisation, its size and the available infrastructure. Companies design their future apprenticeship places by looking at the market needs. For CVET returns, people participating in CVET earned 6% more for men and 8% for women compared to those not participating in CVET. The correlation between CVET and wages could not be interpreted causally because personal employee information – such as individual abilities, motivations, ambitions, professional histories – was not available in the sample the research was based on. The curricula of apprenticeship training differ from school-based and academic forms of education. The quality of the curricula depends on the training company specialisation, its size and infrastructure. Quality effects can be observed in wage increases after training; this effect is directly related to the size of the firm. Another result highlighted is that it is easier for people taking part in CVET to find a job than for those who do not participate.

The main outcome from studies in the Netherlands is the wage difference between employees participating in CVET schemes and non-participants; results indicated that trained staff earn more, with wage differences ranging from 3.3% to 15.7%.

Finland reported a trend in IVET and CVET towards creating both vocational and general working life skills. The main aspect underlined is the quality of CVET in the framework of an integrated model. Traditionally, separate models of school-based and on-the-job learning tend to become increasingly mixed, intensifying the interaction between working life and education and training.

Italy indicated positive outputs for different categories of people. Young people without work experience and unemployed people were able to find a job easier. For those already engaged in economic activity, acquiring new abilities could be an insurance against unemployment and also favours potential productivity and professional mobility.

For France a correlation between unemployment and participation in training courses could not be directly established as positive outcomes depend on additional factors, not only participation in professional courses.

In Spain, research uncovered different levels of development among regions in the north, including Madrid, and the south, even though geographic differences have been reduced over time. The worldwide economic crisis caused unemployment to increase to 17.4% in 2009, with unskilled labourers most affected. Even though unemployment was high, vocational training functioned as an active policy against the financial difficulties confronting citizens.

Portugal stressed the deficit in VET research, but indicated that individual financial improvement is the main outcome of VET. A result not specific to VET but indicative is that a worker with an upper secondary education certificate usually earns around 60% more than an employee without one. Other significant effects of VET include: a higher probability of obtaining a full-time contract, on-the-job promotion and better work-conditions.

Cyprus emphasised research aimed at evaluating the four programmes promoting VET: ex-post evaluation of the existing schemes of the human resource development authority; impact of training/education and technology on the productivity of the Cyprus economy; study for the reorganisation and development of the secondary technical and vocational education in Cyprus; and teacher training and upper secondary programme evaluations. The evaluation results confirmed the positive effects of VET on employment and wages.

Hungary only provided data about research on IVET, as national CVET studies were not available. The end of the communist regime was followed by increasing investment in general education and the expansion of higher education and secondary VET. In this context, the main outcomes are lower unemployment and better wages. The decline of vocational schools, which were artificially maintained during the communist regime, is a consequence of the influence of the communist past on VET policies. As a result, the qualifications offered by those vocational schools are no longer valuable and recognised on the labour market. Usually, the most disadvantaged students are the ones following vocational school courses, but the majority (around 80%) are planning to continue their study in secondary schools.

Slovenia, as in other post-communist countries isolated from technological innovation and know-how management for a long time, has high skills mismatch on the labour market. Five research studies underlined the need for retraining after graduation (general education or VET) to cope with labour-market demands.

Romania highlighted the positive impact of training on future employment. A study showed that those taking part in training programmes are more likely to be hired for than those who do not. However, this has a negative impact on wages during training, as the individual spends more time acquiring new skills than searching for a job.

The Czech Republic did not report specifically on VET, but pointed out that education expansion, especially of higher education has led to lower unemployment and improved earnings. Further, the wage level for tertiary education graduates has grown substantially compared to secondary vocational graduates. In 1996, a male with tertiary education earned 78% more than a male with secondary education.

The main issue reported for Slovakia, for the whole education system and not only VET, concerns the inconsistency between labour-market needs and educational curricula. As a result, the research efforts were concentrated on forecasting the jobs required by the market economy.

## 2.2. Enterprise performance

Most countries stressed the positive impact of training on company performance. Within the group of post-communist countries, however, only Slovakia has indirectly investigated the relationship between enterprise productivity and training organised for their employees. The other countries in this group (Czech Republic, Lithuania, Hungary, Poland, Romania and Slovenia) emphasised that research focusing on the impact of training on company performance has not been carried out or is not representative nationally.

