



RESEARCH PAPER

No 48

Job-related adult learning and continuing vocational training in Europe

A statistical picture





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Please cite this publication as:

Cedefop (2015). *Job-related adult learning and continuing vocational training in Europe: a statistical picture*. Luxembourg: Publications Office. Cedefop research paper; No 48. [http://dx.doi.org/ 10.2801/392276](http://dx.doi.org/10.2801/392276)

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Luxembourg: Publications Office of the European Union, 2015

ISBN 978-92-896-1930-1

ISSN 1831-5860

doi: 10.2801/392276

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Foreword

Lifelong learning is an important component of the European Union (EU) strategy for smart, sustainable and inclusive growth. Promoting it is part of the EU guidelines for employment policies as well as the EU education and training strategy (ET 2020). Job-related adult learning and continuing vocational training play an essential role in this respect. Beyond initial education, they help to meet the main skills challenges on the labour market. Adult learning and CVET are essential to appropriate skills development for employed and non-employed adults, in working life and particularly during transition phases. They support and enhance economic competitiveness of enterprises and the employability of individuals – the ability to stay and progress in employment.

Recent economic downturns, an increased need for productivity and competitiveness gains in enterprises and growing unemployment among adults, with low-qualified adults frequently more affected than others, have further increased the importance of adult learning policies. This combines with other structural developments which, for a long time, have been pushing in the same direction. Examples include the ageing workforce and the extension of working life, technological, organisational and market changes affecting jobs and skills needs, and diverging employment prospects for adults based on their educational attainment, skills, occupation and economic sector of activity.

Increasing adult participation in education and training, reducing inequalities and ensuring labour market relevance are all salient objectives of EU policies. Statistics and indicators are an indispensable resource for quantifying key learning patterns and progress nationally and within the EU and comparing the situation in countries in a consistent way. It is important and enriching to go beyond simple indicators such as participation rates; such indicators are a useful starting point to monitor progress towards benchmarks but analyses of lifelong learning should not be based mainly or even be restricted to one indicator only. From a policy viewpoint, there is increasing interest in broadening the scope of indicators by considering issues such as the time and finances devoted to training, which are frequently key barriers to participation, and dimensions of equity. Pointing to weak areas, groups of people with insufficient learning opportunities, and barriers and obstacles to learning, such information is directly relevant to lifelong learning policy-making in the EU and Member States and, in particular, to social partners.

This report provides a statistical picture of job-related adult learning and continuing vocational training in the EU. It considers developments over time with

a view to assessing progress towards key policy targets. The report selects, presents and analyses internationally comparable data from the adult education survey (AES) and the continuing vocational training survey (CVTS). These are key statistical sources at EU level that complement and help understand the benchmark indicator on participation in adult education and training derived from the EU labour force survey (LFS). This report provides many additional elements, in particular with regard to the job-related and employer-sponsored components of adult learning. Types, forms, purposes, content and employer support of adult learning as well as obstacles and barriers for adults and firms are analysed. The importance of vocational training in enterprises is also duly considered: indicators on participation are supplemented with data on incidence, intensity and financing. Whenever possible, results at EU and country levels are presented. This study also presents information on guided on-the-job training, which is not considered in the LFS benchmark but is an important proxy for work-based continuing VET, as well as data related to the content of training in terms of the skills taught and the skills deemed important in enterprises. Whenever possible, the report features key breakdowns by sociodemographic characteristics of adults participating in continuing education and training and by characteristics of enterprises supporting their learning opportunities.

We hope the information and analysis presented in this report will contribute to better understanding of recent progress in Europe and in particular of patterns of adult learning and continuing vocational training. Policy-makers in Member States and social partners are encouraged to use the findings for evidence-informed lifelong learning policies at EU and country levels.

Joachim James Calleja
Director

Acknowledgements

This report is the result of a team effort. Marco Serafini coordinated the project with valuable input from Alex Stimpson and Mircea Badescu. Cedefop would like to acknowledge the 3s research laboratory (Austria), the Federal Institute for Vocational Education and Training – BIBB (Germany), the Centre d'études et de Recherches sur les Qualifications – Céreq (France), Humboldt-University (Germany), and Tallinn University, Institute of International and Social Studies – IISS, (Estonia) for drafting the report. Cedefop is also grateful to Eurostat for providing useful information and data.

The work was carried out under Cedefop's service contract No 2012-0156/AO/RPA/ALSTI/Analysis of CVTS and AES/014/12

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Executive summary

Report aims and methods

Education and training are key to skill formation and represent important elements of the Europe 2020 strategy for smart, sustainable and inclusive growth.

The current study provides a statistical overview of adult learning across the European Union (EU) Member States and Norway. It focuses in particular on job-related and employer-sponsored components of adult education and training and draws a multifaceted picture of cross-country differences and trends over time. The report explores the latest waves of the adult education survey (AES-2007; AES-2011) and the continuing vocational training survey (CVTS3: 2005, CVTS4: 2010), also considering the context and the possible effects of the economic and fiscal crisis which hit European economies from 2008 onwards (Sections 2.3 and 7.5).

The study reports on progress made towards EU policy goals explicitly stated in the Bruges communiqué and the education and training 2020 (ET 2020) strategy. Goals include increasing participation in lifelong learning (LLL), increasing equality in participation, promoting continuous education, stimulating financial contributions by individuals and firms, allowing the acquisition of key competences and strengthening work-based learning and on-the-job training. Therefore, the analysis considers indicators on participation and equality in participation, time for training and expenditure. Further, the study explores trends in training efforts of small and medium-sized enterprises (SMEs) as progress to the stated policy goals is also related to the ability to increase the level of training activity of SMEs (Section 1.1).

Data in this report originate from the AES and CVTS and are subject to their methodology. Chapter 2 provides general information to help the reader understand the data, including references to survey methodologies, concepts, definitions and indicators. Additional and more specific methodological remarks are added, whenever necessary, throughout the report.

The AES and CVTS are indispensable sources of statistics on adult learning in the EU. They add essential information to the picture on LLL provided by the labour force survey (LFS) indicator, which is an ET 2020 benchmark for monitoring progress at EU level. The AES and CVTS differ in many aspects; in particular, AES collects information from individuals, while CVTS collects information from employers. Moreover, AES covers all adults between 25 and 64

years of age (employed, unemployed and inactive) and applies a broader understanding of learning activities. CVTS covers a substantial part of, but not the whole economy: it focuses on enterprises with 10 or more employees which operate in selected sectors of the business economy generating data for the employed population, irrespective of age (Section 2.1).

Given the complexities of cross-country comparative surveys, both sources have shortcomings limiting comparability of indicators for some countries in a particular wave. Results for AES-2011 are of limited comparability for Belgium and Ireland. In addition, cross-period comparability is hampered for France, Italy, Hungary, the Netherlands and the UK. Croatia has not participated in AES-2011. For CVTS4, comparability is limited for Portugal and cross-period comparability is limited for the UK. Financial indicators in Romania are not comprehensive and, therefore, not discussed. Croatia has participated only in CVTS4. Ireland has not participated in CVTS4. Data for CVTS4 on Norway was not available at the time of the writing of the study (Section 2.2).

Participation in adult education and training – The individual vantage point

Participation of adults (25-64 year-olds) in education and training can be observed not only through the LFS benchmark indicator (LLL), but also through the AES which, however, adopts a different measurement approach. Both sources cover formal and non-formal learning, but do so in a different way. Key differences include the fact that AES captures participation in a period of 12 months prior to the survey, rather than in the previous four weeks, and that it includes guided on-the-job training (GOJT).

Compared with the LLL indicator, the AES leads to considerably higher participation rates. The LLL indicator presents an EU average fairly stable over recent years at around 9% (10.5% is the 2013 value, the most recent one at the time of writing, which is, however, not comparable with previous ones). According to AES-2011, in the EU an average of 40.3% of adults (25-64 year-olds) have participated in some form of formal or non-formal learning within the 12 months prior to the survey. Across countries, the participation rates range from 71.8% in Sweden to 8.0% in Romania (Section 3.3.1).

AES shows that, from a statistical perspective, participation in adult education and training is mostly of a non-formal, job-related and employer-sponsored nature (fully or partly paid by the employers and/or taking place during paid working time). The EU-average participation rate of 40.3% can be broken down as follows, 34.4% of adults participate only in non-formal activities, 3.5% participate only in formal activities and 2.7% participate in formal and non-formal activities. Despite low participation rates, formal activities are typically much

longer than non-formal ones and contribute over their duration to the task of raising the qualification level of the adult populations (European Commission et al., 2015; Hefler, 2013). The adult participation rate in non-formal learning (36.8%) can be further broken down as follows: just a small 5.9% participate for non-job-related reasons while 30.9% had job-related reasons for participating (at least on one occasion). Moreover, non-formal job-related learning is mostly supported by employers: 27.5% of adults in the EU participate in job-related learning activities with employer support (at least for one activity) and only 3.4% of adults do so with no employer support at all (Section 3.3.2).

The key importance of employers' provision of training is reflected in the much higher participation rates of the employed population compared to the unemployed and inactive population (Section 4.4). AES is able to capture such big differences, which, despite their importance, cannot be fully appreciated through the LFS lens. According to AES-2011, the EU average 40.8% of employed persons, but only 16.1% of unemployed persons participated in job-related NFE. Methodological reasons play a key role⁽¹⁾ in explaining the differences, yet the LFS underestimates the disadvantage of the unemployed by not including participation in GOJT, which is instead covered by the AES and which plays a fundamental role in favour of employed people (Section 4.4).

Compared with the LFS, the AES may also reveal different trends over time in adult participation rates. According to the LFS indicator for participation in LLL in the four weeks prior to the survey, the EU average rate of participation stagnated between 2007 and 2011 both for all adults and for the employed (Section 3.2). The indicator decreased from 9.3 (in 2007) to 9.0 (in 2011) for the whole population and from 10.1 to 9.7 for the employed. According to the AES, developments across the EU appear more positive (an increase from 34.8% to 40.3%). However, the observation must be qualified by noting the restricted comparability of the AES-2007 results in some large Member States (particularly France and Italy); this implies that the positive trend may be overestimated

⁽¹⁾ Reasons for the differences also include the following: AES uses the main social status (Mainstat), not the labour force concept, to identify the three groups of the employed, the unemployed and the inactive. The observation period for participation and for the labour market status is longer in AES than in LFS (12 months versus four weeks), which implies that AES data report even smaller differences than when reporting on a more accurate basis (e.g. labour market status at time of participation in job-related learning), as adults unemployed at the moment of the interview may have participated in job-related learning while in employment within the observation period.

(Section 3.3.1). At country level, the trends over time that result from LFS and AES do not always confirm one another.

AES has also been used in this report to analyse inequalities in adult participation in education and training. Inequalities are important not only when investigating participation for selected target groups who are subject to dedicated policy attention. Through compositional effects, inequalities also influence overall adult participation rates across countries and over time. While a refined analysis would require advanced statistical modelling, the descriptive statistics in this study yield the following insights (Chapter 4). Most EU Member States and the EU average indicate only moderate gender differences in participation in any form of formal and non-formal learning. Older age groups participate less in adult learning than younger ones; however, the differences according to age are moderated by the economic activity. Therefore, among the employed, age plays a less important role than among the unemployed and inactive population. For non-formal education and training (NFE), differences are marked according to the employment status. For formal education and training (FED) and NFE, participation rates are substantially lower for low-qualified adults compared to medium and highly qualified adults and for adults in lower occupational groups (e.g. helpers, skilled blue-collar workers) compared to higher ones (e.g. professionals and managers). The Member States have similar patterns of differences in participation rates according to individual characteristics such as educational attainment, age or occupation; however, inequalities differ greatly in their overall extent. Within each country, for any given dimension of interest (e.g. educational attainment), inequalities exist between groups (e.g. low, medium and highly qualified adults). A composite indicator has been constructed to summarise the level of inequalities in each country (i.e. summarising differences for selected socioeconomic groups) and relate them to participation rates. Above-average participation rates are more often found in countries with below-average levels of inequality according to the composite indicator (Section 7.2). An above-average rate of participation in job-related, employer-sponsored NFE, combined with below-average inequality is observed in several Nordic states (Denmark, Finland, Norway and Sweden) but also in Germany, Estonia, France, Luxembourg, the Netherlands, Austria and Portugal. Countries with below-average levels of inequality, despite below-average participation rates, include Bulgaria, Spain and the UK. Among countries with low levels of participation and low levels of inequality, one finds the Czech Republic, Greece, Latvia, Lithuania, Poland, Romania and Slovenia. Cyprus, Hungary, Malta, and the Slovak Republic combine above-average levels of participation with above-average levels of inequality.

For the EU as a whole, trends in equality according to socioeconomic characteristics could be summarised as follows. Remarkable inequalities continue to persist in the main dimensions of research and policy interest. Inequality has hardly decreased with regard to educational attainment, when comparing adults with medium and high education levels. This applies to participation in (FED) and NFE, as well as to job-related employer-sponsored NFE. When considering age (comparing 35-44 year-olds to 55-64 year-olds), participation in NFE has become slightly more equal. Inequalities have decreased slightly between the employed and the inactive population as for their participation in NFE. Looking beyond EU averages, comparing socioeconomic groups across Member States reveals considerable differences in trends for the socioeconomic groups (see Chapter 4 and Section 7.2 for a summary).

Participation – Training provision of enterprises

Based on CVTS data, the following can be highlighted. In the EU on average, in 2010 66% of all enterprises provided either courses or one of the other forms of training (i.e. GOJT, job rotation, conferences or workshop, quality circles or planned training by self-directed learning). This so-called training incidence is much higher (93%) in large enterprises (250 or more employees) compared to 81% observed in medium enterprises (50-249 employees) or 63% in small enterprises (10-49 employees). In 2010, training incidence ranges from 91% in Denmark to only 22% in Poland (Section 3.4.1). Differences between small and large enterprises also vary greatly between countries. Differences in training incidences based on enterprise size can be measured by ratios (incidences of training in large enterprises divided by incidences of training in small enterprises). Such ratios vary considerably by country. They range from 1.1 in Denmark (the incidence in large enterprises is 100% and 89% in small enterprises) to 4.6 in Poland (the incidence in large enterprise is 75 and 16% in small enterprises).

Between 2005 and 2010, on the EU average, training incidences have increased differently according to enterprise size: eight percentage points in small companies, (three percentage points in medium companies and two percentage points in large enterprises), resulting in an overall increase of six percentage points or 10% of the value for training incidence in 2005. Across countries, trends are diverse: 11 countries (Bulgaria, Czech Republic, Denmark, Estonia, France, Luxembourg, Hungary, the Netherlands, Austria, Slovenia and Finland) show stable levels of incidence, 10 countries (Belgium, Greece, Spain, Italy, Cyprus, Latvia, Lithuania, Malta, Slovakia and Sweden) show positive

trends (gains of 10% or more compared to 2005) and Romania and Poland show negative trends (10% or more of the value for 2010).

In 2010, in the EU, 38% of employees participated in training courses, with lower rates in small (25%) and medium (34%) enterprises than in large ones (46%) (Section 3.4.2). Participation was highest in the Czech Republic (59%) and lowest in Greece (14%). GOJT was the second most frequently attended form of training (following courses) in Europe and the main one within the less structured forms of training (the so-called other forms of training) for which data are available. In the EU on average 20% of employees participated in GOJT, again with lower rates in small (13%) and medium (17%) enterprises than in large (26%) enterprises (Section 5.2.4). The differences between countries are high, with 31% of the employed population participating in GOJT in the Czech Republic but only 6% in Greece (Section 5.2.4).

In the EU average, participation rates in courses have increased by five percentage points or 15% between 2005 and 2010. Increases differ according to the size of enterprises. In small enterprises, participation in courses increased by four percentage points or 19% of the value of 2005. Respective values for medium enterprises are five percentage points or 17%, and for large enterprises they are five percentage points or 12%. Therefore, compared to medium and large enterprises, participation in small enterprises has increased somewhat less in absolute terms and somewhat more in relative terms between 2005 and 2010. Participation has increased in 15 countries by 10% or more compared to 2005 (Belgium, Bulgaria, Germany, Estonia, Greece, Spain, Italy, Cyprus, Latvia, Lithuania, Hungary, Malta, the Netherlands, Poland and Slovakia). The largest increases have been observed for Bulgaria, Spain, Latvia and Poland. Only in Slovenia has participation decreased significantly compared to 2005 (from a high of 50% in 2005 to 43% in 2010). Beyond courses, participation also increased in other forms of training, for example, in GOJT. For the latter, participation rates increased by four percentage points in small enterprises or 29% compared to 2005. The respective values are three percentage points or 18% in medium enterprises and five percentage points or 19% in large enterprises.

Working time devoted to training in enterprises

The number of hours which enterprises devote to training their employees can be expressed relative to the total number of paid working hours or the number of persons employed. In 2010, on the EU average, enterprises devoted six hours out of 1 000 paid working hours (Section 3.4.3) to training, corresponding to 10 hours of training per employed person (data refer to all enterprises surveyed)

(Section 7.1). The hours in training per 1 000 hours worked ranged at country level from 13 hours in Belgium to only two in Greece, Croatia and Latvia (Section 3.4.3)

Compared to 2005, enterprises devote one hour more training per 1 000 hours worked (Section 3.4.3) and one hour more training per employee (Section 7.1). In 13 countries, the training intensity increased by at least one hour per 1 000 hours worked (Belgium, Denmark, Estonia, Spain, Cyprus, Slovenia, Lithuania, Luxembourg, Hungary, Malta, the Netherlands, AT, Romania), while in nine countries no change has been observed (Bulgaria, Germany; Greece, France, Italy, Latvia, Poland, Slovakia, Finland). In the Czech Republic and Sweden, the training incidence declined. According to the indicator of training hours per 1 000 hours worked, Belgium showed the strongest increase (by five hours or 56% of the value of the previous survey) and the Czech Republic the strongest decrease (four hours or 38%).

Financial resources spent by enterprises on training

In the EU average, in the year 2010, enterprises' direct expenditure on training accounted for 0.7% of their total labour costs. Enterprises' direct expenditure on training, or so-called direct training costs include course fees, travel and subsistence costs for participants travelling to and from the training site, employment costs for full and part-time in-company trainers and costs for infrastructure and training material) (Section 3.5.2; for details on direct expenditure Sections 6.2 and 6.3). This corresponds to 231 purchasing power standards (PPS) ⁽²⁾ per person employed. In addition to direct costs, other monetary flows are important: enterprises contribute to collective funding schemes (as training funds) yet, also receive money from these funding arrangements as well as from other public sources of cofunding. The indicator TME (total of monetary expenditure for training) takes them into consideration. In 2010, the EU average for the TME indicator shows that enterprises spent 0.8% of

⁽²⁾ Virtual currency unit used for adjusting for differences in the value of money across countries compared. In particular, PPS is the technical term used by Eurostat for the common currency in which monetary aggregates are expressed when adjusted for price level differences across countries. Purchasing parity standards (PPS) are derived starting from aggregates expressed in EUR or national currencies which are then adjusted by using purchasing power parities (PPPs). The EU average is taken as the reference category; for country values see Table A27 in Annex 1. One PPS (or EUR PPS) is in theory able to buy the same amount of goods or services in each country.

their labour costs on training (or more specifically 270 PPS per employee). Across countries, average investments in training as measured by direct expenditure vary widely; reaching 428 PPS in the Netherlands, yet only 46 PPS in Latvia.

In the EU average, enterprises' financial investments in training have stagnated from 2005 to 2010. Considering the unfavourable economic context, this should not necessarily be considered a lack of progress. For 2005 and 2010, training investments as a share of the total labour costs remained stable at 0.7%. Direct expenditure per employee increased by 22 PPS; however, this increase by 10.5% should be seen in the light of the moderate inflation rate between 2005 and 2010. As receipts for training have increased more than the contributions to collective training arrangements, the TME indicator is even lower for 2010 than for 2005 (0.8% in 2010 compared to 0.9% in 2005). TME per employee has increased by only 20 PPS, also reflecting the stronger increase of enterprises' receipts for training over their contributions to collective funding arrangements. Measured by changes in direct expenditure per employee, between 2005 and 2010 in nine countries direct expenditure increased by at least 10% of the value from 2005 (Belgium, Germany, Spain, France, Hungary, Cyprus, Austria, Slovakia and Sweden), in another nine countries, it remained stable (Bulgaria, Greece, Italy, Latvia, Lithuania, Malta, the Netherlands, Poland and Finland) and it dropped in five countries (Czech Republic, Denmark, Estonia, Luxembourg and Slovenia).