In Denmark, Norway and Sweden some studies have focused on the economic benefits for enterprises. Still, it was possible to capture a positive association between CVET and company productivity, which was accompanied by improved organisation culture and technological innovation. Norway emphasised that skill mismatch - the discrepancy between what the educational system provides and what the labour-market needs - affected enterprise performance in a negative way. Sweden mentioned the industry programme run by Scania in Sodertalje and Perstorp AB: productivity increased in direct proportion to local employment growth.

Germany, Italy, the Netherlands and Austria presented data from quantitative surveys and published academic studies, highlighting national policies supporting and stimulating the business environment and, in return, generating positive linked benefits for companies and their employees. These overlapping effects provide further benefits at macro level, working as a chain which consolidates financial trust and stability.

Evidence from Italy suggests that CVET produces positive outcomes only if they are complementary to other measures such as implementing new technologies and organising production efficiently. Even if Italy has one of the lowest levels of employee training in Europe (half the European average), other indicators such as the number of employers which offer training and the average duration of training courses bring it closer to the EU average. Case-studies highlighted that training courses have more positive effects on productivity than on wages, demonstrating that companies gain more from training than their employees. There is also a directly proportional relationship between company productivity and investment in employee training: companies that have not invested in training reported lower productivity and profitability than those that had. Capacity for innovation could be measured quantitatively using a synthetic innovation index (SSI), which is a combination between competitive pressure (measured as the proportion of exports out of total sales) and a company's dependence on professionalised staff (number of managers and directors out of total headcount). Research showed a positive correlation between innovation propensity and company training, while, at the same time, companies organising internal training registered better performance in terms of return on investment.

A meta-analysis from the Netherlands provided further evidence on the positive effects of training on company profitability: results from 21 studies carried out during 1998-2007 have shown that employee participation in training schemes can raise profitability in various ways. Productivity has increased by 3.1% in 1999-2000, but its growth has slowed down in 2005 and 2006 (2.7% and 2.0% respectively). Other studies focused on two opposite strategies firms can adopt: over- and underinvestment in training programmes. Overinvestment can occur when firms expect unrealistic returns. The main reason for underinvestment in training programmes, besides capital and market imperfections as structural factors, is linked to the company perspective that the returns on professional development for short- and medium-term employees is inadequate: employees with permanent contracts participate more often in training programmes. Other explanations for underinvestment were little need/demand for training and learning difficulties.

Research on vocational training and performance of enterprises in Austria highlighted positive relationships between corporate productivity and CVET in the short- and medium-term. Companies doubling their investment in training increased their productivity by 4% and pay higher wages.

Company profitability in Germany was improved by a complex dual system, where schools and firms share the responsibility of providing initial vocational training (IVET) in a complementary way. Company profitability is a result of the 'reputation motive' dimension, as a marketable asset necessary to increase visibility and public awareness. The cost-savings approach is an instrument, not a goal.

In Spain, enterprise performance must be analysed in the context of regional levels of development and the national economic crisis, affecting the country since 2007. The relationship between training policies and enterprise performance is unclear, depending on factors beyond investment in education, such as company size and strategic direction, organisational culture and human resource policies. According to data provided by the Tripartite Foundation for Training in Employment, 201 030 training companies were registered in 2008, 46.7% more than the previous year. Data from 2007 showed that training companies provided training for 8.4% of registered companies within the social security system; 97.5% of the training companies are SMEs. Results from studies carried out in 2006-07 demonstrated that 18% of the companies offering training programmes to their employees succeeded in organising their own or shared training centres one year later. Two sectors stand out among companies that offered training programmes: construction and the service sector. The most unattractive field for lifelong development was the telemarketing industry which also faces employment decline. Consistent with other research, it was also found that men participate more often in further specialisation programmes.

The evaluation by the human resource development authority in Cyprus pointed towards significant results in terms of upgrading services/products and high productivity resulting from implementing new technologies. The study also indicated that firm productivity depends on the characteristics of employees, the quality of training programmes and the work environment. Technology in isolation, without training, can only yield limited effects on productivity as appropriate use of new technology requires appropriate training.

Portugal noted that too much training can impact on firm productivity in a negative way, through inflation of salaries and instability within organisations. By overemphasising training, companies might encourage 'qualification spirals' which can provoke economic loss for economic agents and unstable work environment.

Slovakia investigated the connection between the economic performance of enterprises and training by examining the possible indirect relationships between an ineffective local government and high unemployment rates in disadvantaged areas. The project aimed to improve this situation through reorganisation. This will improve the conditions for enterprises to match the labour force to labour demand and promote the development and provision of training.