Obstacles to training participation (individuals) and training provision (enterprises)

AES-2011 asked all adult respondents about perceived barriers or obstacles to participation in education and training (Section 4.6). Overall, the results do not show major changes compared to the past and they confirm the findings of previous research. In 2011, the most frequently cited obstacle to LLL, averaged for the EU Member States, was not having enough time because of family responsibilities (21% of all adults), and training conflicting with the work schedule (18% of all adults). This was followed by costs; 13.2% of the respondents noted training was too expensive or not affordable. Other obstacles are reported by minor shares of the respondents (difficulties in finding what they were looking for: 8.6%; lack of employer's support or public services support: 8.0%; feeling too sick or old to participate: 8.5%). Even fewer respondents indicated that no training was offered within a reachable distance (6.1%), that they did not have the prerequisites (4.2%) or that they did not have access to a computer or the

internet (for distance learning) (1.6%). Obstacles partly vary in their importance according to socioeconomic groups, such as when low-qualified adults (ISCED 0-2) report more often that they lack the prerequisites to participate in the courses they are interested in.

CVTS4 data (Section 5.4) make it possible to quantify the importance of reasons why enterprises did not provide training to their employees. 'Costs' and 'no time' are among the most frequently mentioned obstacles in the narrow sense. Roughly one third of enterprises providing no training support these items. Other obstacles seem to be less important. Only 18% of enterprises report a lack of appropriate continuing vocational training (CVT) courses and only 14% report difficulties with the assessment of skill needs. Considerable numbers of non-training enterprises mentioned alternative skills development strategies of personnel beyond continuous training. About half of the enterprises (49%) stated that they recruit personnel with the required skills on the labour market instead of training, again with little variation according to size (small: 48%; medium: 58%; large: 54%). Another quarter (25%) of non-training enterprises highlighted the importance of initial vocational education and training (IVET) as an alternative to CVT with almost no variation by size class. Most (77%) enterprises not providing training indicated that the 'available skills matched current needs'. Based on employers' views, the most frequent reason for not providing training is that they see current needs as being satisfied by the available skills. However, these results should be qualified, considering other possible factors affecting this finding. The extent to which skill needs are perceived in enterprises also matters and influences these results as well as the extent to which training is seen as a mid to long-term investment for competitiveness and innovation, which may go beyond the satisfaction of short-term needs. This can also influence employers' perception of skill needs and training, particularly in some enterprises (for instance those operating in more traditional ways and markets) and for some of their workers (for instance those employed in jobs with lower skill requirements or with lower needs for development or updating of skills).

Skills in enterprises

In the CVTS4, information was collected from all the enterprises surveyed on the skills they considered important for their development in the near future. A battery of selected skills items was presented to respondents and the answers were not mutually exclusive. The same battery of skills was used to ask training enterprises about the content of the CVT courses they sponsored.

Although there is some variation by country, EU averages for 2010 reveal that European enterprises consider technical, practical or job-specific skills (61%), and transversal skills in the domain of customer handling (62%) and teamwork (61%) as the most important. The importance of technical, practical or job-specific skills is quite often combined with the provision of related training courses: 38% of all enterprises offer CVT courses in this skills domain, corresponding to 67% of enterprises with CVT courses. A smaller proportion of enterprises provide CVT courses in customer handling (21% of all enterprises or 37% of enterprises with courses) and teamwork (18% and 31%, respectively).

To a lesser, yet remarkable extent, problem solving and management skills are considered important for their future by enterprises. 52% of enterprises find problem solving skills key, yet, only 29% of enterprises with courses or 16% of all enterprises have offered related training courses. Management skills are rated as important by 42% and supported by training measures by 31% of enterprises with courses or 17% of all enterprises.

General information and technology (IT) skills are also rated as important in the years to come by roughly half of the enterprises (46%) and supported by about a quarter (26%) of training firms (or 15% of all enterprises) with dedicated courses. Specialised IT skills are regarded as key by just under a quarter of the enterprises (24%); 15% of enterprises with courses (or 8% of all enterprises) target professional IT skills.

Oral and written communication, foreign language and literacy and numeracy skills are less often indicated as important for enterprises' future development (24% to 31%) less often and are targeted by employer-provided training courses less often. This does not mean that those skills are not important for the enterprises at all; this simply means that they are less often considered as important priorities for the short-term development of the enterprises (the question is about importance in the next few years). The fact that they have less often been part of the CVT strategy of enterprises does not necessarily mean they are not part of their initial vocational training (IVT) strategy or that new (young) employees do not need them. There is also variability at country level. For instance, numeracy and literacy skills are rated quite high in Bulgaria (60% of employers indicate that they are important) and in the UK they are often the subject of CVT courses (29% of training enterprises).

Employers' perception of the importance of various skills varies by enterprise size class. As a general pattern, large enterprises tend to mark almost all skills items more often than small and medium enterprises do. This means they more often perceive skills as an issue to which the future development of the enterprise is linked (Figure 31).

For most skills bundles studied, the perceived importance is higher in large enterprises than in small enterprises by about 10 to 15 percentage points. In particular, medium and large enterprises perceive management skills as much more important than small enterprises. Also, foreign languages are rated as considerably more important by large enterprises than by small organisations.

Trends in the training behaviour of small and medium enterprises compared to large firms

In the EU average, small enterprises made the strongest relative progress between 2005 and 2010, based on seven selected indicators (Section 7.4). However, as the values for 2005 were considerably low, the relative changes are subject to a base effect; it is therefore necessary to also observe absolute changes, where small enterprises fall further behind large ones for some indicators.

In small enterprises, the rate of training incidence through courses increased by 18% (eight percentage points) and it increased by 14% (six percentage points) in other forms. Participation rates in courses increased by 14% (four percentage points) and they increased by 40% (four percentage points) in GOTJ. The hours in training per employee (all enterprises) increased by 20% (one hour). The smallest increases can be observed for financial investments in training, as measured by direct expenditure/employee (+13% or 15 PPS) or TME per employee (+7% or 11 PPS). For all but one indicator (TME), developments in relative terms for small enterprises are more favourable than for medium-sized and large enterprises in the EU average. In absolute terms, changes are more positive than or equal to changes for large enterprises for three indicators (incidence in courses and other forms, hours per employee; for details see below).

The results for medium enterprises are also mainly positive. The training incidence grew only marginally (by 7% or five percentage points for courses and 2% or one percentage point for other forms). The training participation rates in courses and other forms increased strongly (by 17% or five percentage points in courses and by 21% or three percentage points in GOTJ). The training hours per employee increased moderately by 14% or one hour per employee. The increases in financial investments were weak (7% or 13 PPS for direct expenditure per employee and 4% or 9 PPS for TME). In the EU average, financial investments by medium enterprises thus declined when compared to large ones. Relative to large enterprises, medium enterprises have made (albeit small) progress with regard to four out of seven indicators compared (trends for

incidence of courses, incidence of other forms, participation rates, course hours per employee (all)).

In the EU, developments for indicators for large enterprises are also positive across the indicators compared. While relative gains are smaller than for small enterprises, in absolute terms, large enterprises increased their performance most in three indicators (participation rates in GOTJ, direct expenditure and TME). To summarise, despite positive developments in the training activity of small enterprises, substantial differences in training performance between small, medium and large enterprises persist and require further attention, as differences have not declined remarkably between 2005 and 2010.

Trends in job-related adult education and training and the recent economic and fiscal crisis

During the observation period of the study – from 2005 to 2011 – the European economies were hit by an economic and fiscal crisis, which has been labelled the ‘great recession’ (Antonucci et al., 2014). The onset of the crisis in 2008 hit all Member States. However, the timing and impact of the crisis differed among countries. By 2011, some countries had already recovered to pre-crisis levels of economic activity, while others still suffer from considerable losses.

To assess the impact of the economic crisis on job-related learning, countries have been grouped according to their economic development between 2005 and 2011. Development has been measured by changes in gross domestic product (GDP) per capita. A total of 18 countries have been included in the analysis. In three countries, GDP per capita has become at least 10% higher in 2011 than in 2005 (Poland, Romania and Slovakia). In six countries, by 2011, GDP has fully recovered to pre-crisis levels (Bulgaria, Germany, Lithuania, Malta, Austria and Sweden). In six countries, GDP per capita has not fully recovered to pre-crisis levels (Czech Republic, Denmark, Estonia, Cyprus, Latvia and Finland). Finally, three countries have a GDP per capita which is 10% or lower than in 2005 (Greece, Spain and Slovenia). (Nine countries have not been analysed due to insufficient data on trends in job-related learning – Belgium, Ireland, France, Croatia, Italy, Luxembourg, the Netherlands, the UK and Norway.) To assess the impact of the crisis, a composite indicator has been constructed using 21 individual indicators (see Table 40 for details) related to participation in job-related adult learning (levels and equality). The indicator has

three levels: (a) mainly positive ⁽³⁾: at least nine of the indicators point in a positive direction; (b) stable or mixed development: positive developments are mixed with negative ones and/or indicators represent stability mainly stable development over time; (c) mainly negative developments: at least nine indicators point in a negative direction.

The results confirm previous findings (Felstead et al., 2013; Dieckhoff, 2013) i.e. that there is no straightforward relation between an economic crisis and the development of job-related adult learning.

Three countries with gains in GDP per capita between 2005 and 2011 show – based on the composite indicator mentioned – completely different patterns in job-related learning, with mainly negative developments in Romania, mixed development or stability in Poland and mainly positive developments in Slovakia. The six countries which have almost recovered to previous levels of economic activity in 2011 also have diverse developments for job-related learning. Lithuania, Malta, Austria and Sweden have mainly positive developments; however, they are mixed or stable in Germany and negative in Bulgaria.

Among countries not fully recovered from the crisis, the Czech Republic, Estonia and Finland show stable or mixed developments for job-related adult learning, while Denmark, Cyprus and Latvia show positive developments for the selected indicators of participation/equality.

Among the three countries with the strongest declines in GDP per capita between 2005 and 2011, Slovenia shows mainly negative developments and Greece and Spain show mainly positive developments in the field of adult learning.

⁽³⁾ The criteria for positive/stable/negative development were the following. An indicator represents a positive development when values increased by at least 10% of the EU average of the previous round; an indicator represents a negative development when values decreased by 10% of the EU average. In all other cases, the development was rated as stable. By using the EU average of the previous round as a base, the bias due to small base-effects (i.e. when countries show strong relative increases, yet, from a very low base) is diminished.

CHAPTER 1.

Introduction

1.1. The role of continuing vocational education and training in the EU context

Education and training is key to skill formation and is at the heart of the EU strategy for smart sustainable and inclusive growth, Europe 2020.

In education and training, the European Union (EU) adopts the promotion of a lifelong learning (LLL) approach (European Commission, 2001; Nijhof, 2005), in which particular attention is paid to continuing vocational education and training (CVET) (European Commission, 2011). Support for learning in the process of working (Boreham et al., 2002), as well as CVET – funded by employers, workers or governments – form the backbone of adults' LLL (Cedefop, 2011b; Nijhof and Nieuwenhuis, 2008).

This is due to various reasons, including the socioeconomic importance of continuing VET and its relevance for competitiveness and employability. Demographic and labour market changes are also important reasons for such an approach. Adults and older workers in particular will increasingly need to update and broaden their skills and competences. Across Member States, the demand for up-to-date medium-level skills and cutting-edge, high-level skills is expected to rise continuously in the forthcoming years. Based on Cedefop's forecast for the next decade, the labour market opportunities for low-qualified adults will diminish considerably. In a more pessimistic scenario, some reduction of opportunities may also affect those with medium-level qualifications. Long-term developments of the labour market will continue. In particular, although replacement demand will still be present, sectoral changes are expected to reduce new job creation in traditional manufacturing sectors and increase it in the services sector. The need for global competitiveness, innovation and a knowledge-intensive economy are all important factors influencing the economy, the labour market and skills demand. In particular, dynamic knowledge creation and evermore dynamic technological change, including disruptive innovations, require constant upgrading of skills to stay attuned to the latest developments and hold skill obsolescence at bay (Cedefop, 2010; Cedefop, 2012b; Oesch and Rodríguez Menés, 2011; Brynjolfsson and McAfee, 2014).

Assuming this background scenario, and in line with the Copenhagen process, the Bruges communiqué (European Commission, 2011) outlines the role and the desired developments of continuing VET in the EU policy context up

until 2020. The communiqué states the dual objective of CVET: contributing to employability competitiveness and economic growth, and responding to societal challenges in particular promoting social cohesion. The Bruges communiqué also sees continuing VET as an essential part of the ET 2020 strategic framework for education and training, contributing to the achievement of the agreed objectives

Indeed, for the decade up to 2020, the EU agreed on a new set of common goals (Council of the EU, 2009; European Commission, 2012) in education and training, including some which are particularly relevant for CVET:

- (a) raising the EU average rate of participation in LLL to 15%, as measured by the labour force survey (LFS) (with a reference period of four weeks);
- (b) increasing equality in participation by attracting low-qualified adults and members of disadvantaged groups to educational activities;
- (c) promoting continuing education and training;
- (d) increasing to 40% the proportion of higher education graduates among 30-34 year-olds;
- (e) increasing the efficiency of public interventions in LLL; stimulating financial contributions by individuals and firms to the costs of CVT.

CVET should therefore help to meet such objectives and specifically the objective of increasing adults' participation in education and training.

The communiqué outlines that CVET should be attractive, labour-market-relevant, flexible and appropriately financed. In particular, the communiqué underlines the following points:

- (a) VET should help to empower people by giving 'learners a chance to catch up, complement and build on key competences' (European Commission, 2011, p. 11);
- (b) policies should encourage individuals to participate in and employers to increase their involvement in CVET, with a particular focus on disadvantaged groups and namely on those with low formal qualifications or low skills;
- (c) policies should encourage flexible training arrangements, where:
 - (i) flexibility is understood in a wide perspective, including flexibility of time, place, forms and modes of delivery as well as of related financing;
 - (ii) particular attention is devoted to work-based learning and on-the-job training as a way to increase the relevance and flexibility of training, and to enable 'those in employment to develop their potential while maintaining their earnings' (European Commission, 2011, p. 11);
- (d) shaping (and funding) VET is understood as 'the shared responsibility of national government, the social partners, VET providers, teachers, trainers, and learners'; sustainable funding for VET requires ensuring 'that resources

are efficiently allocated and equitably distributed' (European Commission, 2011, p. 12);

- (e) policies should encourage 'companies to continue to invest in human resource development and in C-VET [deciding] on the right mix of incentives, rights and obligations' (European Commission, 2011, p. 20), a mix which should be reviewed across countries.

The Bruges communiqué specifically calls on Member States to promote 'easily accessible and career-oriented continuing VET (C-VET) for employees, employers, independent entrepreneurs' (European Commission, 2011, p. 15). Given the importance of small and medium enterprises employing considerable shares of all adults in Member States, and given their relatively small involvement in CVET, this calls for specific attention to be devoted to training activities in SMEs in particular.

1.2. Aim, scope and structure of this study

This study provides a statistical picture of adult education and training across the 28 EU Member States and related developments. It covers CVET as an essential component of adult learning by mainly focusing on its job-related and employer-sponsored components as they are captured in the adult education survey (AES) and the continuing vocational training survey (CVTS) in enterprises.

This study considers various dimensions, such as participation, intensity, expenditure, content and characteristics of learning, as well as obstacles to it. It particularly considers developments over time and, where possible, considers breakdowns by:

- (a) characteristics of the individuals participating in learning;
- (b) characteristics of the enterprises offering learning opportunities.

The study presents key statistics and indicators in a descriptive manner. While acknowledging that deeper understanding and quantification of the relation between phenomena, concepts and variables would require a more sophisticated analysis, this approach is considered a first necessary step to quantify key aspects and trends at a general level and for specific groups of interest.

The study exploits two statistical data sources which are essential components of the European statistical system on LLL: the AES interviewing adults, and the CVTS interviewing employers.

They provide complementary and additional information compared to the EU LFS. The LFS is the statistical reference source for calculating the ET 2020 benchmark indicator on participation of adults in education and training with good

reason. However, it has some specific characteristics, including drawbacks, such as the following: it assumes a four-week reference period for measuring participation (i.e. it measures participation in the last four weeks prior to the interview), it does not systematically cover guided on-the-job training (GOJT); it allows proxy interviews (i.e. it allows proxy respondents to answer the questionnaire if the sampled individuals are not available); it provides no or very little information on aspects other than participation in education and training (such as purpose, content, forms, source of financing, time invested in it and obstacles to it). For these reasons the AES and CVTS are key complementary sources for monitoring and analysis within the European system of statistics on LLL.

The following terms are used across this report in relation to CVET:

- (a) job-related learning: this is learning carried out by individuals to obtain knowledge and/or to learn new skills for a current or a future job, to increase earnings, to improve job and/or career opportunities in a current or another field and generally to improve their opportunities for advancement and promotion. Individuals can be employed, unemployed, inactive; learning can be financed or cofinanced by different actors (individuals or their families, employers, public authorities, etc.). In the AES the term is used to look at the purpose of learning;
- (b) employer-sponsored learning: this is learning carried out by employed people partly or fully financed by their employers (direct sponsorship) and/or which took place during paid working hours (indirect sponsorship). The term is used in the AES. The term is not used in the CVTS, although it corresponds to the definition of continuing vocational training (CVT) in enterprises used and covered in the CVTS.

This study covers mostly formal (FED) and non-formal education and training (NFE), as defined for statistical purposes in the international standard classification of education (ISCED) and in the Eurostat *Classification of learning activities* (CLA) (Eurostat, 2006a). Data refer to specific operationalisations of the concepts used in AES and CVTS methodologies. Data on some types of informal learning covered in the CVTS are also presented.

The study makes use of the following international classifications: the 1997 version of the international standard classification of education (ISCED-97), the 2008 version of the international standard classification of occupations (ISCO-08), the second revision of the statistical classification of economic activities in the European Community (NACE Rev.2).

Trends over time are considered to the best possible extent. As CVTS and AES are carried out every five years and not in the same year, this is done

considering data points related to 2005 and 2010 for CVTS and related to 2007 (with considerable differences across countries) and 2011 for AES ⁽⁴⁾.

Chapter 2 provides methodological information to help with interpreting the data in this report. It considers data sources and data issues, also providing a summary interpretation framework for the factors that have an impact on key figures and trends of this report.

Considering EU policy goals, Chapter 3 introduces the two surveys and discusses key figures and trends. Developments in participation, as well as time spent and financial resources invested in adult education and training, are discussed. It purposefully integrates data representing the perspective of adults (AES) with data taking the employers as their vantage point (CVTS). Distinct subsections contextualise trends according to AES, according to LFS and across AES and CVTS.

Chapter 4 considers the issue of progress toward the ET 2020 and the efforts by the Bruges communiqué to increase equality in access to adult learning. Based on AES data, changes in levels of inequality across countries are assessed according to gender, educational attainment, age, labour market activity and occupation. Differences in reported obstacles to participation in adult learning add to the picture.

Chapter 5 explores, over time and across countries, enterprise support for learning beyond coursework, as covered by the concept of ‘other forms of training’, which the CVTS framework uniquely considers. Special attention is paid to the incidence of and participation in GOJT. Two questions are analysed from CVTS4 ⁽⁵⁾ focusing on skills trained by enterprises and skills considered important by enterprises for their future development. Finally, CVTS4 results shape the discussion on obstacles towards more or any training by enterprises.

Chapter 6 investigates firms’ financial contributions to CVT in detail and follows changes over time and across countries, while paying particular attention to SMEs’ changing investments over time. After displaying the structure of costs for company-sponsored training, it discusses a set of key indicators across countries and time. Taking up another issue of the Bruges communiqué, it explores the role of mutual funding schemes and public cofunding as revealed by the CVTS data.

Chapter 7 comes back to the goals outlined by the ET 2020 strategy and the Bruges communiqué and summarises evidence available in the two surveys for progress made towards the targeted goals.

⁽⁴⁾ For details on the reference periods for AES-2007 and AES-2011 see section 2.2.1 of the report and Table 46 in Annex 4.

⁽⁵⁾ Continuing vocational training survey with calendar year 2010 as reference period.

CHAPTER 2.

Interpreting the data in this report

This chapter intends to provide the reader with better knowledge and understanding of the data used in this report as well as a summary theoretical scheme to help their interpretation.

2.1. Data sources: the adult education survey (AES) and the continuing vocational training survey (CVTS)

This study explores developments in adult education and training and particularly in the job-related and employer-sponsored components of it, as identified by the two recent waves of the adult education survey (AES-2007 and AES-2011) and the continuing education and training survey (CVTS3 and CVTS4). These surveys constitute the two main sources of data used in this report, although they are occasionally contextualised with evidence from the EU labour force survey (LFS) data, particularly in Chapter 2.

Both surveys, AES and CVTS, are unique sources and provide indicators on participation, intensity (volume of training) and resources spent on adult education and training activities. They also provide breakdowns for various indicators for socioeconomic groups and classes of enterprises, which are important for describing and explaining adult learning. Both surveys supplement key indicators on performance with additional information on obstacles to learning as well as on quality, outcomes, content, and financing. As individual employees and employer organisations have different views on training, the surveys do not only differ in methodological details, they report on different, partly autonomous and equally important perspectives on training provided in the workplace. Thus, the surveys allow a more complete understanding of job-related training, which is not available from either an employee survey or an employer survey alone.

When comparing the results of LFS, AES and CVTS (the key source for monitoring progress in adult learning in the European Union (EU)), special attention is required with regard to differences in the underlying methodological frameworks. Key differences are summarised in Table 1 (for a more complete comparison see Annex 2, Annex 4 and Cedefop, 2014, pp. 123-125).

Table 1. Key differences in methodological frameworks between LFS, AES and CVTS

Item	LFS	AES-2011	CVTS4
Concepts of learning and types of learning covered	<ul style="list-style-type: none"> formal learning is covered (however, differently operationalised than in AES); non-formal learning is covered (however differently operationalised than in AES and mainly excluding GOJT); different operational approaches across countries are possible; informal learning is not covered 	<ul style="list-style-type: none"> formal learning is covered; non-formal learning is covered (courses, GOJT, workshops/seminars/conferences, private lessons); informal learning is covered but excluded from main statistics distinct definitions from LFS and CVTS 	<p>participation in CVET is covered, with respect to the following forms:</p> <ul style="list-style-type: none"> participation in courses (no distinction between formal/non-formal); participation in selected non-formal and informal learning activities (other forms of training) including GOJT; workshops/seminars/ conferences; learning/quality circles; job rotation/secondments/ exchanges; self-learning.
Reference period for participation (duration; timing)	four weeks prior to the survey	12 months prior to the survey	one calendar year, the same for all countries
Statistical units	households	households OR individuals	enterprises
Individual participation: age cohorts covered	all groups (for EU LLL-indicators 25-64 year-olds)	25 to 64 (in some countries 18-24 and 65-69 are covered, but not considered in main indicators)	end of compulsory schooling to statutory retirement age
Individual participation: occupational status	All kinds of status are covered (employed, unemployed and inactive)	All kinds of status are covered (employed, unemployed and inactive), although operationalisation differs compared to LFS	Only employed are covered
Covered economic sectors for employed	Reference is to the local unit; local units of all sectors are covered (but sector is not an explicit stratification variable for sampling)	Reference is to the local unit; local units of all sectors are covered (but sector is not an explicit stratification variable for sampling)	Reference is to the enterprise; enterprises of business economy are covered except for important sectors such as health, education, agriculture, public administration. Sector is an explicit variable for sampling stratification and production of related breakdowns
Covered establishment sizes for employed	Reference is to the local unit; local units of all size classes are covered (including micro establishments), (but size is not an explicit stratification variable for sampling)	Reference is to the local unit; local units of all size classes are covered. But (but size is not an explicit stratification variable for sampling)	Reference is to the enterprise; only enterprises with 10 and more employed persons are covered. Size is an explicit variable for sampling stratification and production of related breakdowns

Source: Own description.

The following examples should help to illustrate the impact of the differences in the frameworks on the results of the three surveys:

- (a) reference period: in LFS, information is available on whether or not individuals have participated in learning within the previous four weeks, in AES, the reference period comprises the 12 months prior to the interview; in CVTS learning occurring in a given calendar year is measured. So, AES and CVTS cover many more learning activities, implying higher participation rates in adult learning than LFS;
- (b) coverage of learning activities: the three surveys focus on different forms of learning and use partly different operational definitions. Both LFS and AES cover formal and non-formal learning. However LFS underestimates the magnitude of non-formal learning, as it does not include guided on-the-job training (GOJT) (a substantial and policy-relevant component of CVET), which is instead covered in AES and CVTS. CVTS covers continuing vocational training in various forms: courses (with no distinction between formal and non-formal ones) as well as a set of less structured non-formal and informal learning activities (so-called other forms of training). However, results cannot be unconditionally added up into one summary indicator at the level of the individuals. AES covers informal learning but it is very often excluded from computations of main indicators and not considered in this report;
- (c) coverage of adult individuals: CVTS covers a much smaller fraction of the adult population than AES and LFS. CVTS covers only the employed, while LFS and AES cover employed as well as unemployed and economically inactive persons. CVTS covers individuals employed in enterprises with some sectoral and size class restrictions: enterprises with less than 10 persons employed and enterprises of some sectors such as education, health or public administration are excluded, which are fully included in AES and LFS (although the establishment characteristics refer to the local unit). AES and LFS apply a restriction to adult education and training by considering those aged 25 to 64. CVTS applies the concept of CVT sponsored by employers. This implies that young adults below 25 are also covered. The continuing nature of training in CVTS is captured by focusing only on employed persons and by excluding activities of initial vocational training, such as apprenticeships, from CVT concepts and indicators.

All three surveys are sample surveys. All the figures they generate are estimates, whose accuracy also depends on the sample size. The challenges involved in cross-country, comparative survey work (Leeuw et al., 2008; Harkness et al., 2010) apply to all three surveys, but they are more pronounced

for AES and CVTS. In particular, as AES-2007 was only a pilot survey, the changes between the two waves of AES lead to more distortions than the results of the LFS during the period from 2007 to 2012 ⁽⁶⁾. A more detailed discussion of the differences between the three surveys is presented in Annex 2 and can be found in Cedefop, 2014 and in Behringer and Schönfeld, 2014.

2.2. Data issues

Cross-country comparative surveys on adult education and training and, in particular those on training in enterprises face a wide range of challenges. To respond to these challenges, complex methodological frameworks have evolved and adapted over a considerable period of time. To gain accurate information on cross-country differences and temporal changes, analysts must consider both modifications in applied frameworks and the slight variations in applied strategies or available options at national level.

As part of this study, a preliminary data quality assessment has been carried out to support the selection and interpretation of results. It has been based mainly, although not exclusively, on available methodological documentation, including that resulting from regulations, manuals and national quality reports submitted to Eurostat by national statistical institutes.

This section provides the key findings of such investigations for both AES and CVTS. It represents authors' qualified expert opinions.

Annex 4 provides an assessment of AES-2007 and AES-2011 and CVTS3 and CVTS4 and also gives detailed information on available meta-data sources. The following section introduces key features of the two surveys and highlights limitations for comparability of results for particular countries in particular waves of the two surveys. The remainder of the study stresses, where appropriate, additional methodological issues, while Annex 4 presents more in-depth information. Figures and tables highlight limitations in data comparability across countries or time. Where possible, the analysts note when the data may overestimate or underestimate the social phenomenon being studied. EU average figures presented in this report are those estimated by Eurostat for the EU-28 aggregate.

⁽⁶⁾ The structural indicator has been heavily affected by methodological changes after 2003 (implying a substantial increase in many countries in the following years) (Leney, 2004). The indicator is sensitive to methodological change at country level, in particular to the wording of questions and examples given during the interview.

2.2.1. The adult education survey

AES-2011 has been implemented (with some variation) in 2011 and 2012, and provided reports on activities in adult learning over the past 12 months. Contrary to the AES-2007 (also referred to as AES pilot), the AES-2011 was mandatory in Member States. It targets individual adults or all adults living in one household. Data are representative on national level and on the level of large regions/sub-states (NUTS1). While countries could report on younger and older cohorts on a voluntary basis, the survey targeted the 25 to 64 year-old resident population. All indicators on AES-2007 and AES-2011 in this study refer only to the 25 to 64 year-olds (age breakdowns for smaller cohorts are considered when appropriate). The AES-2007 was a pilot survey. Therefore, there are limitations affecting proper comparisons over time of AES data. There are also limitations affecting cross-country comparability, but they mostly concern AES-2007 data. For example, the AES-2007 had been implemented as an add-on module to other surveys, most frequently to the LFS, in several countries.

For the AES-2011 the following picture emerged:

- (a) countries with no or minor issues identified possibly affecting comparability for the AES-2011: data sets for these countries are stand-alone surveys ⁽⁷⁾, use less than 3% proxy interviews ⁽⁸⁾, have a response rate of at least 50% and provided detailed information on three non-formal education and training (NFE) activities. AES-2011 data for Bulgaria, Denmark, Estonia, Spain, France, Lithuania, the Netherlands, Poland, Slovenia, Slovakia and Sweden ⁽⁹⁾ comply with these criteria;
- (b) countries with some issues identified possibly affecting comparability of AES-2011 results: many data sets show one or more difficulty, for example,

⁽⁷⁾ Add-on surveys on adult learning typically underestimate adult learning compared to stand-alone surveys.

⁽⁸⁾ In proxy interviews, one household member provides information on behalf of other household members. In the case of adult learning, proxy interviews provide typically less complete (e.g. not all training activities are reported) and less accurate information. High rates of proxy interviews lead therefore to an underestimation of learning activities.

⁽⁹⁾ A further criterion to be reflected upon is random selection (computer-based or by the interviewer) of the NFE activities. While this criterion is of less importance for participation rates, it is expected to influence figures on average hours in learning activities, in formal adult education (FED). Hours in training might become somewhat overestimated when no random selection is implemented. Among the group of countries with few limitations to cross-country comparability, Bulgaria, Estonia, the Netherlands, Poland, Slovenia and Slovakia have not implemented random selection.

having a higher proportion of proxy interviews (Greece, Hungary, Italy and Romania), response rates below 50% (Luxembourg, Austria) or collected information on less than three NFE activities ⁽¹⁰⁾. Countries with data sets affected by these issues include Germany ⁽¹¹⁾, Estonia, Spain, Cyprus, Luxembourg, Malta, the Netherlands, Austria, Poland, Portugal, Slovenia, Slovakia and Norway;

- (c) countries with important issues possibly affecting comparability of AES-2011 results: data for Belgium (e.g. no stand-alone survey) and Ireland (e.g. no stand-alone survey and only one NFE activity surveyed for in-depth data collection). Data for Belgium and Ireland on the AES-2011 are, therefore, reported in a clearly separate way throughout the study or had to be excluded from the comparative analysis.

For the AES-2007, the following picture emerged:

- (a) countries with no or minor issues identified possibly affecting AES-2007 results: countries with a response rate above 50%, a stand-alone survey and no proxy answers include Bulgaria, Czech Republic, Denmark, Estonia, Spain, Cyprus, Latvia, Lithuania, Malta, Portugal, Romania, Slovakia, Sweden and Norway;
- (b) countries with some issues identified possibly affecting comparability for AES-2007 results: some countries have comparatively low response rates (below 50%), including Belgium, Germany, Luxembourg, Austria or have accepted proxy interviews (Belgium, Greece, Poland and Slovenia);
- (c) countries with important issues possibly affecting comparability for AES-2007 results: France, Italy and the Netherlands have integrated the survey into another survey, limiting comparability across countries and waves. The UK has used a different sampling approach. Particularly strong effects have been observed for Hungary. Hungarian data for AES-2007 are not comparable with the results of the other countries and the results for AES-2011 for Hungary. For the countries mentioned, trends between the AES-2007 and AES-2011 are only reported separately from the results of other countries or excluded from the comparative analysis ⁽¹²⁾.

⁽¹⁰⁾ The regulation asked for at least two NFE activities.

⁽¹¹⁾ Germany has collected information on four activities, however, reported only two activities to Eurostat. For national results see Bilger et al. (2013).

⁽¹²⁾ As the countries with a strong limitation of cross-country comparability include large ones (in particular France and Italy), this is not without effect on the estimates for EU averages. Changes in the EU estimates from AES-2007 to AES-2011, therefore, require particular caution and may overstate developments, given the likely underestimation of adult learning in the outlined group of countries.

Table 2 summarises the main findings concerning data quality assessment. Such results are considered in tables, charts and comments concerning AES data in the following chapters.

Table 2. **Main limitations in comparability of AES data**

	Main limitation (-s)	Likely direction of effects
Limited comparability of results in AES-2011		
BE	No stand-alone survey	Undercoverage of learning activities, resulting in underestimation of participation rates, etc.
IE	Only one (instead of two or three) NFE activity covered for in-depth collection of information	Undercoverage of particular learning activities such as job-related employer-sponsored learning
Limited comparability/lack of comparability of AES-2007 to AES-2011		
FR	AES-2007 no stand-alone survey	Underestimation of participation in AES-2007, implying an overestimation of trends from AES-2007 to AES-2011
IT	AES-2007 no stand-alone survey	
NL	AES-2007 no stand-alone survey	
HU	AES-2007 no stand-alone survey and an overly restrictive approach to collecting information on learning activities	AES-2007 results represent a strong underestimation of participation in learning activities and results are not comparable with other countries, trends between AES-2007 and AES-2011 cannot be interpreted.
UK	For AES-2007, differences in methodology and exclusion of types of NFE	Underestimation of activities in AES, trends between AES-2007 and AES-2011 would be overestimated

Source: Authors.

AES uniformly collects data on learning having occurred 12 months prior to the interview, but the interviews are not done at the same point in time. Within certain agreed limits, the allocation and duration of field work over time may vary and indeed varied by country. This variation is not negligible, which makes it difficult to attribute a uniform time specification to the data. The reference period for the two survey waves is not necessarily the calendar years 2007 and 2011, although these can be used as an approximated indication and the timespan between the two survey waves is not always around four years. Following the Eurostat approach, this report labels the two relevant waves of the survey as AES-2007 and AES-2011. The reader should however be aware that the reference period of the data differ by country and the time span between the two survey waves can in some countries be considerably longer than four years (six years, e.g. in Italy or the UK) ⁽¹³⁾.

⁽¹³⁾ Field work often spanned different calendar years and required many months. Depending on countries, for the AES-2007 field work may have spanned calendar years 2006 and 2007 or 2007 and 2008; for the AES-2011, field work may have spanned calendar years 2010 and 2011 or 2011 and 2012. In particular, the AES-2007 was implemented at different points in time in the participating countries. The

Further issues in need of particular attention include:

- (a) the AES-2011 has used a more limited definition of formal education and training (FED), requiring the latter to involve a theoretical workload of half a year of full-time education as a minimum (Eurostat, 2012a, p. 5). Little is known about the implementation of this rule across countries, however, it further adds to the difficulties in drawing a line between FED and NFE, as highlighted in various national quality reports. When studying participation in FED and NFE, the difficulty of making a sound distinction between the two should be kept in mind (for a detailed discussion see Hefler, 2013);
- (b) the AES-2011 uses ISCO-08 instead of ISCO-88, so results for occupations are not comparable across survey waves;
- (c) the AES-2011 does not use two separate variables to capture two separate and important characteristics of individuals: their labour market status (employed/unemployed/inactive) and their current situation in terms of participation in education and training (being or not being a student/apprentice currently involved in FED). It uses instead only one variable with mutually exclusive categories which targets their main status as a whole; in addition, the measurement of labour market status is not aligned with ILO standards. This implies, for example, that adults with some work may even result as either inactive or unemployed persons (e.g. when they perceive themselves as such).

Data on AES-2007 and AES-2011 used in the study are taken mainly from Eurostat's dissemination database. The exception to this rule is selected breakdowns for job-related employer-sponsored NFE, presented in Section 4.5 and reused in Chapter 7, which are calculated based on the AES-2007 and AES-2011 micro data sets ⁽¹⁴⁾.

2.2.2. The continuing vocational training survey (CVTS)

CVTS4 has been implemented in 2011 and 2012 with the common year of reference 2010 (i.e. to report on training occurred in 2010). The previous CVTS3 referred to the year 2005. The survey targets enterprises with 10 or more

timing of the reference period varies considerably across countries, starting with 1 October 2004 in Sweden or the UK and ending with 30 June 2008 in Belgium. For the AES-2011, the dispersion of reference periods is less marked (between 1 September 2010 and 30 December 2012, for details see Table A45 in Annex 4).

- ⁽¹⁴⁾ Chapter 3.4 and sections on inequality in employer-sponsored job-related NFE uses data calculated by the research team based on the AES1 and AES2 micro data provided by Eurostat. The responsibility for all calculations and conclusions drawn from the data lies entirely with the authors.

employees in a broad range of economic sectors (except for agriculture, health, education and public administration). Implementation of both waves of the survey was mandatory for the Member States. In the sections on CVTS, Member States are studied for CVTS4 ⁽¹⁵⁾.

The differences in data quality across countries for CVTS3 and CVTS4 are relatively fewer than for AES.

For CVTS4, the following picture emerged:

- (a) countries with no particular difficulties identified and response rates of at least 50% of the units include Bulgaria, Czech Republic, Estonia, Spain, France, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, the Netherlands, Poland, Portugal, Romania ⁽¹⁶⁾, Slovenia, Slovakia, and FI ⁽¹⁷⁾;
- (b) countries with no particular problems, yet response rates below 50% include Belgium, Germany, Austria, and Sweden;
- (c) Portugal represents the only country where CVTS4 results are only comparable in a very limited way. Information on participation in CVT is taken from a newly established register, where enterprises are required to report their training activities with the intention of monitoring their compliance with existing minimum training levels. Although, this approach can be considered an even better way of collecting information (more accurate and more efficient), and although the major progress recorded by Portugal in CVET is a matter of fact (also following new regulations in the field), the registry-based measurement approach has led to a situation where the CVTS4 figures for Portugal have been assessed as not comparable with other countries or over time. In this report, results are thus flagged, reported separately or excluded from cross-country comparison.

For CVTS3:

- (a) countries with no particular issues and response rates above 50% include Bulgaria, Czech Republic ⁽¹⁸⁾, Estonia, Ireland, Spain, France, Latvia, Lithuania, Hungary, Malta, the Netherlands, Poland, Romania, Slovenia and Slovakia ⁽¹⁹⁾;

⁽¹⁵⁾ Data for Norway, participating in CVTS4, were not available when writing this study.

⁽¹⁶⁾ Data on direct costs for Romania are found non-plausible and are therefore excluded from the analysis in all relevant sections on costs in chapters 2, 5 and 6.

⁽¹⁷⁾ No information available for Denmark, Greece, Croatia, Italy, and the UK. Ireland has not participated in CVTS4.

⁽¹⁸⁾ However, the quality report for Czech Republic for CVTS assumed that CVTS3 had overestimated the training activities in Czech Republic enterprises.

⁽¹⁹⁾ No information available for Greece and Cyprus.

- (b) countries with no major issues but response rates below 50% include Belgium, Denmark, Germany, Italy, Luxembourg, Austria, Portugal and Finland;
- (c) results in CVTS3 for two countries have been identified as non-comparable (Cedefop, 2010), namely results for Norway (using the local unit instead of the enterprise for sampling) and the UK (using no probabilistic sampling approach and achieving only a very low response rate). Trends in CVTS for the UK are only reported separately or are excluded for cross-country comparison.