### 2.3. Social benefits

The social benefits of VET are more difficult to measure than the economic ones as they are embedded in the ways society functions. Economic VET benefits can usually be considered as concrete or punctual (can be easily translated into

economic units of analysis). Social benefits, in contrast, tend to be more diffuse (characterised by overlapping effects with complex causal mechanisms). Compared to economic benefits, which are more tangible in quantitative terms, social benefits are more directly related to qualitative results. Both types of benefit are interconnected. Low economic benefits can create insignificant social outcomes or even negative ones. For example, a low participation rate in VET can result in high unemployment which creates an unstable society. A well-implemented VET system, which connects labour-market needs to VET and considers new challenges in terms of changing job requirements, leads to life satisfaction which is directly linked to a stable society.

Countries reported less on the social benefits than on the economic ones: it is not clear why. It could be the absence of relevant research linking VET to social benefits or the fact that the existing research has only recently started to emerge, which makes it difficult to establish empirically verified causal mechanisms.

The social benefits reported were largely examined by studying the changes in society occurring as a result of participation in VET programmes. The following areas were investigated: relationships between generations, health status, social cohesion, crime reduction and social integration. A common indicator for all countries is social integration, which can be defined as the movement of disadvantaged groups of a society into its mainstream. Social integration is seen as the main return on labour market participation. Most countries also report on VET positive effects on the integration of disadvantaged/marginalised groups which are excluded or face labour-market exclusion. Finland, Lithuania and Norway examined the integration of different disadvantaged groups on the labour market. They highlighted that specific social categories face economic and social discrimination. Lithuania pointed out the quality of life improving for those acquiring a new qualification. Besides reducing local and national unemployment, Lithuania stressed the significance of training quality in shaping professional and personal development. It also reported on a discrepancy between practical and theoretical training as theoretical knowledge is not so easily applicable in occupational activities.

The UK highlighted the following social returns: positive effects on intergenerational connections, better general health, and a safer environment. Research-based evidence indicates that VET can create a stimulating environment for children if their mothers participate in VET. At the same time, engaging youth in VET programmes supports the prevention of unhealthy behaviour, such as smoking, alcohol or drug addiction, and reduces the incidence of delinquency.

Norway emphasised that immigrants, especially non-western groups, need better grades in school to have the same opportunities as the majority population. Similar effects can be observed on the labour market when non-western

immigrants want to find a job. The differences in opportunities have been explained in terms of social capital, which is very different among migrants compared to the majority population. At the same time, VET-trained immigrants and locally born children of immigrants suffer an income disadvantage after graduation.

In Germany, VET can function as a safety net for those that dropped out, although the opportunities for this category are dwindling over time. Other disadvantaged groups mentioned by Germany are people supported by psychological services, youths with dyslexia, people with a drug addiction history or prison record, and people in prison. People in these categories generally suffer from social stigma and are more difficult to integrate into the labour market.

Portugal reported that the effects of VET on social and civic development are not conclusive as society transformations are difficult and generally take time.

For individuals, social returns are commonly measured by beneficial psychological effects on individuals in terms of motivation or attitudes, such as increasing self-esteem and self-confidence. Lithuania suggested that VET improved the psychological state of disabled persons and increased their self-confidence and self-esteem: disability was not the central impediment to employment. Increasing employment is associated with improving economic conditions and, at the same time, reducing social exclusion, satisfying individual and family needs, qualitative free time and developing a sense of freedom, safety and optimism. Sweden considered the interconnections between economic and social returns on VET by focusing on personal well-being: a more favourable position on the labour market is associated with better remuneration which creates further social opportunities.

Iceland offered the results from one study among women with no recognised qualification. After following a two-year VET programme, their self-confidence grew, their relationships with their families improved and the chance to find adequate work increased. For Portugal self-esteem, self-valorisation, self-learning and self-knowledge are the VET returns for individuals.

## CHAPTER 3

# Conclusions

A universal singular VET model which can guarantee the maximum benefits may not exist. Context and effectiveness are interrelated and VET systems have strong roots in the national culture of each country. The effects of VET occur at micro, meso and macro level, but these levels are strongly interdependent and often difficult to disentangle: positive effects at micro level can generate effects at meso and macro levels and vice versa. Consequently, VET benefits are outcomes occurring at individual, organisational and societal level that must be understood as intertwined and complex.