Table 3 summarises the main limitations concerning CVTS data.

Table 3. **Main limitations in comparability of CVTS data**

	Main limitations	Likely direction of effects
Limited comparability/lack of comparability of results in CVTS4		
Portugal	Information on participation and costs is taken from registers which collect information on enterprises' compliance with minimum standards for training activities	Compared to CVTS standard methodology, the approach is most likely to lead to overestimation of activities
Romania (figures on costs only)	Figures on costs	Information on costs is unreliably low and cannot be compared
Limited comparability between CVTS3 and CVTS4		
UK	Quota sample instead of a stratified sample, low (estimated) response rate	Lower representativeness of results

Source: Own description.

Data on enterprises' behaviour in CVTS are particularly sensitive to low response rates in large enterprises with 1 000 and more employees, as results for these enterprise exert a considerable influence on overall figures (e.g. participation rates in CVT). It should be noted that large enterprises are required to answer a high number of surveys, as they are often or always within the selected sample in their countries. Therefore, their readiness to participate in non-mandatory surveys is often limited. Moreover, large enterprises are rather unique in their features and strategies, so enterprises participating in the survey may poorly represent non-participating ones. Various statistical offices have highlighted lower than desirable response rates for large enterprises in particular (e.g. Sweden). When interpreting CVTS results, this particular aspect also has to be considered.

Data used in this study on CVTS3 and CVTS4 are mainly taken from Eurostat's dissemination database. There are three exceptions to this rule, where

Eurostat have made available additional aggregated data especially for the present study: first, data on skills taught through continuing vocational training (CVT) courses and skills deemed important for enterprises' development (analysed in Section 5.3); second, data on the structure of enterprises' direct expenditure for CVT (analysed in Section 6.3); third, data on the types of financial measures aimed at reducing the cost of training for enterprises and from which they benefit (analysed in Section 6.6).

2.3. Towards an interpretation framework

Levels across countries and trends over time of key data on adult learning and CVET are better interpreted and understood when they are contextualised considering at least differences with respect to:

- (a) overall economic performance and socioeconomic inequalities at individual level;
- (b) structural composition of economies, including firms and workforce characteristics;
- (c) institutional settings and impact of reforms.

A short discussion of their effect is presented in the next sections. The aim is not to provide a comprehensive overview on the situation in the Member States, but rather to draw attention to the factors which impact on the data presented in this report.

2.3.1. Differences in economic performance and social equality

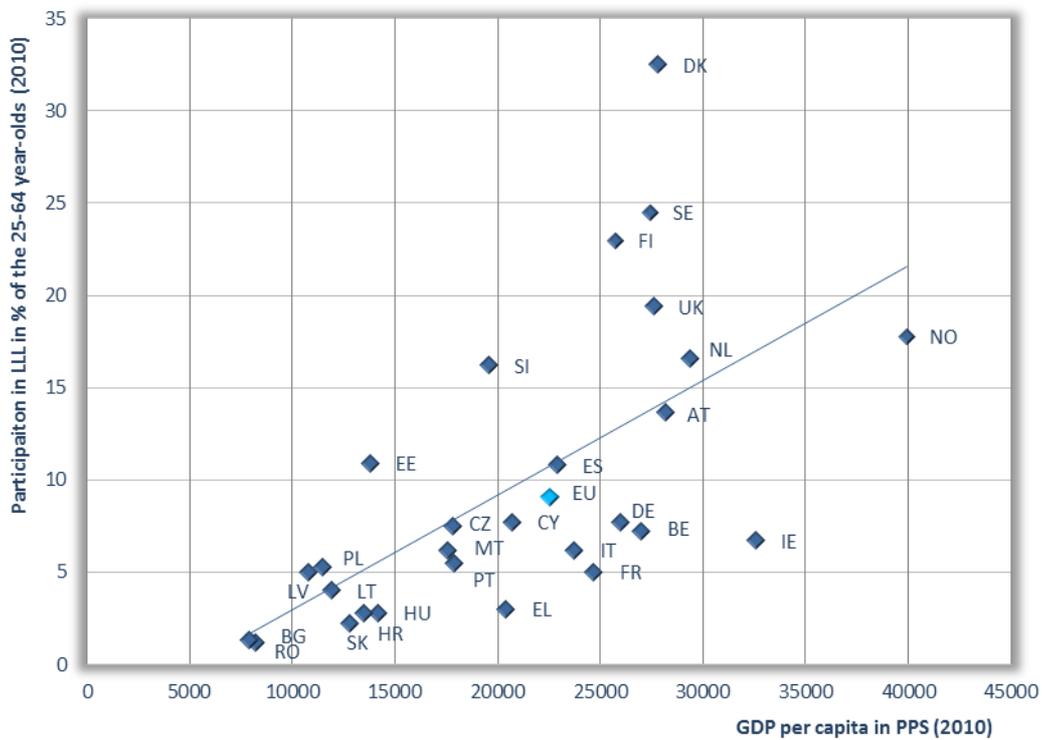
When comparing indicators on adult learning across countries, the following should be considered:

- (a) differences in economic strength;
- (b) differences in the distribution of income and wealth across the population;
- (c) short-term changes in economic performance, such as the most recent economic and fiscal crisis, starting in 2008 throughout the European economies.

As for any part of the education system, further education requires economic resources that differ greatly across societies, depending on the relative strength of the national economies. The economic resources available in a society, as expressed, for instance, by the GDP per capita, influence the investments by the parties involved: the State, households and enterprises. Countries divided by large differences in economic wealth are likely to show fundamental differences in participation in adult learning; data on adult learning cannot be compared

without making reference to the differences in the economic conditions. However, educational activity and economic wealth do not have a linear relationship; above a certain level of wealth, the relationship between GDP and lifelong learning (LLL) becomes weak – further gains or smaller losses in economic strength are not strongly associated with increased participation levels in LLL. This is reflected in scientific literature (Rubinson and Browne, 1994; Baker and LeTendre, 2005) and shown in Figure 1.

Figure 1. **Relation of GDP per capita and adult learning (LFS benchmark indicator, 25-64 year-olds), 2010**



Source: Eurostat, dissemination database (accessed 28.8.2012); own calculations.

Beyond average economic strength, socioeconomic inequalities, as measured for instance by the distribution of income across the population, play an important role; in affluent, yet, strongly unequal societies with a higher share of the population facing considerable material constraints, access to adult learning might be restricted for parts of the population.

Within the timespan of the survey waves studied (AES: roughly 2007-11; CVTS: 2005-10), Member States were hit by the financial and economic crisis. The impact on key statistical trends is difficult to assess both in magnitude and direction as various processes interact and overlap.

First of all, Member States differ strongly in the degree as to how and when the crisis affected their economies and public households, whether or not their economies have started to expand again and the effects on their labour markets. While some countries' economies and labour markets performed much weaker in 2010 than in 2005 (e.g. Greece), other economies have almost recovered to levels before the nearly ubiquitous slump of 2009. It could be argued that the negative consequences of the crisis may be considerably long-lasting (e.g. when austerity measures continue years after the depth of the economic slump) (Dohmen and Timmermann, 2010). On the other hand, as in earlier economic recessions, firms and households may react partly with a reduction of CVET activities (due to re-setting of priorities and a shortage of available resources) and partly with an expansion (in relation to needs for tackling unemployment, restructuring, reorganising or gaining competitiveness on (new) markets), making overall effect of the crisis on participation in training insignificant (Felstead and Green, 1994; 1996; Felstead et al., 2012; 2013). Public policies may increase funding for adult education (particularly in the field of active labour market policies) in reaction to a crisis and reduce their support only after the recession has ended. However, countries severely hit by the financial crisis have been partly forced to cut their spending at the depth of the slump (European Commission et al., 2013). From a more statistical perspective, indicators are typically expressed in relative terms to allow the specification and comparability of measures. However, some indicators may increase in a crisis when significantly fewer employed persons receive considerably more training.

2.3.2. Differences in the structural composition of economies, including firms' and workforce characteristics

Compositional effects resulting from differences in the very structures of economies are key to understanding cross-country differences and developments over time. Such differences also include differences in firms' and workforce characteristics.

In relation to enterprises' characteristics, the 'compositional effects' argument tells the following story. Enterprises in a country can be counted based on their size and sector of economic activity. It is well known that large enterprises or enterprises in some sectors (so-called training-intensive sectors) tend to train more. In some countries large enterprises (or enterprises operating in training-intensive sectors) account for a bigger share of total enterprises (or of total employment); in these countries overall training levels can be higher than in others even if the specific propensities to train (within the same sectors and within the same size) are equal. Beyond size and sector, compositional effects

could be related to other factors as well, where a feature of an enterprise typically goes together with above-average training activity, for example, the proportion of enterprises with extended innovation activities or enterprises in high-tech, knowledge and skill-intensive activities.

Examples include differences across countries in the composition of economies with sectors typically using a lower (such as hotels and restaurants) or higher (financial industries) level of training activities. Similarly, the relative importance of SMEs versus larger employers also matters (Table A1 in Annex 1). For instance, most of the Mediterranean countries with a lower average enterprise size have to face structural and additional challenges to increase their training levels. More in general, economies encompassing low-productive firms, less innovative firms, fewer firms operating in knowledge and skill-intensive activities would tend to present, other things being equal, less training activity (Hefler and Markowitsch, 2008).

In this context, what applies to differences across countries also applies to trends over time within the same country. For instance, a decline of low-wage, low-training sectors might change the profile of the remaining industry, for example, turning textile industries in high-wage countries into high-wage, high-value-added luxury segments, with considerably higher training needs.

Workforce characteristics also matter. It is known that participation in continuing education and training varies for instance by age, educational attainment, labour market status and occupation. Therefore, countries where low-qualified adults (or older adults or adults employed in less skill-intensive occupations) account for larger shares of the total would tend to present, other things being equal, lower levels of participation. However, while the composition of the population with regard to the highest educational attainment is linked to countries' average participation, the link between the highest attainment as measured by ISCED and participation might be different between countries, pointing towards differences in the overall educational stratification. For example, while in some countries, increasing attainment on ISCED level 3 implies higher participation in adult learning, this effect is not experienced in others.

2.3.3. Differences in institutional settings and the impact of reforms

This section deals briefly with packages of social institutions affecting education, skill formation, employment and welfare systems, which all have implications for continuing education and training, as well as with the impact of relevant reforms.

LLL and the corresponding LLL systems (Desjardins and Rubenson, 2013), which complement established systems of initial education, depend on various sets of institutions and their interplay (for recent reviews, Saar and Ure, 2013;

Busemeyer and Trampusch, 2012). In particular, types of welfare systems and their distributional institutions have been identified as crucial for understanding differences in participation in LLL (Rubenson and Desjardins, 2009). In countries with favourable institutional arrangements, such as the Nordic countries with their high participation rates in LLL, one could observe both social mechanisms that support participation (e.g. high unemployment benefits involving higher incentives to invest individually in training) and a propensity to shape policies to support LLL (Rubenson, 2001; 2006). Table 4 summarises frequently used institutional dimensions relevant for providing LLL.

Table 4. **Dimensions of institutional frameworks relevant for LLL**

	Short description	Sources
Type of welfare state	Main dimensions include generosity of standards and logic of provision (high standards for all; standards depending on earlier well-being; low minimum standards for all; individuals or households/families as beneficiaries/points of references for the welfare payments)	Esping-Anderson, 1990; Bernardi et al., 2006; Roosmaa and Saar, 2012.
Industrial relation and business interest organisation	Main dimensions include more liberal versus more coordinated market economy (degree of non-coordination) and non-dependent or dependent economies (degree of independence from foreign multinational enterprises)	Soskice and Hall, 2001; Nölke and Vligenthart, 2009; Roosmaa and Saar, 2012.
Type of employment system	Dimensions include predominance of occupations/professions associations in organising work (including negotiating pay)	Maurice et al., 1986; Mardsen, 1999; Fligstein and Byrkjeflot, 1996.
Education system	Dimensions include comprehensive versus non-comprehensive systems	Allmendinger, 1989; Roosmaa and Saar, 2012.
Skill formation system	Dimensions include role of the State, level of coordination and role of the firms in IVT/CVT	Busemeyer and Trampusch, 2012.

Source: Own description.

Groups of countries differ in particular institutional dimensions which have an impact on the probability of participating in training or providing training to employees; such as the generosity of the unemployment benefit systems, the degree of coordination in the VET and adult education sector or the relative importance of standardised vocational qualifications compared to firm-based skill bundles. Most recently, scholars have started to merge various institutional dimensions into more encompassing typologies, bundling together countries with comparatively similar institutional packages (Mills et al., 2008; Blossfeld, 2009; Roosmaa and Saar, 2012).

Although there is an overall agreement that economic and institutional backgrounds shape participation in LLL and that some countries share more similarities than others, no country typology for observing cross-country differences in LLL in Europe has gained broad acceptance.

Beyond the overall institutional settings mentioned above, there are various other formal incentives (regulated or not regulated by law) which encourage training. They include:

- (a) individual drawing rights for training (*vis-à-vis* the employer or public authorities);
- (b) regulations obligating individuals (e.g. members of professions; beneficiaries of unemployment benefits) to participate or employers to fund or directly provide training;
- (c) collective funding mechanisms (typically addressed as training funds), requiring employers to compensate financially for providing no or too little training, yet receiving funds for providing more training;
- (d) rights for paid or unpaid educational leave or particular rights for time-off for educational purposes (e.g. to sit exams);
- (e) publicly funded education with no or comparatively low tuition fees ⁽²⁰⁾;
- (f) public funds (e.g. learning accounts, vouchers) provided for cofunding of training activities), regardless of their sources (national means, EU funds);
- (g) tax rebates or rebates of social-security payments to cofund eligible training costs.

Countries differ widely in their formal institutions with regard to adult education and training, which are above all complementary to the wider institutional environment ⁽²¹⁾. Major changes in formal institutions governing adult education could have a significant impact on the results from one survey wave to another.

Examples of important changes in formal institutions, which are likely to have strongly affected the differences between the survey waves, include:

- (a) for Portugal, introducing and enforcing a 35-hour training obligation for employers in 2009 (Naumann et al., 2009);
- (b) for Spain, introducing new generous cofunding schemes for employer-provided training in 2009 (Arasanz Diaz, 2009);
- (c) for Romania, the step-by-step implementation of (legally enforced) sectoral agreements on company-provided training (Chivu, 2009);
- (d) for Italy, the continuing expansion of State-funded and collectively funded sectoral training funds after 2005 (Giaccone, 2009).

⁽²⁰⁾ Based on public (co-)funding, tuition fees are lower than in a market-based solution. Public cofunding provides a basis for providing education where a market solution would not result in any education.

⁽²¹⁾ General introductions to formal institutions with regard to further education/funding can be found in Schuetze (2009). For tax incentives see Cedefop 2009.

Reform may not only affect training behaviour as intended, it may also provoke unintended consequences; for example, when training provision becomes obligatory, enterprises will put more effort into reporting activities that remained unacknowledged as long as no training obligation was in place.

Reforms may be less important for country-average indicators as a whole, yet have an impact on particular sub-sectors or group of participants. For example, decisions for or against training within active labour market policy may strongly influence the training activity of unemployed persons and of groups of populations facing above-average risk of becoming and staying unemployed (e.g. adults lacking formal qualifications). Generously extended educational leave schemes, such as in Austria, provoking a tenfold increase in the number of beneficiaries within five years (Lassnigg et al., 2010), have little impact on total participation rates, however they significantly increase participation in formal programmes. Alternatively, only particular indicators may be strongly influenced by newly introduced or reform schemes. Substantial short-term increases in public cofunding may decrease total monetary expenditure, in particular, when dead-weight effects are high and new public funds hardly encourage more training. Alternatively, strongly increasing mandatory contributions to collective training funds – such as in Greece or Romania – may lead to strongly increasing indicators of company spending not matched by expanding training activities.

2.4. Beyond participation rates; providing a richer picture of job-related adult education and training

The current study builds on indicators developed within the frameworks of the two surveys investigated (AES, CVTS). Details of the definitions applied for the indicators are given in the respective chapters. A detailed overview of the available indicators and their particular strengths and weaknesses is provided in Annex 3. A summary introduction to key dimensions and indicators is presented here below:

(a) variety of participation rates.

Beyond a general participation rate as outlined by the benchmark indicator of adult learning, the following indicators are used:

(i) indicators of participation in types of learning activities: participation rates are provided for formal learning and non-formal learning. The CVTS provides participation rates in particular forms of learning. CVTS considers courses with no distinction between FED and NFE and other specific forms, mostly of a non-formal nature;

- (ii) indicators participation according to goals of the activities: AES makes it possible to specify indicators for job-related versus non-job-related learning activities, irrespective of the source of funding (employer, households, State);
 - (iii) indicators of participation according to the source of funding: AES and CVTS provide participation rates in employer-funded (at least cofunded) education and training versus participation in activities funded mainly by the households or the State;
 - (iv) provision by enterprises (incidence): CVTS makes it possible to use the employing organisations as a vantage point and distinguish them based whether or not they provide any training (courses, other forms of training). The training incidence indicates the proportion of enterprises with training activities (Cedefop, 2010);
- (b) time spent on learning (intensity).
- AES and CVTS contain information on the number of hours devoted to learning within the reference period. In this study, only indicators based on CVTS are considered for the purpose of assessing intensity.
- Hours devoted to training. CVTS makes it possible to calculate the number of hours devoted to training courses during paid working time. This can be expressed relative to the total number of paid working hours, generally per 1 000 hours worked, or per person employed;
- (c) financial resources spent on learning (expenditure).
- AES and CVTS collect information on financial resources spent on adult education and training; however, households and enterprises have difficulties in reliable accounting for their spending. Because of quality concerns, Eurostat does not publish AES-2011 figures on household spending. While this issue will be explored in future Cedefop work, CVTS provides a rich selection of indicators of enterprises' financial contributions, sufficiently comparable across countries and time, which will be considered in this study. Indicators include:
- (i) total monetary expenditure (TME): actual payments of enterprises (direct expenditure for training courses plus mandatory contributions to collective funding schemes minus receipts from various sources aimed at financially supporting training).
- Contributions, where applicable, refer to monetary contributions that enterprises pay to collective funding schemes through governments and intermediary organisations (such schemes are designed as a stimulus for training through the provision of mutualised financial support).

Receipts, where applicable, refer to incentives received directly or indirectly by enterprises as financial support for training provision (incentives may come from collective funding schemes, subsidies, financial assistance from governments or other sources). TME can be expressed relative to the total labour cost for the same reference period or relative to the number of persons employed;

- (ii) direct monetary expenditure (or direct expenditure): direct monetary expenditure of enterprises for training courses is the sum of various components, such as for fees and duties of external trainers, travel costs to (and from) training facilities, personnel costs for employed (internal) full or part-time trainers and for use of infrastructure and training material. In this report, the terms direct monetary expenditure or more concisely direct expenditure are used interchangeably to refer to this expenditure.

The label direct monetary expenditure or more concisely direct expenditure is used in this report as an alternative expression for direct costs, which is the technical term used in the CVTS framework. This is commonly understood as an indicator of investment in human capital, which is not fully acknowledged by the term costs. Therefore, in the report, the term direct costs is mainly replaced by the expression direct expenditure or direct monetary expenditure, to highlight the investive character of the expenditure made (in line with the concept of total monetary expenditure, see above)

Both direct expenditure and total monetary expenditure do not include personnel absence costs due to the training, as they have been considered estimations of questionable quality.

- (d) more on AES indicators: indicators from the AES refer to adults aged 25 to 64;
- (e) more on CVTS indicators: indicators from CVTS refer to continuing vocational training (CVT) activities of enterprises and exclude initial vocational training (IVT) activities, such as those in apprenticeships schemes or other training contracts. CVTS indicators of hours and expenditure spent on training only consider CVT courses. CVTS indicators of participation can be specified for CVT courses as well as for other forms of training. CVTS indicators are calculated considering CVT activities in all enterprises surveyed. Unless otherwise stated, CVTS indicators presented in this report consider all enterprises surveyed (i.e. training and non-training enterprises) as a reference group for the specification of their denominators. For instance participants in CVT courses are expressed relative to the number of persons employed in all enterprises (i.e. working in training and

non-training enterprises). Similarly, hours in CVT courses are expressed relative to the number of hours worked in all enterprises (i.e. hours worked in training and non-training enterprises). In the report, this approach is accounted for by specifying that indicators refer to all enterprises. Some CVTS indicators are expressed relative to the number of persons employed. The number of persons employed is captured at the end of the year as a proxy for the average number of workers during the year, which is more difficult to collect (see also Annexes 3 and 4).

Indicators cannot be built without accepting some limitations to their accuracy. Depending on the questions to be answered, these limitations could remain insignificant or could cause a major distortion. While Annex 3 presents some pros and cons, the study calls for appropriate caution whenever appropriate.

CHAPTER 3.

Adult education and training and its provision by enterprises – Key results of AES and CVTS

3.1. Introduction

Continuing vocational education and training (CVET) should, as outlined in the Bruges communiqué (Council of the EU and European Commission, 2010), contribute to the goals set by the education and training 2020 (ET 2020) strategy, including that of increasing participation in adult education and training.

This chapter introduces and presents key indicators providing a comprehensive picture of adult participation in education and training and its provision by enterprises. These key indicators allow the analysis and assessment of progress based on key summary statistical indicators.

The chapter starts with a short section on developments in lifelong learning (LLL) as revealed by the labour force survey (LFS) benchmark indicator between 2007 and 2011. Based on data from the adult education survey (AES) and the continuing vocational training survey (CVTS), further insights are then presented and analysed. First, the focus will be on the participation of individuals and enterprises. Second, time spent on training will be described and analysed, based on CVTS data. Third and finally, the amount of money spent on training will be described and analysed, based on CVTS data as well. These three sets of indicators give a more comprehensive view of adult participation in LLL and training provision by enterprises than just focusing on participation rates

3.2. Adult education and training – the LFS benchmark indicator

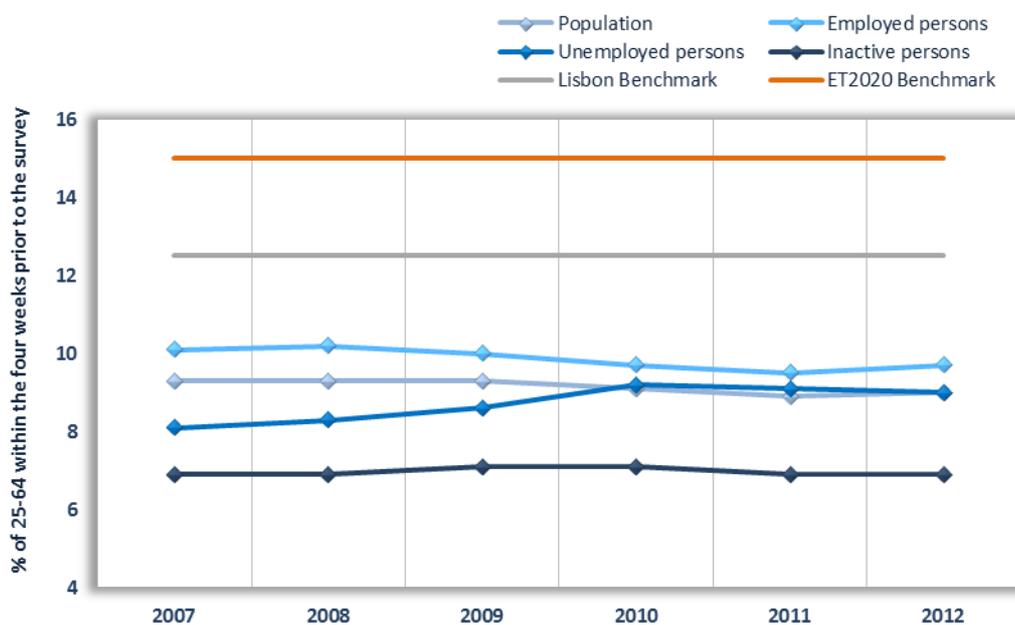
To monitor progress towards its goals, the European Union (EU) and its Member States established the European System of Statistics on LLL (for an overview, see Annex 3).

The key source for monitoring is the LFS. Its advantages include a large sample size, balanced coverage of regions (NUTS2), dispersed implementation across the calendar year (few seasonal effects) and prompt availability. Within the Lisbon process, the so-called structural indicator of LLL has been defined as

the baseline for monitoring progress in the policy area of LLL. The indicator is defined as the proportion of the 25 to 64 year-olds who participated in formal (FED) or non-formal education and training (NFE) within the four weeks prior to the survey. By using a short and most recent reference period, the survey reduces distortion due to recall errors and improves the accuracy of participation data. Participation could also be related to other personal conditions or characteristics, such as being currently unemployed or low qualified.

Within the Lisbon process, a participation target of 12.5% had been set as measured by the structural indicator. This goal has not been reached in the EU average in 2010 or by many Member States. The economic crisis and readjustments in measurement approaches in large Member States ⁽²²⁾ led to stagnation in participation in the EU average up to 2010. The ET 2020 framework set a new benchmark of 15% participation in 2020. 2011 and 2012 have seen further stagnation.

Figure 2. **LFS benchmark indicator: participation rate of adults (25-64 year-olds) in education and training, EU averages, 2007-12**



Source: Eurostat, LFS, dissemination database (accessed 20.10.2014).

The LFS is and should be used as the reference source of information. However, it has some drawbacks. At the moment, it includes distortion by proxy

⁽²²⁾ For example, a change in methodology implies a slump in estimated participation for UK in 2007 from 26.7% to 20.0%.

interviews (household members can answer the questions as proxies for other members who are not present at the time of the interview and as such they might not be informed about all ongoing learning activities). In addition, the LFS covers only a part of non-formal learning activities (in particular, no coverage of guided on-the-job training (GOJT)), and it is not able to identify important pieces of information such as the source of funding (e.g. employer-financed training), the reasons/purposes for the learning (e.g. its vocational goal), or participation in multiple learning activities.

The AES and the CVTS have been implemented to achieve a more encompassing picture of LLL and its evolution in the EU. Both surveys add significantly to the knowledge of LLL. The dimensions covered – among many others – include:

- (a) a richer selection of learning activities (such as on-the-job training – AES, CVTS);
- (b) a detailed account of the reasons/purposes for participation, in particular, identifying job-related learning activities;
- (c) the observation of firms as key actors and gatekeepers to LLL;
- (d) information on funding sources, allowing identification of the role of employer-financed training (AES, CVTS) and the State's role in cofunding learning activities;
- (e) estimates of the time used for learning activities, allowing analysis of the intensity of participation over time and across countries;
- (f) indicators of financial contributions by households (AES) and employers (CVTS), delivering information on cross-country differences and trends over time.

To observe developments in adult education and training, analysts must gather information on participation rates, time used and money spent because no single indicator makes it possible to evaluate properly the progress made; gains for one indicator might be counterbalanced by losses in others. Therefore, in the following study, trends as depicted by the structural indicator of LLL are contextualised with alternative estimates of participation rates and estimates of resources (time, money) devoted to LLL.

3.3. Adult education and training: further evidence from AES

3.3.1. Overall AES participation rates

3.3.1.1. *Methodological remarks*

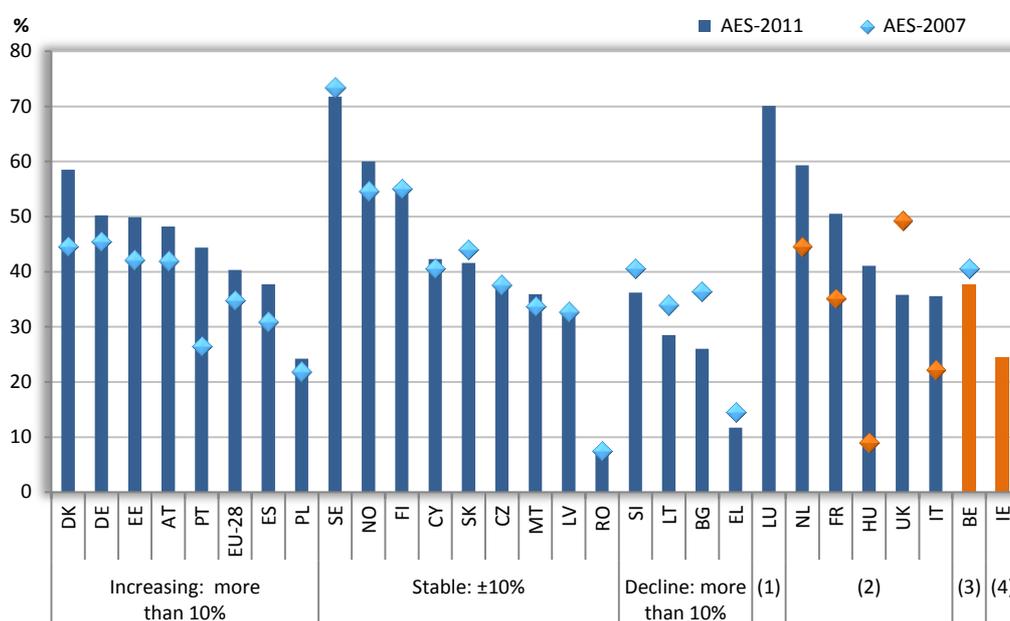
Participation rates are used as indicators of the involvement of adults in education and training. The numerator for the key participation rate proposed here consists of the members of the reference age group (25-64 year-olds) participating in one or more formal or non-formal learning activity during the reference period (one year) ⁽²³⁾. Informal learning is not addressed in this chapter. Various changes in methods limit comparability between the two waves of AES considered in the following sections. In the AES-2011, the results are not fully comparable for Belgium and Ireland. In addition, the results across survey waves (AES-2007 to AES-2011) are not (fully) comparable for France, Italy, the Netherlands, Hungary or the UK (Section 2.2 and Annex 4).

3.3.1.2. *Results on participation*

According to Eurostat estimates presented in the dissemination database, the participation rate of adults in the EU has increased to 40.3% in AES-2011. Compared to AES-2007 (34.8%), this is a marked increase of 5.5 percentage points or 15.8%. Comparisons of EU averages over time should be interpreted with caution. Eurostat estimates are based on results from countries that participated in the respective AES; hence they are based on a varying number of countries for the individual waves. Besides, calculations of EU averages include countries whose data, due to changes in the methodology, are not fully comparable over time (and some of them are among the most populous by EU standards). Cross-period comparisons of EU averages are likely to overestimate the increase in participation at EU level.

⁽²³⁾ For details, see Annex 4.

Figure 3. **Participation rate of adults (25-64 year-olds) in education and training (formal/non-formal), AES-2011 versus AES-2007**



NB: (1) No participation in AES-2007.
 (2) Data for AES-2007 not fully comparable to AES-2011.
 (3) Data for AES-2011 not fully comparable.
 (4) No participation in AES-1-2007, data for AES-2011 not fully comparable.
 The reference period for the data differs between countries and the timespan between the two waves is not always four years.

Source: Eurostat, AES, dissemination database (accessed 2.4.2014); own calculation.

Figure 3 shows that, behind the EU average, considerable variation exists between countries regarding levels and trends of participation. The participation rate of adults in AES-2011 varies between 8.0% (Romania) and 71.8% (Sweden); this is only slightly less variation than in AES-2007 (7.4% for Romania, 73.4% for Sweden). The overall picture shows high participation rates particularly in the northern and some of the western European countries (Denmark, Germany, France, Luxembourg, the Netherlands, Austria, Finland, Sweden and Norway), but also in some southern and eastern Europe countries (Estonia, Cyprus, Hungary, Portugal and Slovakia).

For seven countries (Denmark, Germany, Estonia, Spain, Austria, Poland, Portugal; Figure 3), increases in participation of more than 10% (compared to the previous survey) are reported. The highest increase (apart from countries where results across waves are not considered fully comparable) is recorded for Portugal, where, *inter alia*, an obligation for employers to provide CVT to their employees was implemented. The countries with strong increases in participation rates between AES-2007 and AES-2011 included both countries with high

participation rates in AES-2007 and countries with low participation rates in AES-2007. Nine countries (Czech Republic, Cyprus, Latvia, Malta, Romania, Slovakia, Finland, Sweden and Norway) continued to have stable rates of adult participation in FED and NFE. Most of these countries already had above-average participation in the AES-2007 or were close to the EU average. The exception is Romania, which had very low participation rates in both waves, without much change between 2007 and 2011.

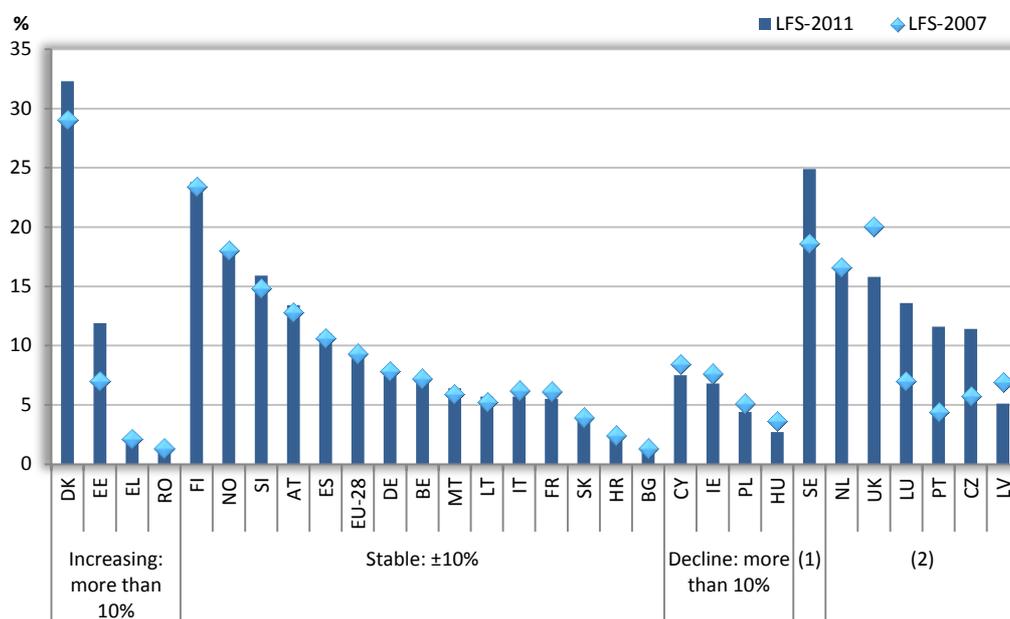
Finally, four countries had strong decreases (more than 10%) in reported participation rates (Bulgaria, Greece, Lithuania and Slovenia). No pattern emerges regarding these countries. The economic crisis contributed to the decline in participation rates in Bulgaria and Greece (e.g. for Bulgaria see NSI, 2013, p. 5).

Luxembourg and Ireland only participated in the AES-2011; Luxembourg reported outstandingly high participating rates (70%), second only to Sweden. The results for Belgium are below the EU average and those for Ireland are well below the EU average, but they are not fully comparable. France, Italy, Hungary, the Netherlands and the UK had data comparable across countries for AES-2011, but not for AES-2007 and therefore not across survey waves (see Annex 4 for details).

3.3.1.3. *Comparison of trends in participation according to AES and LFS*

Based on AES results, the overall picture indicates increasing or stable participation rates in most countries, with only four countries reporting substantial decreases (countries where concerns regarding the comparability of data over time persist are disregarded). According to LFS, adult participation in LLL in the EU can be characterised as slightly decreasing between 2007 and 2011, with diverging levels and developments in individual countries (Figure 4).

Figure 4. **Participation rate of adults (25-64 year-olds) in education and training, LFS 2011 versus LFS 2007**



NB: (1) Provisional data (2007); break in time series in at least one year between 2007 and 2011.

(2) Break in time series in at least one year between 2007 and 2011.

Source: Eurostat, LFS, dissemination database (accessed 1.10.2014); own calculation.

The most relevant reasons for differences in the levels of participation are:

- (a) the length of the reference period (four weeks in LFS, 12 months in AES);
- (b) the coverage of LLL, in particular regarding GOJT (excluded in LFS, included in AES);
- (c) methodological differences between the surveys, notably the use of proxy interviews and the choice of interview methods, which could affect the indicator of LLL in LFS (for a detailed discussion see Behringer and Schönfeld, 2014).

It is not only the level of participation that differs according to the data source, but equally the development over time does not always show similar trends (see Behringer and Schönfeld, 2014 for a detailed discussion). Based on the metrics ⁽²⁴⁾ previously used, the following results emerge:

⁽²⁴⁾ For both AES and LFS, developments are classified as increases or decreases if they exceed 10%. The category 'stable' encompasses developments between -10% and +10%. Only countries without any break in series between 2007 and 2011 (LFS) or between AES-2007 and AES-2011 are considered. Because of the low participation rates in LFS and the related base effect, calculating development as a percentage of the participation rate in 2007 will result in more countries being labelled as increasing or decreasing than with other indicators. Examples are LFS

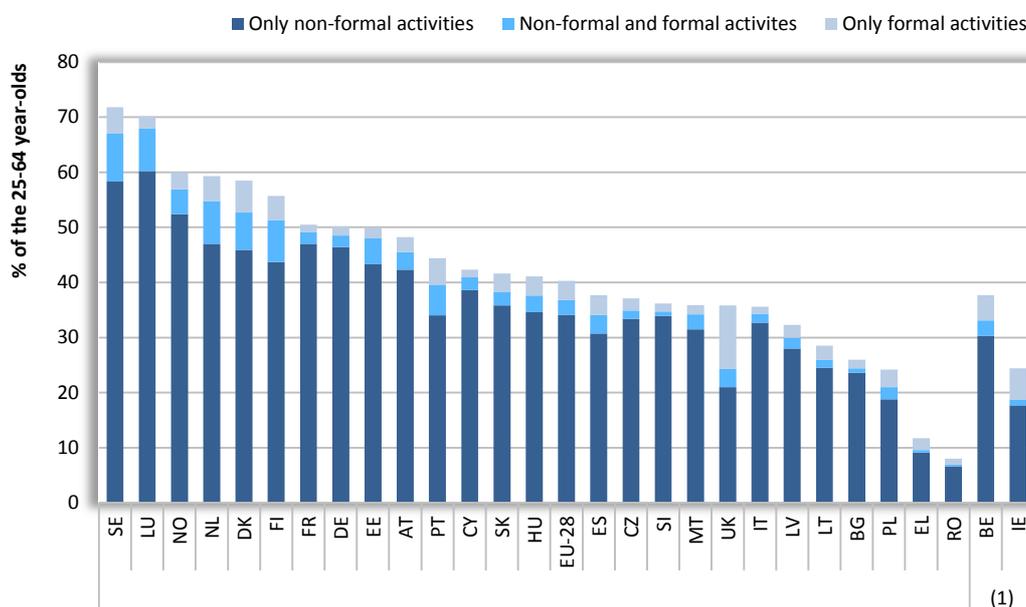
- (a) in Denmark and Estonia, both surveys indicate increases in participation rates between 2007 and 2011;
- (b) for Malta, Slovakia, Finland and Norway, both surveys indicate relative stability;
- (c) in Germany, Spain and Austria, AES points to a substantial increase in FED and NFE, while the LFS denotes that participation (FED and NFE) remained stable or increased only slightly between 2007 and 2011. In Cyprus, AES points to stability, while LFS suggests a decline. In Poland, the development according to AES is positive, but LFS suggests a decline. In principle, these divergences could be explained by diverging coverage of LLL of adults, with AES covering more learning activities;
- (d) for Greece, Lithuania and Romania, AES shows stable or declining participation rates, while LFS results point to an increase; in these cases, however, absolute changes in the participation rate are very small. In Bulgaria and Slovenia, AES indicates a substantial decline, but LFS signals stability. These differences cannot be explained with the available information.