## 3.1. Main findings

The synthesis of results confirms that the economic benefits of VET are widespread. Several countries highlighted positive impacts on wages, employment, mobility and employment opportunity. There are also some indications that VET contributes to reducing unemployment and may protect people from becoming unemployed. In terms of benefits for enterprises, the evidence points towards positive impacts on productivity, innovation, employment growth and organisation culture. VET can also play an important role in improving economic conditions in disadvantaged regions and by reducing the skill mismatch between workers and enterprises. VET appears to be most effective when it accompanies changes in the workplace. Economic VET benefits at the individual (micro) and enterprise (meso) level interact and are, at the same time, the basis for favourable outcomes at macro-economic level.

Although economic research on VET benefits showed that the outcomes vary from one country to another, and even between regions within countries, some similarities could be established. The main effects of VET can be expressed in terms of wages. Most countries reported that wage effects depend on the type of education and training people participated in and its duration. Studies confirmed that for retraining and remedial VET, wages can go down as individuals in training invest more time in learning activities than in job search. It is different when upgrading, i.e. when private companies invest in continuous skill development for their employees. In this case, the wages of those in training do not seem to be negatively affected as their position is secured within the company. Wage effects also depend on work culture. In a dual system, based on the institutional link between school and work, the effects are more visible than in

cultures where the learning principles are not so well developed and promoted as national priorities. Participation in training activities has positive long-term effects. Acquiring new skills and competences can extend professional opportunities at micro level. Micro and macro effects are related: high labour-market participation implies a low rate of unemployment and can have favourable consequences for national competitiveness and GDP growth. The impact of VET on economic growth has been reported by few countries; the main problem lies in identifying the specific contribution of VET to growth, with most research linking economic growth to education in general or human capital.

Despite the availability of some research, the link between VET and company profitability is not explored enough across Europe. It is difficult to identify the contribution of VET in a context where company profitability is codetermined by other factors, such as organisation culture, human resource management policies, technological innovation and employee ability to deal with new technology. The results generally showed a direct proportionality between company productivity and the investment in employee training, but the mechanisms involved were difficult to uncover. Some countries explored the possible connection between training and employee productivity. Those effects reflect the labour-market impacts of VET, such as career opportunities in the company hierarchy and better remuneration.

The link between research on VET benefits and active labour-market policies (ALMPs) is also not sufficiently developed. Investing in human capital is one of the most productive strategies, not only from the economic point of view but also from the social one, and can have chain-effects. As VET builds human capital, which is the core element allowing individuals to achieve financial and social goals, VET policy-makers should strengthen the links between research and policy to maximise benefits from investment in VET.

Social benefits of VET also occur simultaneously at macro, meso and micro level. One significant return concerns the positive influence parents can exert on their children: parents who followed VET programmes tend to provide a more stimulating environment and are more dedicated to learning activities than those who did not participate. Positive effects were reported on health in terms of preventing unhealthy behaviour such as smoking and drug addiction. VET programmes have also been linked to a reduction in criminal activities. Wider non-material benefits (such as social peace, democracy, tolerance, social capital, social integration) may also accrue. VET programmes, in some countries, contribute to increased social stability, even if the effects are not very significant.

At meso level, the most important effect is the integration of disadvantaged/marginalised groups. The groups mentioned most are immigrants, Roma and people that abandoned their studies. For these, VET functions as a safety net which empowers them in the long term.

Social returns for individuals are mostly psychological benefits, with VET contributing to self-esteem, self-value and self-confidence and supporting personal activation. VET has positive effects on the psychological state of disabled people, proving that disability is not the main obstacle to employment. Other individual effects reported included increased quality of leisure time.

### 3.2. Tentative grouping of results

Considering structure and the current ways of functioning, VET models across Europe developed from a mix of traditional and modern elements with deep roots in history. Traditional VET systems originated in the industrialisation period. Contemporary VET systems are determined by the ‘constellations of [...] cultural and functional-structural relations within a society (Georg, 1997; cited in Greinert, 2004, p. 19). Three different European VET models are described in Box 4. Differences in national VET contexts and traditions, and the diversity of the findings reported, make it difficult to propose a consistent grouping of results.