3.3.2. Importance of CVET: the non-formal, job-related and employer-sponsored components of adult learning

While participation rates in LLL vary considerably across countries, the composition of participation rates from participation in different forms of adult learning is considerably equal across countries and shows characteristic and stable features. In the following, these features are summarised as they are important for the overall understanding of the indicators presented in the study.

results of Lithuania and Romania, where an increase of 0.3 percentage points translates into an increase of 14% and 23% respectively because of the low participation rate in 2007.

Figure 5. **Participation rates of adults (25-64 year-olds) in education and training by type, formal versus non formal, AES-2011**



NB: (1) Limited comparability. Countries sorted according to the overall participation rates in FED and NFE. The reference period for the data differs between countries and the timespan between the two waves is not always four years.

Source: Eurostat, AES, dissemination database (accessed 12.10.2014); own calculation.

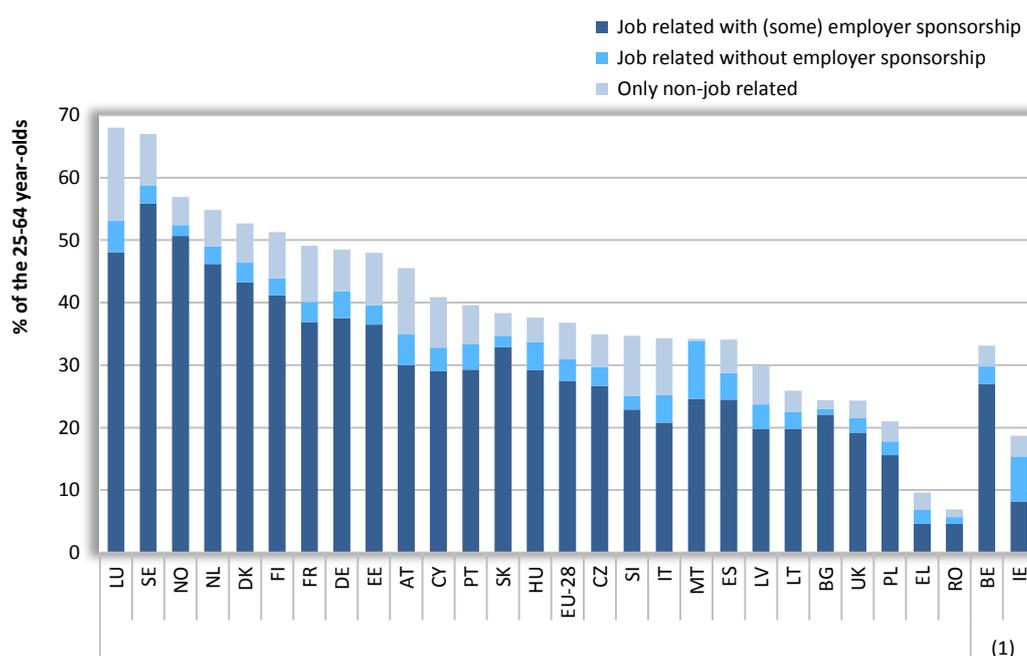
As shown in Figure 5:

- adults predominantly participate only in NFE (EU average: 34.1%) and a few combine participation in non-formal and formal activities (EU average: 2.7%). In all countries, NFE participation rates are far higher than participation rates in FED (EU average: 36.8% for NFE versus 6.2% for FED);
- differences across countries in participation rates stem mainly from differences in non-formal activities;
- in the EU on average, 3.5% of adults participate only in FED. Only in the UK do more than 10% of adults participate only in FED, however, this high participation in FED reflects the particularities of a system strongly oriented towards credit-based provision of formal education for adults, which blur the demarcation line between formal and non-formal provision (Hefler, 2013).

Formal adult learning plays a significant role for raising the qualification levels of adults, particularly in countries with lower educational attainment. However, particular attention must be paid to the non-formal part of adult learning, which indeed marks and explains the main differences across countries for participation in adult learning.

Figure 6 only considers participation rates in NFE. It breaks them down, applying two distinctions. First, participation in job-related and non-job-related activities is distinguished. Second, job-related activities are further differentiated in terms of whether or not they are employer-sponsored (for details of the definition used, see Section 4.5.).

Figure 6. **Participation rates of adults (25-64 year-olds) in non-formal education and training by purpose and employer sponsorship: the job-related and employer-sponsored components, AES-2011**



NB: (a) Data for AES-2011 not fully comparable across countries.

The reference period for the data differs between countries and the timespan between the two waves is not always four years.

Source: Eurostat, AES, dissemination database (accessed 16.10.2014); own calculation.

While participation rates in NFE vary substantially across countries, some more general patterns can be identified:

In all countries, adults participate mainly in job-related NFE activities or combine job-related with non-job-related activities. Adults participating only in non-job-related activities make up a minority of adults; in the EU average, 30.9% of all adults participate in NFE and do so for job-related purposes (at least on one occasion). In other words, 84% of participants in NFE had job-related purposes for doing so (at least one job-related activity).

Adults participate mainly in job-related learning activities, which are fully or partly sponsored by their employers. In all countries, only a small minority of adults participate in job-related learning activities for which no support has been

provided by an employer. In the EU average, 27.5% of adults participate in job-related employer-sponsored activities. This corresponds to 74.7% of all participants in NFE and 89% of all participants in job-related NFE.

When considering NFE, different participation rates in the adult population across countries are mainly due to differences related to the employer-sponsored component. Therefore, employers' support for participation in job-related NFE emerges as a key factor for the overall participation rates in LLL.

To summarise, in all countries adults' participation rates in education and training are strongly determined by the non-formal, job-related and employer-sponsored components.

With specific regard to the employer-sponsored component, and to explain cross-country differences in terms of participation in LLL, the following should be noted:

- (a) employers' involvement and behaviour with regard to training matters considerably (e.g. how regularly are training activities implemented; what layers of the workforce are included; what types of training are offered?);
- (b) differences in employment rates across countries also matter: hypothetically assuming across countries an equal employer propensity to support training, an equal employee propensity to participate and an equal socioeconomic compositional (e.g. occupational) structure, the higher the share of employed adults in a country, the higher the share of potential beneficiaries of such support, which is the main statistical driver of LLL in the adult population;
- (c) countries with lower or decreasing employment rates face additional challenges to raise participation in adult learning, which should be compensated by correspondingly adequate active labour market policies.

This shows that employment and LLL targets are closely related. Other things being equal, high levels of participation in LLL are closely linked to high levels of economic activity of the adult population. Decreasing or increasing participation in economic activity implies most likely increasing or decreasing participation rates in LLL. So the goals in LLL as outlined in the ET 2020 strategy are closely linked to the goals for increasing economic activity rates.

3.4. CVET in enterprises: further evidence from CVTS

Enterprises are decisive gatekeepers to LLL: across Europe, adult education and training is mostly non-formal, mostly job-related and it mostly takes place at the workplace, during paid working time or is financially supported by the employer. This is why two questions and indicators are particularly important: how many

enterprises provide continuing education and training (training incidence) and how many employees attend training (the participation rate of employees). Together, incidence and participation provide a first insight into enterprises' training behaviour in a given country. These are further complemented by other important data on hours of training and related enterprise expenditure.

In enterprise surveys, it is not feasible to apply the classification of learning activities (Eurostat, 2006) or to differentiate between FED, NFE and informal learning. Instead, CVTS distinguishes between (formal and non-formal) courses and other forms of (non-formal and informal) learning ⁽²⁵⁾.

Box 1. Definition of training incidence and training participation in CVTS

Training incidence (in CVTS)

To be classified as a training enterprise the enterprise must finance fully or at least partly training that was planned in advance. The primary objective must be the acquisition of new competences or the development and improvement of existing competences.

CVT measures include CVT courses ^(a) and other forms of CVT (GOJT; job rotation, exchanges, secondments or study visits; learning or quality circles; self-directed learning; attendance (instruction received) at conferences, workshops, trade fairs and lectures (see also Box 3 in Section 5.2.1; Eurostat, 2012b, p. 24-25).

Training participation (in CVTS)

A participant is an employee who has taken part in one or more CVT courses during the reference year (Eurostat, 2012b, p. 27).

Participation rates for every single other form (see Box 3 in Section 5.2.1) are also available. As an employee could participate in more than one of the several CVT forms, it is not possible to calculate an overall participation rate in one or more of the other forms of CVT or in any type of employer-financed CVT.

^(a) 'CVT courses are typically clearly separated from the active workplace (learning takes place in locations specially assigned for learning, such as a classroom or training centre). They exhibit a high degree of organisation (time, space and content) by a trainer or a training institution. The content is designed for a group of learners (e.g. a curriculum exists)' (Eurostat, 2012b, p. 24).

⁽²⁵⁾ After careful consideration, the task force preparing CVTS3 concluded that implementing the classification of learning activities is not feasible in the CVTS. Hence, the concept of the CVTS remained related to 'courses' (which include both FED and NFE) and 'other forms of CVT' (which are considered as partly non-formal, partly informal by country experts). However, country experts do not always agree on the allocation of individual forms of employer-financed CVT to the categories defined by the classification of learning activities, which reflects different traditions in countries, but also blurred distinctions between the various subtypes of the 'other' forms of CVT.

The indicator 'incidence' has as its numerator the enterprises providing any type of CVT (details in Box 1); it does not include provision of initial vocational training (IVT) for persons holding an apprenticeship or training contract.

The most frequently used participation rate derived from CVTS relates the number of all participants in employer-financed CVT courses (numerator) to employees in all enterprises (denominator). Participation rates for each of the other forms of CVT can be calculated as well; the necessary information was collected in CVTS4 (as in CVTS3 and CVTS1). However, due to the CVTS methodology they cannot be aggregated into a more general indicator.

Comparability of country results is restricted for Portugal (CVTS4) and the UK (CVTS3 and CVTS4) ⁽²⁶⁾.

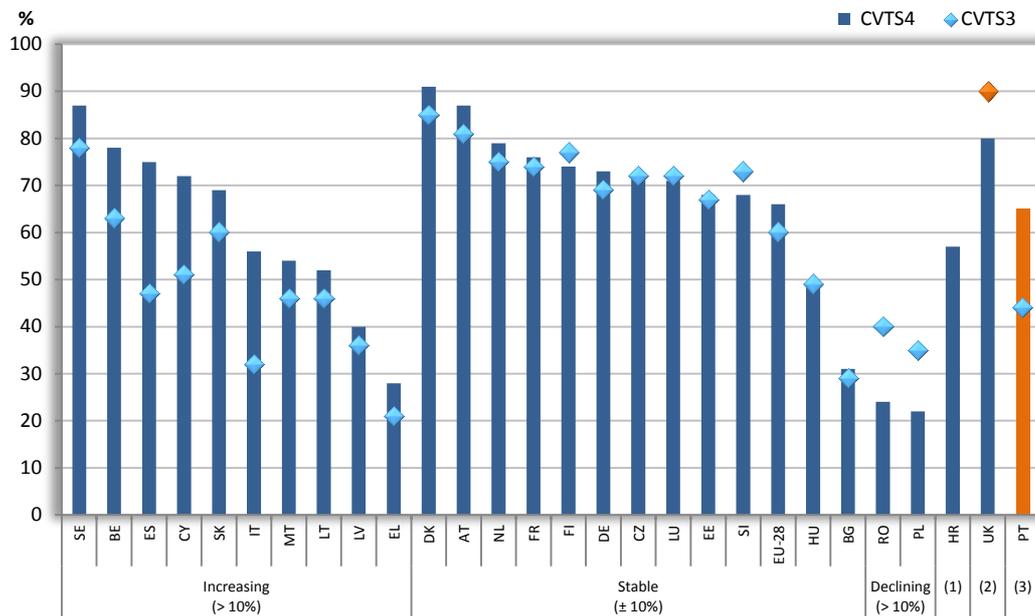
3.4.1. Incidence (training enterprises)

According to Eurostat estimates, training incidence in the EU has reached 66%, after 60% in 2005. This is a moderate increase of 6 percentage points or 10% over the 2005 baseline.

Figure 7 illustrates the strong differences between countries. Incidence is as high as 91% in Denmark, but only 22% in Poland. The upper and lower limits are only slightly different from those in 2005. Altogether, the divergences between countries regarding incidence have not been reduced.

⁽²⁶⁾ See Annex 4 for details.

Figure 7. Training incidence, percentage of enterprises providing any type of training (courses or other forms), CVTS4 versus CVTS3



NB: (1) No participation in CVTS3.
 (2) Data for CVTS3 not comparable.
 (3) Data for CVTS4 not fully comparable.

Source: Eurostat, CVTS, dissemination database (accessed 3.4.2014); own calculation.

For 12 countries (Bulgaria, Czech Republic, Denmark, Germany, Estonia, France, Luxembourg, Hungary, the Netherlands, Austria, Slovenia and Finland), the incidence did not change more than $\pm 10\%$ between 2005 and 2010, which is also the case for the EU indicator ($+10\%$). In most of these countries with a stable share of training enterprises, the incidence was already high in 2005, with Bulgaria and Hungary being exceptions. For 10 countries (Belgium, Greece, Spain, Italy, Cyprus, Latvia, Lithuania, Malta, Slovakia and Sweden), an increase of more than 10% is reported; in most of these countries, the incidence was below average in 2005 (except for Belgium, Slovakia and Sweden). For three countries, the calculated increase is higher than 40%: Italy (+75%), Spain (+60%) and Cyprus (+41%). For Italy and Spain, changes to the institutional framework in 2005 and 2009 respectively may have contributed to the reported increases (see Section 2.1 for more details). Nevertheless, the reported changes are so substantial that their plausibility should be further investigated and data should be interpreted with caution.

In two countries the incidence has dropped by 37% (Poland) and 40% (Romania). In both countries, the incidence was already below average in 2005. However, these remarkable drops should be interpreted with caution, as their

magnitude largely outlines the general patterns. Finally, three countries could not report any development over time. Croatia participated for the first time, with a share of training enterprises of 57%, slightly below the estimated EU average. In the UK, the training incidence in 2010 is as high as 80%, but no comparison with CVTS3 is possible for methodological reasons. In Portugal, the results of CVTS4 may not be fully compared with other countries, as they are partly derived from administrative sources.

Country averages for incidence are strongly influenced by small enterprises' behaviour. Most theoretical and empirical literature agrees that an enterprise's size and sector is important for its training behaviour.

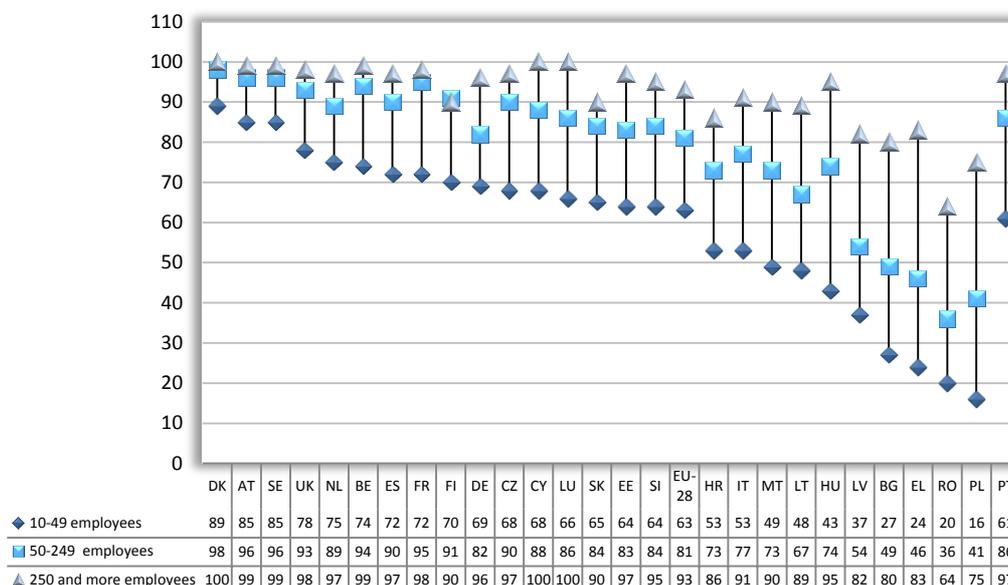
On average in Member States, the incidence rate is estimated at 63% for small enterprises, 81% for medium-sized enterprises and 93% for big enterprises.

In all countries, big enterprises are more frequently training enterprises than small and medium-sized enterprises ⁽²⁷⁾ (Figure 8). Results for big enterprises (high levels and low variability) are also encouraging when looking at country level: in Denmark, Cyprus and Luxembourg all big enterprises provide CVT to their employees; only in seven countries is the incidence rate for big enterprises below 90%, and only in two is it below 80% (Poland 75% and Romania 64%)

Results are remarkably less favourable when looking at small enterprises. Only in nine countries do 70% or more of the small enterprises finance courses or other forms of CVT for their employees. Moreover, the training behaviour of small enterprises differs substantially between countries, with incidence in small enterprises ranging between 16% in Poland and 89% in Denmark. For medium-sized enterprises, results stand somewhat in between: compared to small enterprises, the incidence of training tends to be higher (in most countries, with six exceptions, at least 70% of them provide training and the variation between countries is also considerably lower, with the spread stretching from 36% (Romania) to 98% (Denmark).

⁽²⁷⁾ Definition of size classes: 10-49, 50-249, 250 or more employees. More detailed size classes are not currently published by Eurostat.

Figure 8. Training incidence, percentage of enterprises providing CVT by size class, CVTS4



NB: Portugal data for CVTS4 not fully comparable.

Source: Eurostat, CVTS, dissemination database (accessed 25.4.2014); own calculation.

The size of the enterprise matters in all countries regarding incidence, but to a varying extent. A total of 11 countries (Belgium, Denmark, Germany, Spain, France, the Netherlands, Austria, Slovakia, Finland, Sweden and the UK) show small differences by size class ⁽²⁸⁾, while other countries (notably Bulgaria, Greece, Latvia, Hungary, Poland and Romania) display rather large differences ⁽²⁹⁾. Compared to CVTS3, some countries reported increasing differences between enterprises of different sizes (e.g. Bulgaria, Luxembourg, Poland and Romania), but in more countries these differences have been reduced (e.g. in Belgium, Spain, Italy, Cyprus, Lithuania, Malta, Austria, Slovakia and Sweden) ⁽³⁰⁾.

Moreover, especially regarding small enterprises the development is positive (Figure A1 in Annex 1). In 11 countries (Belgium, Bulgaria, Greece, Spain, Italy, Cyprus, Latvia, Lithuania, Malta, Slovakia and Sweden) the training incidence in

⁽²⁸⁾ The incidence of big enterprises exceeds the incidence of small enterprises by less than 40%.

⁽²⁹⁾ The incidence of big enterprises is more than double the incidence of small enterprises.

⁽³⁰⁾ For the countries explicitly mentioned, the spread of incidence by size class increased or decreased by more than five percentage points.

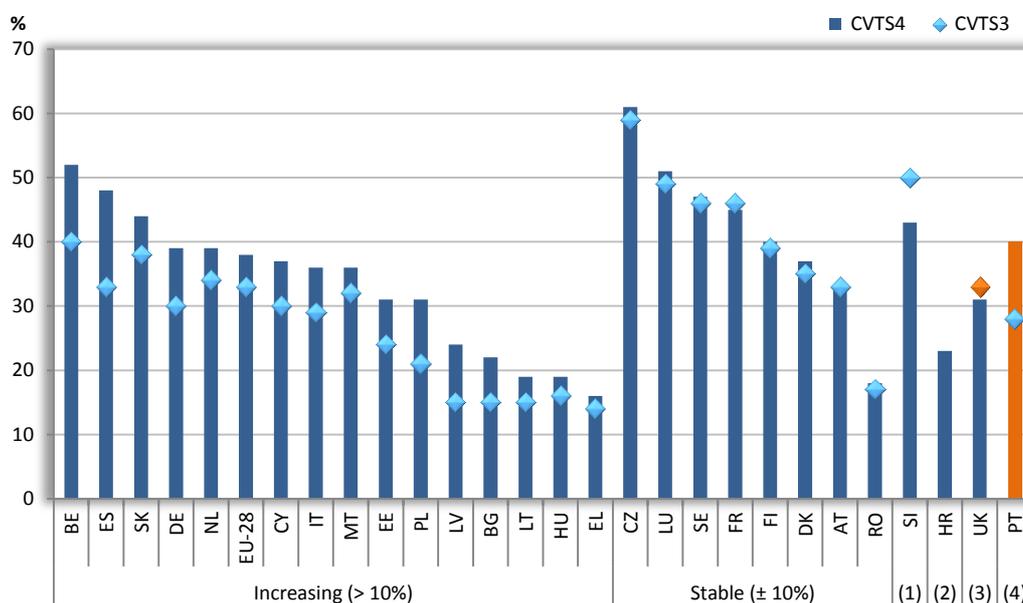
small enterprises increased by more than 10%. Only two countries (Poland, Romania), which already had low rates in 2005, saw incidence further decline by more than 10%. For medium-sized and big enterprises, which already had high incidence in 2005 in most countries, changes are less pronounced (also because of a base effect). In most countries, the development indicates stability. For medium-sized enterprises, six countries (Bulgaria, Greece, Spain, Italy, Malta and Slovakia) indicate an increase of more than 10%; for big enterprises, three countries (Bulgaria, Germany, Greece); with only two (Poland, Romania) for small enterprises and one country (Romania) for medium-sized enterprises seeing a substantial decline of incidence.

3.4.2. Participation of employees

The most frequently used indicator of training participation based on CVTS expresses the share of employees in all enterprises that participated in courses during the reference period. The indicator answers the following question: what share of the employees in the country participates in employer-financed CVT? The indicator is acknowledged as most suitable for cross-country comparisons (Behringer et al., 2008a). CVTS covers also forms of training beyond courses – the so-called other forms of training (Section 5.2). While the other forms are important as well, they are more difficult to measure across countries and therefore are not discussed here (but in Section 5.2).

In Member States, according to Eurostat estimates, 38% of employees participated in CVT courses in 2010, compared to 33% in 2005 (Figure 9). This is a marked increase of 5 percentage points (or 15% of the 2005 baseline). The participation rate in 2010 varies strongly between countries, between 16% and 61%, with not much change in this spread compared to 2005. It would appear that there is no trend towards convergence between 2005 and 2010. Countries with low participation rates (below 25% of all employees in 2010) are mostly eastern Europe states (Bulgaria, Greece, Croatia, Latvia, Lithuania, Hungary and Romania). In three countries (Belgium, the Czech Republic and Luxembourg) the participation rate is 50% or higher.

Figure 9. Training participation rate, percentage of employees participating in CVT courses (all enterprises), CVTS4 versus CVTS3



NB: (1) Declining by more than 10% of CVTS3.
 (2) No participation in CVTS3.
 (3) Data for CVTS3 not fully comparable.
 (4) Data for CVTS4 not fully comparable.

Source: Eurostat, CVTS, dissemination database (accessed 3.4.2014); own calculation.

Compared to 2005, the participation rate increased by more than 10% in 15 countries (Belgium, Bulgaria, Germany, Estonia, Greece, Spain, Italy, Cyprus, Latvia, Lithuania, Hungary, Malta, the Netherlands, Poland and Slovakia). In most of these countries, the participation rate was below average in 2005, and despite the progress, it still is below average in 2010. In four of these countries (Bulgaria, Spain, Latvia and Poland) the increase was 45% or higher. For Spain, a strong increase in incidence (the share of enterprises providing training) had already been noted; the increase in employee participation fits in with this increase in enterprise incidence. In Spain, a strong increase in both measurements could also be at least partly explained by changes in institutional settings. In Latvia, Bulgaria and Poland, strong increases in participation rates were not combined with comparable improvements in enterprise incidence (in Poland enterprise incidence even deteriorated). However, in these three countries the 2005 participation levels constituting the baselines for the reported increases were comparatively small. This means that large percentage increases in the indicators can be produced more easily than in other countries.

In eight countries (Czech Republic, Denmark, France, Luxembourg, Austria, Romania, Finland and Sweden), the participation rate in 2010 was relatively

stable compared to 2005. In most of these countries – except Romania – the participation rate was at least in line with the EU average in 2005. Only Slovenia reported a decline of more than 10%, but its participation rate is still clearly above average. Finally, for three countries it was not possible to properly assess the development over time, because of they did not participate in the first wave (Croatia) or because methodological limits to comparisons across waves (Portugal and the UK) ⁽³¹⁾. In Croatia and the UK, the training participation of employees in CVTS4 is below the EU average (23% and 31% respectively).

Enterprise size has an influence not only on training incidence but also on training participation. According to Eurostat estimates, the average participation rate for Member States is 25% for employees of small enterprises, 34% for those employed in medium-sized enterprises, and 46% for those working in big enterprises.

In all countries except Denmark, the participation rates for employees of big enterprises are highest, and in all but two countries the rates for employees of small enterprises are lowest. Croatia and Finland are the exceptions, with employees of small enterprises participating just as frequently as employees of medium-sized enterprises in the same country.

Positive or stable developments in employees' participation rates in CVT courses affected small, medium and large enterprises. In nearly all countries the participation rate increased or at least was stable between 2005 and 2010 (Figure 10). Only in small enterprises in Romania and Slovenia did the participation of employees decline. Because of the high share of small enterprises, the overall development in Slovenia is negative, even though the participation rate in medium-sized and big enterprises is stable. For Romania, participation declines in small enterprises, is stable in medium-sized enterprises and is increasing in big enterprises; overall the participation rate is stable between 2005 and 2010.

Focusing on small enterprises, in 18 countries training participation increased by more than 10%, but in 10 of these countries (Bulgaria, Estonia, Greece, Italy, Cyprus, Latvia, Lithuania, Hungary, Malta and Poland) the participation rates are still below the EU average. In the Czech Republic, France, Austria and Finland the development over time is stable.

⁽³¹⁾ See Annex 4 for details.

Figure 10. Training participation rate, percentage of employees participating in CVT courses by size class (all enterprises), CVTS4 versus CVTS3



NB: (1) Did not participate in CVTS3.
 (2) Data for CVTS3 not fully comparable.
 (3) Data for CVTS4 not comparable.

Source: Eurostat, CVTS, dissemination database (accessed 2.10.2014); own calculation.

Another way of looking at differences across enterprise size classes is to consider relative participation rates. In particular, it is possible to express the participation rates of employees working in small and big enterprises as an index number relative to the participation rate of employees working in medium-sized enterprises (which is made equal to 100 in all countries and on the EU average) ⁽³²⁾.

On average in the EU, the chances of an employee of a small enterprise participating in employer-financed training are 26% lower than those of an employee of a medium-sized enterprise (relative participation rate at 74), while those of an employee in a big firm are 35% higher (relative participation rate at 135, see Table 5).

In almost all countries, the chances of participating in CVT courses are lower for employees working in small enterprises than for employees working in medium-sized enterprises. In 12 countries the differences are quite high and the relative participation rate is lower than 70%. Seven of these countries are eastern Europe countries (Bulgaria, Latvia, Lithuania, Poland, Romania, Slovenia and Slovakia); but Belgium, Greece, France, Italy and Malta also belong to this group. Further, in four of these countries (Bulgaria, Greece, Poland and Romania) the chances of employees of big enterprises participating in employer-financed CVT are at least twice as high as for employees of medium-sized enterprises, thus indicating the strongest inequality in training participation within countries by size class. A more equal distribution of training participation with higher participation rates for employees in small enterprises (at least 80% of the participation rate of medium-sized enterprises) appears in Denmark, Germany, Croatia, the Netherlands, Finland, Sweden and the UK. Finally, in six countries (Belgium, Czech Republic, Denmark, Austria, Sweden and the UK), the chances of participation do not differ strongly between employees of medium-sized and big enterprises (at most 20% higher than the reference group). To sum up, participation rates in all countries are related to the size class of the enterprise, but the strength of this relationship differs enormously between countries.

⁽³²⁾ This part draws on Behringer and Schönfeld, 2014. Relative participation rates are calculated with medium-sized enterprises as the reference group. The participation rate of employees in small enterprises is expressed in relation to the participation rate of employees in medium-sized enterprises (74% for the estimated EU average). For big enterprises, the relative participation rate is on average 135% of medium-sized enterprises. The last column of Table 5, Range (maximum-minimum) shows the range of relative participation rates, thus providing an indicator of the magnitude of a country's overall inequity of participation.

Table 5. **Employees' participation in CVT courses, participation rate and relative participation rate of employees by enterprise size class (all enterprises), CVTS4**

Country	Participation rate in %				Relative participation rate (index, 50-249 employees = 100)			Range (maximum- minimum)
	Total	10-49 employees	50-249 employees	250 or more	10-49 employees	50-249 employees	250 or more	
EU-28	38	25	34	46	74	100	135	62
BE	52	34	51	61	67	100	120	53
BG	22	8	16	44	50	100	275	225
CZ	61	46	60	70	77	100	117	40
DK	37	36	40	37	90	100	93	10
DE	39	28	35	44	80	100	126	46
EE	31	22	31	41	71	100	132	61
EL	16	7	11	31	64	100	282	218
ES	48	35	45	61	78	100	136	58
FR	45	27	42	56	64	100	133	69
HR	23	19	19	27	100	100	142	42
IT	36	21	32	54	66	100	169	103
CY	37	24	31	61	77	100	197	119
LV	24	14	22	39	64	100	177	114
LT	19	11	17	28	65	100	165	100
LU	51	34	44	69	77	100	157	80
HU	19	11	15	28	73	100	187	113
MT	36	15	33	60	45	100	182	136
NL	39	29	35	45	83	100	129	46
AT	33	26	33	38	79	100	115	36
PL	31	9	21	48	43	100	229	186
PT (b)	40	27	42	52	64	100	124	60
RO	18	6	11	28	55	100	255	200
SI	43	24	36	60	67	100	167	100
SK	44	28	44	54	64	100	123	59
FI	40	32	32	48	100	100	150	50
SE	47	40	48	53	83	100	110	27
UK	31	25	28	33	89	100	118	29

NB: (b) = Break in time series.

Source: Eurostat, CVTS, dissemination database (accessed 25.4.2014); own calculation.

Comparing the results of both waves, the overall picture has only changed towards slightly more equal participation according to the size class of the enterprise (Table A2 in Annex 1). In 2005, on average in the EU the chances of participating in CVT courses for employees in small enterprises were 28% lower compared to employees in medium-sized enterprises (2010: 26%). For employees in big enterprises, the chances of participation (relative participation rate 2005: 141%) were even higher than 2010 (135%).

In most countries, the chances for employees in big enterprises to participate in employer-financed training in 2010 are closer to the reference group than in 2005, indicating an increase in equity regarding medium-sized and

large enterprises. Only in Bulgaria, Estonia, Cyprus and Poland did inequity of employees in large enterprises increase markedly between 2005 and 2010. When considering relative participation rates of employees in small enterprises, the changes between 2005 and 2010 are mostly smaller. Notable decreases in relative participation rates (i.e. increase of inequity) occurred in Germany and Romania, while notable increases occurred in Belgium, Spain, Italy and Cyprus. In Cyprus, the relative participation rate of employees in small enterprises has increased (pointing towards greater equity in training provision), but the relative participation rate for employees in big enterprises has also increased (pointing towards less equity). The developments in Belgium, Spain and Italy are noteworthy, with increasing equity of participation in both small and big enterprises.

3.4.3. Intensity (hours of training)

The time devoted to learning is a key indicator of investment in LLL. Learning activities can vary from participating in one-hour instruction at the workplace to a course lasting many months⁽³³⁾. Given the broad variety of learning activities, the duration of activities differs as well. Time devoted to learning activities is typically measured as time devoted to coursework (extended or not extended to related efforts such as homework or travel time) or the duration of the other activities, such as GOJT.

Most learning activities of adults seem to be short, while only a few are very long, although the inclusion of FED would change the picture to some degree. Nonetheless, different time structures are important when comparing LLL of different countries, because of sometimes greatly differing averages of participation and duration of learning activities. Studies on individual participation in AES even go so far as to identify a 'trade-off between participation rates and mean hours of instruction in most countries' (FiBS and DIE, 2013, pp. 5-6).

In the following section, the number of training hours per 1 000 working hours is used for cross-country comparison. The indicator has the advantage that it makes it possible to compare the volume of hours in training with the volume of hours worked as flow data over the reference period of a calendar year. In so far, the indicator is not affected by differences or fluctuations in employment levels and the impact of part-time work (Annex 3; Behringer et al., 2008a).

⁽³³⁾ E.g. German AES-2007 data reveals for NFE that (see von Rosenblatt and Bilger, 2008, p. 67; or Bilger et al., 2013) 17% of the learning activities have a length of a few hours, 58% of the learning activities have a length from one day to a few days, 8% of the learning activities have a length of some weeks and 15% of the learning activities have a length of some months.

3.4.3.1. *Methodological remarks*

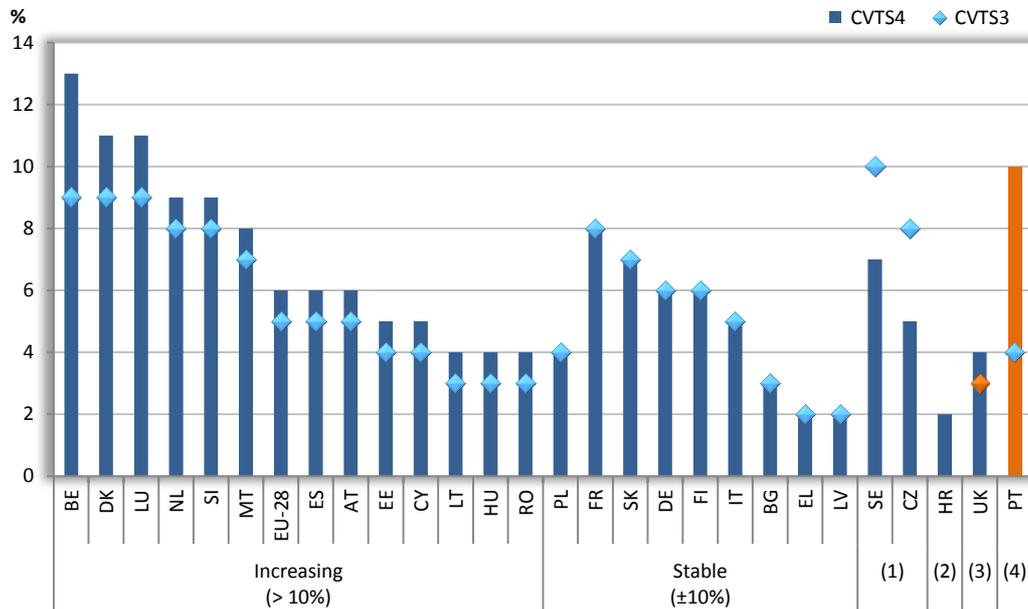
Estimates for working time devoted to coursework may have a lower level of accuracy compared to participation of employees, as they are a more complex variable to record and collect. Data for Portugal in 2010 are taken from a newly established register and are not comparable to results for other countries (see Section 2.2 and Annex 4 for details).

3.4.3.2. *Results*

Eurostat estimates that in 2010 (CVTS4), in the EU, the average time spent on CVT courses was six hours per 1 000 hours worked (it was five hours in 2005, CVTS3). CVTS4 reports an increase of one training hour per 1 000 hours worked (in 13 countries) between 2005 and 2010. In nine countries, the results are stable. Declines can be observed in the Czech Republic and Sweden, which might be the result of methodological changes (Section 1.4.2 and Annex 4). Increases in Portugal and the UK are strongly affected by methodological changes. Overall, most European enterprises spent as much or more time on training in relation to the hours worked.

The comparison between CVTS2 (1999) and CVTS3 (2005) previously demonstrated a certain movement towards convergence between old and new Member States (Käpplinger, 2011). This happened because almost all north, west and south European countries enterprises reduced intensity, while east European countries reported increased intensity. The comparison between CVTS3 (2005) and CVTS4 (2010) does not confirm this trend, but instead shows a diverse picture within and across country groups.

Figure 11. Hours in CVT courses per 1 000 hours worked (all enterprises)



NB: (1) Declining by more than 10% of CVTS3.
 (2) No participation in CVTS3.
 (3) Data for CVTS3 not comparable.
 (4) Data for CVTS4 not fully comparable.

Source: Eurostat, CVTS, dissemination database (accessed 3.4.2014); own calculation.

The results for CVTS4 should be interpreted correctly. Increasing levels of the indicators do not necessarily mean that in absolute terms the volume of hours devoted to training went up. As with all indicators, it is expressed relative to some other factor. In this case, this factor is the total number of working hours, which decreased in the EU average and across many countries ⁽³⁴⁾. Results for this indicator support instead the idea that, despite or because of the economic crisis, enterprises in many European countries increased or stabilised their relative engagement in providing time for training.

⁽³⁴⁾ Analysis of relevant OECD data shows that the hours worked decreased in 10 European countries (Denmark, Estonia, Ireland, Greece, Spain, Italy, Hungary, Austria, Portugal and the UK) between 2005 and 2010, while this figure increased in 12 countries (Belgium, Czech Republic, Germany, France, Luxembourg, the Netherlands, Poland, Slovenia, Slovakia, Finland, Sweden, Norway). Thus, the increases are not always influenced by the change in the total hours worked, although the EU average has decreased by 0.3 million hours worked in this period. Trends for working hours in enterprises covered by CVTS may differ from general country patterns as in Austria, where working hours have increased in enterprises covered by CVTS (Statistik Austria, 2013), while overall working hours have decreased in the country (according to OECD).

The indicator of intensity in relation to size and sector has results that mirror CVT's relationship to these two structural variables. Bigger enterprises tend to provide more time for learning than smaller enterprises, although the differences decline when focusing solely on the training enterprises and not on all enterprises.

On average, enterprises with 250 or more employees invest two hours more than enterprises with 10 to 49 employees in 2005 and also in 2010. Again, differences between countries must be carefully interpreted. While countries such as Belgium, France, the Netherlands or Sweden sometimes have a large gap between big and small enterprises, the situation is also sometimes inverted. This is the case for Bulgaria, Latvia, Lithuania or the UK, where smaller training enterprises invest more time than bigger enterprises when they provide training. National developments between 2005 and 2010 have also been heterogeneous. Although the EU average is stable, in countries such as Belgium, bigger enterprises outperformed smaller enterprises. In some countries, the performance with regard to training intensity has changed between big and small enterprises. And finally, some countries such as Lithuania have smaller enterprises that outperformed bigger enterprises between 2005 and 2010. There is no observable trend towards a European convergence in this respect.

The sectoral breakdown available via Eurostat has insufficient detail for relevant and meaningful analysis, presenting a division in only five categories (industry; construction; wholesale, etc.; finances/insurance, etc.; and real estate, etc.). Findings confirms that the banking and insurance sector is one of the most active sectors in providing CVT. The EU average for this sector and all its enterprises is 11 hours per 1 000 hours worked, while all four other groups of sectors display only five to six hours. This picture is valid for most countries, although again national characteristics are sometimes clearly observable. Based on available data, the degree of national divergence from the EU average is less prominent when considering variability by sector than when considering variability by size of the indicator, although more detailed sectoral breakdowns could reveal higher variability of training time across economic activities.

The overall conclusion is that although the national developments are very diverse there are increases in most countries, although the increase is mostly only as small as one hour per 1 000 hours worked.

3.4.4. Enterprises' expenditure on training

This section will present and discuss two key indicators of enterprises' expenditure on providing courses to their staff. Chapter 6 provides a detailed

discussion on enterprises' spending and the role of public and collective funding arrangements ⁽³⁵⁾.

3.4.4.1. *Methodological remarks*

Using CVTS, various cost indicators can be calculated (Section 6.2). Based on previous work (Cedefop, 2010), two indicators are chosen: first, direct monetary expenditure (or direct costs within the CVTS terminology), second the indicator total monetary expenditure (TME). Both indicators relate to expenditure for CVT courses.

Direct monetary expenditure represents enterprises' expenditure for the training activities of their employees, including the costs of course fees, travel and subsistence costs, labour costs of internal trainers, costs of training centres and teaching materials. The indicator could be interpreted as the total investment for training on company level (see for details Section 5.2).