#### Box 4. European VET models

Three different approaches have been highlighted as the main frameworks at European level: the liberal market economy model in the UK, the state-regulated bureaucratic model in France, and the dual-corporate model in German-speaking countries (Greinert, 2000; 2005; Hanf, 2002). The combination of these frameworks, socioeconomic conditions and values, norms, attitudes and ideals shape what is generally understood as ‘work culture’. The liberal market economy model has been associated with a work culture where economic principles are a priority. The qualification model is regulated primarily by the market orientation; at operational level, the functional needs of the company, or the actual position, are the leading didactic principle. In the state-regulated bureaucratic model, work culture reflects politics as a core priority. Its qualification model is regulated primarily by bureaucratic control on a legal basis; at learning level it is based on the academic principles as main feature. In the dual-corporate model, work culture considers society as the priority; the qualification model is regulated by a dual control as a combination of market and bureaucracy and didactic orientation is based on vocational principles.

Over the years it was possible to establish a classical typology of VET systems in Europe, but not for VET research. Notwithstanding growing interest evidenced by an increase in research-based empirical studies, the position of VET research, in both qualitative and quantitative terms, is nowhere near as advanced as research in general education and in certain areas of higher-level technological education and training (Nyhan, 1998). This implies that grouping the empirical findings on the economic and social benefits of VET is necessarily tentative at this stage. Two main dimensions can, however, be distinguished: economic development and categories of analysis.

*Development level*

Countries from northern and western Europe, characterised by strong economies with high quality of life, usually emphasise strong evidence of benefits as a result of well-established VET systems. Countries facing economic struggle, such as the post-communist nations, provide data which confirms that the public does not always recognise the value of VET to society. In these countries, VET research is not well developed.

Differences in development level can also present regional disparities in the returns on VET. Examples include regions facing high unemployment which may be due to absence of investments, such as rural areas compared to urban areas. There are also regions experiencing economic difficulties inherited from generation to generation as a consequence of political system malfunctions (East versus West Germany, southern versus northern Italy, some poor regions in post-communist countries).

*Categories of analysis*

Most countries indicated a stronger research focus on economic benefits compared to social ones. Research on economic benefits tends to concentrate on the micro level, with most investigating benefits for individuals. In those countries where VET research is well developed, research that demonstrates to what extent VET contributes to individual financial autonomy and well-being, is a top priority for policy-makers and those funding research. Economic benefits at sectoral (meso) and macro level and social benefits are less often topics of research. Most research on social benefits focuses on the meso level and investigates benefits for disadvantaged groups.

The nature of the research reported is also in line with national VET traditions. Countries with a well established tradition in VET (countries from west and north Europe) pointed out the benefits of IVET and CVET, while countries facing economic challenges focused more on the benefits of IVET and general education.

### 3.3. Concluding remarks

Research in VET, even if not so developed as research on general education, has registered some progress. Generally, it is concentrated on national social practices; national research reports state which benefits of VET could be observed and measured within the national territories, based on the work culture and the social practice systems that are transmitted from generation to generation. The main characteristics of national VET systems and frameworks impact on the type and the nature of VET research.

Research on VET benefits remains limited. Its scattered nature and a number of methodological issues including causality and imperfect research design, imply that the connection between policy formulation and VET research is not well established. It is possible to consider two groups of countries: those reporting a long tradition in VET research and evidence-based policy-making; and those reporting a short tradition in research (education in general, including VET) for lack of national priorities in the field. However, this simple classification does not do justice to the considerable differences found across countries. A more systematic and fundamental approach to researching VET benefits at national level would enable stronger conclusions.

# List of abbreviations

ALMP	active labour-market policy
AVET	advanced vocational education and training
BIBB	Bundesinstitut für Berufsbildung [Federal Institute for vocational education and training]
CVET	continous vocational education and training
GDP	gross domestic product
IAB	Institut für Arbeitsmarkt und Berufsforschung [Institute for Employment Research]
IVET	initial vocational education and training
LLL	lifelong learning
PBA	price basic amount
SME	small and medium-sized enterprises
VET	vocational education and training

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## The benefits of vocational education and training

This European research review of the benefits of vocational education and training (VET) is released at a time when Europe is taking stock of the progress achieved in the Lisbon process and has launched a new strategy to promote growth and enable swift recovery from the economic crisis. Research on the benefits of education has a long history in the economics of education, but the same cannot be said about research on the specific benefits of VET. For VET policy-making, however, it is crucial that decisions on actions and measures are adequately supported by sound research evidence. This research review gathers and analyses evidence on the economic and social benefits of VET from across Europe at different levels. The overall impression is that VET research and VET policy are not yet structurally connected in Europe.

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