The indicator TME considers that enterprises have to contribute to collective funding mechanisms (training funds) in several countries, which increase their total spending for training. In CVTS terminology this amount of money is referred to as enterprises' 'contributions'. Moreover, enterprises receive payments for their training activities; either from these collective funding arrangements or from other government or European sources (see for details Sections 5.2 and 5.6). These are measures to incentivise enterprises' training activities. In CVTS terminology, this is referred to as enterprises' 'receipts' for training. Receipts and contributions for training are significant in some countries; their balance can be positive or negative (see Section 5.7 for details). The indicator TME presents enterprises' total expenditure for CVT courses, on site or via collective training arrangements ⁽³⁶⁾. It also represents an alternative indicator for firms' training investments, however, with a stronger emphasis on the cost component not directly related to the actual training activity for the own employees ⁽³⁷⁾.

Tables provided by Eurostat do not currently report TME. However, TME can be calculated by starting with the total costs and deducting the labour costs of participants (see Cedefop, 2010, p. 91). Because Eurostat tables report one decimal place only, this could entail rounding errors. This restriction is unfavourable. Further, when calculating development in percent of the indicator

⁽³⁵⁾ Households' contributions to the funding of LLL will be considered in the second report on the project.

⁽³⁶⁾ Excluding, however, personnel absence costs. See for more details Chapter 5.

⁽³⁷⁾ For an extended discussion of cost indicators and their quality, see Chapter 6 and Cedefop (2010).

in 2005, the base effect causes more countries to be labelled as increasing and decreasing compared to other indicators (e.g. participation rate).

Data on costs are not comparable for CVTS4 for Portugal and are not comparable across CVTS3 to CVTS4 for the UK. Moreover, cost data for Romania has been rated as not plausible and is, therefore, excluded from the analysis.

3.4.5. Results

On average in Member States, according to Eurostat estimates, enterprises' direct monetary expenditure on CVT courses amounts to 0.7% of total labour costs (data refer to all enterprises, i.e. training and non-training enterprises), with no change to the 2005 value (Figure 12).

In four countries (Belgium, Germany, France, Austria) the direct monetary expenditure increased by more than 10% compared with CVTS3. In these countries, the indicator is above the EU average and was already above it in 2005 – except for Belgium.

In seven countries (Spain, Cyprus, Lithuania, Malta, the Netherlands, Slovakia and Sweden) the direct monetary expenditure was relatively stable when comparing results for CVTS4 and CVTS3. In both years Malta, the Netherlands, Slovakia and Sweden were above the EU averages, Spain and Cyprus were below it, while Lithuania was on a par with it.

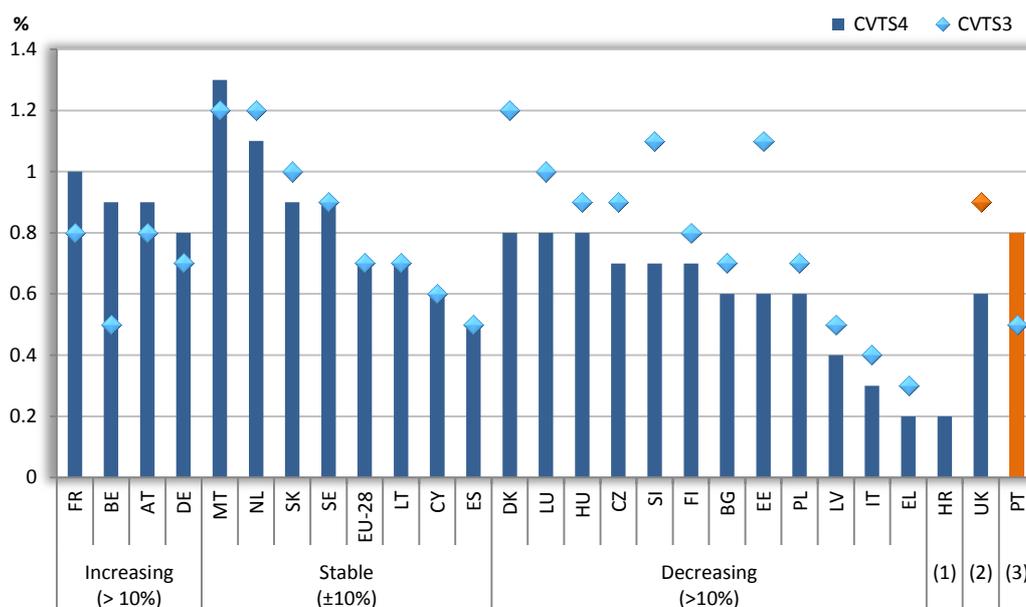
In 12 countries (Bulgaria, Denmark, Czech Republic, Estonia, Greece, Italy, Latvia, Luxembourg, Hungary, Poland, Slovenia and Finland) declines of more than 10% were reported. Despite these decreases, Denmark ⁽³⁸⁾, Luxembourg and Hungary, which were clearly above the EU average in 2005, are still above it. In 2010, direct monetary expenditure in the Czech Republic, Slovenia and Finland was approximately on a par with the EU average; in 2005 they were slightly exceeding it. In Greece, Italy and Latvia enterprises' direct expenditure on training in both years were clearly below the EU averages. Estonia suffers a substantial decrease; in 2005 it was ranking close to the top and is now slightly behind the EU average. Bulgaria and Poland are also slightly behind the EU average, while in 2005 they were on a par with it.

For three countries, no comparison is possible. Croatia participated for the first time in CVTS4, and was one of the countries with the lowest direct expenditure as a percentage of the total labour costs. For the UK, the data from

⁽³⁸⁾ In CVTS4 Denmark used register data for the calculation of wage costs, which raises concerns regarding comparability of both cost indicators for Denmark (comparability across countries in CVTS4 as well as development of enterprises' costs for CVT between 2005 and 2010, if expressed as percentage of labour costs).

CVTS3 may not be compared for methodological reasons; in CVTS4, the direct expenditure was below average. CVTS4 data from Portugal may not be compared across countries or over time. In CVTS3, the direct expenditure was below the EU average.

Figure 12. **Enterprises' direct monetary expenditure on CVT courses as a percentage of total labour cost (all enterprises), CVTS4 versus CVTS3**



NB: (1) No participation in CVTS3.
 (2) Data for CVTS3 not comparable.
 (3) Data for CVTS4 not fully comparable;

Source: Eurostat, CVTS, dissemination database (accessed 3.4.2014); own calculation.

Based on the second indicator, TME, a slightly different picture emerges (see more detailed discussion below). On average in the EU, the enterprises' TME is estimated at 0.8% of labour costs, compared to 0.9% in 2005 (Figure 13). In French enterprises, TME is highest, reaching 1.6% of labour costs in 2010, compared to only 0.4% in Croatia, Italy and Latvia. In 2005, the enterprises in Denmark spent 1.7% of labour costs; while in Greece, enterprises' expenditure was only 0.3% of labour costs.

In nine countries (Belgium, Germany, Spain, Greece, France, Cyprus, Malta, the Netherlands and Slovakia) TME increased by more than 10% compared to CVTS3. In all but one country of this group, the participation rate of employees also increased; only in France did TME increase while the participation indicator remained stable across waves.

In five countries (Latvia, Hungary, Austria, Finland and Sweden) TME was about the same level in CVTS3 and CVTS4. In three of these countries the

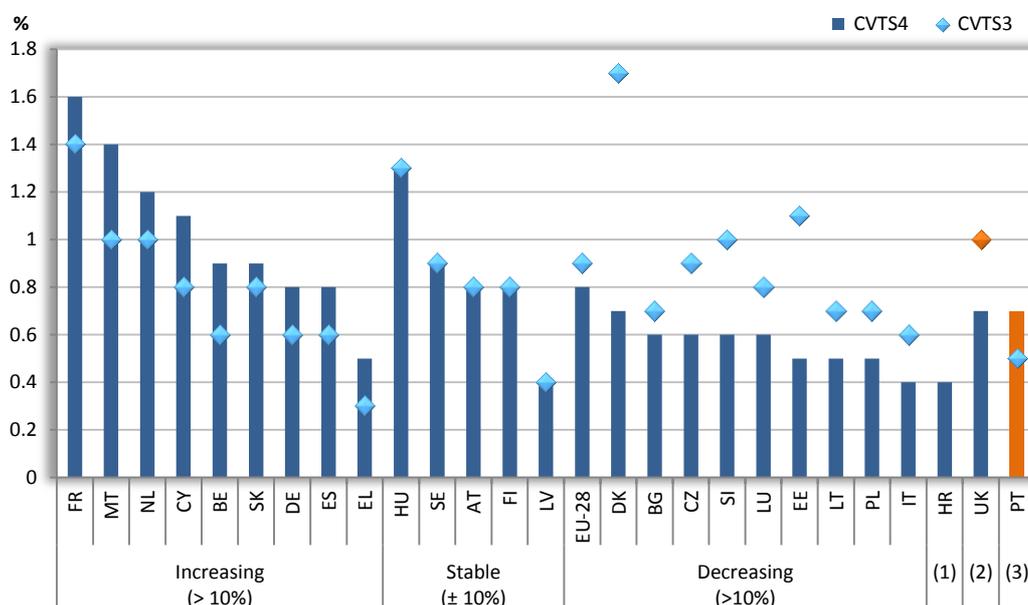
participation rate was about the same as in 2005. In two countries (Hungary and Finland), the increase in the participation rate between 2005 and 2010 was not accompanied by a similar increase in enterprises' expenditure, which could be a result of a reduction of course time (as in Sweden) or a reduction of costs per training hour, which could result from more participants per training activity, or switching to in-house courses and thus lower expenses.

In nine countries (Bulgaria, Czech Republic, Denmark, Estonia, Italy, Lithuania, Luxembourg, Poland and Slovenia), enterprises markedly reduced their investment in the education and training of their employees. Denmark reported a significant decline, the percentage of TME in labour costs dropped from 1.7% in 2005 (top ranking) to 0.7% in 2010, which is below average. Simultaneously, the participation rate increased slightly, and hours in CVT increased. Denmark stated in its quality report that it used 2010 register data for the calculation of the wage costs. This change compared to 2005 could be an explanation for the large differences; it reduces comparability of Danish cost indicators over time as well as comparability across countries. Estonia also reported a very strong decline in enterprises' investment in CVT of their employees and an increase in the participation rate.

Finally, for three countries no comparison is possible. Croatia participated for the first time in CVTS4, and was one of the countries with the lowest TME. For the UK, the data from CVTS3 may not be compared for methodological reasons; in CVTS4, TME was below average. CVTS4 data from Portugal may not be compared across countries or over time. In CVTS3, TME was at 0.5% of total labour costs.

As mentioned previously and discussed in more detail in Chapter 6, the difference between direct expenditure and TME is contributions to collective or other training funds, and receipts for training activities.

Figure 13. **Enterprises' TME on CVT courses as a percentage of total labour costs (all enterprises), CVTS4 versus CVTS3**



NB: (1) No participation in CVTS3.
 (2) Data for CVTS3 not comparable;
 (3) Data for CVTS4 not fully comparable.

Source: Eurostat, CVTS, dissemination database (accessed 3.4.2014); own calculation.

If TME exceeds direct expenditure, enterprises contribute more to these training funds, at least in the business year surveyed, than they receive. This is the case in 11 countries (Greece, Spain, France, Croatia, Italy, Cyprus, Hungary, Malta, the Netherlands, Finland and the UK). However, countries where TME significantly exceeds direct expenditure are fewer: France is the country with the highest difference between direct expenditure and TME, but TME also exceeds direct expenditure by at least 0.3% of total labour costs in Greece, Spain, Cyprus and Hungary in 2010. In eight countries (Czech Republic, Denmark, Estonia, Lithuania, Luxembourg, Austria, Poland and Slovenia) direct expenditure is higher than TME, indicating that the enterprises considered are net recipients, benefiting from reduced costs of training. Among these nine countries there are only two with marked differences (direct expenditure exceeding TME by 0.2% of labour costs): Luxembourg and Lithuania.

In many countries, small enterprises invest less in employer-financed CVT than big ones, with medium-sized enterprises in between (Table 6); this holds for direct expenditure as well as for TME. However, the differences are frequently small, and the correlation between enterprises' size class and expenditure on CVT is not always linear. The two indicators of enterprises' spending on CVT

differ in some respects, as already argued. In Chapter 6, direct monetary expenditure is chosen as the main indicator.

In some countries there are strong differences in direct monetary expenditure by size class, notably in Belgium, France, Hungary, Poland and Slovenia where the differences in direct expenditure between small and big enterprises exceed 0.6% of the total labour costs. Marginal differences (by 0.1% or less than 0.1% of total labour costs) appear in Estonia, Italy, Luxembourg, Slovakia and Sweden; in these countries, the correlation between enterprises' size class and enterprises' direct expenditure on CVT is weak. There are deviations from the general pattern of increasing direct expenditure on CVT with enterprises' size ⁽³⁹⁾:

- (a) in Denmark medium-sized enterprises have the lowest direct expenditure, while small and big enterprises spend the same share of total labour costs on CVT;
- (b) in Croatia medium-sized enterprises have the highest direct expenditure, and big enterprises spend less than small enterprises;
- (c) in Lithuania small enterprises have higher direct expenditure than medium-sized and big enterprises. In Malta, small enterprises have the highest direct expenditure, together with big enterprises. In the UK, small and medium-sized enterprises have the highest direct expenditure, while big enterprises have the lowest direct expenditure, as a % of total labour costs.

Developments over time, as measured by direct expenditure and TME, do not present a consistent picture. In about half of the countries (Belgium, Bulgaria, Czech Republic, Denmark, Germany, Estonia, France, Italy, Luxembourg, Poland, Slovenia and Sweden) both indicators are pointing towards the same direction of development. However, in about half of the countries (Greece, Spain, Cyprus, Latvia, Lithuania, Hungary, Malta, the Netherlands, Austria, Slovakia and Finland) this is not the case (For more details see Chapter 6). Using direct monetary expenditure as an indicator, analysis of the development according to enterprises' size class shows the following main results:

- (a) regarding small enterprises, development is labelled as increasing in 13 countries (Belgium, Germany, Spain, France, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Austria, Slovakia and Sweden); however, in seven of them (Belgium, Spain, Germany, France, Italy, Latvia, the Netherlands), the difference is only 0.1% of total labour costs. In eight

⁽³⁹⁾ Differences of $\pm 0.1\%$ of labour costs are not discussed.

- countries (Bulgaria, Czech Republic, Estonia, Greece, Hungary, Poland and Finland), the development is labelled as decreasing;
- (b) medium-sized enterprises increased their direct expenditure on CVT in six countries (Belgium, Germany, France, Lithuania, Malta, Slovakia), while in 13 countries (Bulgaria, Czech Republic, Denmark, Estonia, Greece, Italy, Cyprus, Latvia, Luxembourg, Hungary, Poland, Slovenia and Finland) the direct expenditure declined;
 - (c) big enterprises increased their direct expenditure on CVT in just three countries (Belgium, Germany and France), while in 12 countries (Czech Republic, Denmark, Estonia, Greece, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Slovenia and Slovakia) they spent less money on direct training costs.

A more detailed discussion of development over time may be found in Chapter 6.

3.5. Summary and outlook

The results for AES and CVTS indicate in many respects improvements for the EU averages in the past years (Table 7). This summary pools very different and even diverging results at national level. This overview only delivers insights on the macro level of EU averages. It does so considering the metrics adopted to look at developments over the chapter.

Between the AES-2007 and AES-2011, the participation rates of adults in education and training increased in the EU. CVTS4 supports the finding of the AES with particular regard to employed people. Further, enterprises devoted more time to the training of their employees. However, direct monetary expenditure on training stagnated and TME on training even decreased between 2005 and 2010.

Table 6. **Enterprises' direct monetary expenditure and TME on CVT courses as a percentage of total labour cost (all enterprises) by size class, CVTS4**

Country	Total		Enterprises with 10-49 employees		Enterprises with 50-249 employees		Enterprises with 250 or more employees	
	Direct expenditure	TME	Direct expenditure	TME	Direct expenditure	TME	Direct expenditure	TME
EU-28	0.7	0.8	0.5	0.6	0.6	0.8	0.9	1.0
BE	0.9	0.9	0.4	0.6	0.7	0.7	1.2	1.2
BG	0.6	0.6	0.4	0.4	0.7	0.8	0.7	0.6
CZ	0.7	0.6	0.5	0.4	0.7	0.6	0.8	0.7
DK *	0.8	0.7	0.8	-0.3	0.6	0.3	0.8	1.3
DE	0.8	0.8	0.6	0.6	0.7	0.7	0.8	0.9
EE	0.6	0.5	0.5	0.4	0.6	0.6	0.5	0.5
EL	0.2	0.5	0.1	0.4	0.1	0.4	0.4	0.5
ES	0.5	0.8	0.4	0.4	0.4	0.6	0.7	1.0
FR	1.0	1.6	0.5	1.0	0.8	1.4	1.3	1.8
HR	0.2	0.4	0.2	0.3	0.5	0.7	0.1	0.2
IT	0.3	0.4	0.3	0.4	0.3	0.4	0.4	0.5
CY	0.6	1.1	0.5	0.8	0.5	0.7	0.7	1.7
LV	0.4	0.4	0.3	0.2	0.3	0.3	0.5	0.7
LT	0.7	0.5	0.8	0.5	0.6	0.4	0.6	0.6
LU	0.8	0.6	0.7	0.7	0.8	0.7	0.8	0.5
HU	0.8	1.3	0.4	0.8	0.6	1.1	1.1	1.5
MT	1.3	1.4	1.4	1.4	1.2	1.2	1.4	1.5
NL	1.1	1.2	0.8	0.9	0.9	1.0	1.3	1.4
AT	0.9	0.8	0.6	0.6	0.8	0.7	1.0	0.9
PL	0.6	0.5	0.2	0.1	0.4	0.4	0.8	0.6
PT (b)	0.8	0.7	0.7	0.5	0.9	0.7	1.0	1.0
SI	0.7	0.6	0.3	0.3	0.8	0.6	1.0	0.9
SK	0.9	0.9	1.0	1.0	1.0	0.8	0.9	0.9
FI	0.7	0.8	0.5	0.5	0.6	0.6	0.8	0.8
SE	0.9	0.9	0.9	0.9	1.0	0.9	0.9	0.9
UK	0.6	0.7	0.8	0.8	0.8	0.8	0.6	0.6

NB: * Denmark used register data for the calculation of wage costs; data probably not fully comparable.

(b) = Break in time series.

Source: Eurostat, CVTS, dissemination database (accessed 3.3.2014); own calculation.

Table 7. **Key indicators of participation in adult education and training and training provision of enterprises, EU averages, levels for 2010 (CVTS4) and 2011 (AES-2011) and trends in EU ratios (CVTS3 and CVTS4: 2005 to 2010; AES-2007 and AES-2011: 2007 to 2011)**

Survey	Indicator	EU average	Trend
AES	Participation rate (25-64 year-olds) in education and training	40.3%	↑
	Participation rate of employed (25-64 year-olds) in non-formal job-related employer-financed education and training	37.7%	↑
CVTS	Training incidence (enterprises providing any type of training)	66%	↔
	Training participation (employees participating in CVT courses)	38%	↑
	Training intensity (hours in CVT courses per 1 000 hours worked)	6 hours	↑
	Enterprises' direct monetary expenditure on CVT courses as a percentage of total labour costs	0.7%	↔
	Enterprises' total monetary expenditure as a percentage of total labour costs	0.8%	↓

NB: ↑ Increasing by more than 10%; ↔ stable ($\pm 10\%$); ↓ decreasing by more than 10%.

Source: Eurostat, AES, CVTS, dissemination database (accessed 2.10.2014); own calculation.

Overall, the results display a positive trend between the two waves of AES and CVTS. With a view to the ET 2020 goals, the AES and the CVTS indicate the need to keep and further intensify policy engagement in the promotion of CVET. The reduction in the financial commitment of enterprises is a particular challenge and has to be observed and analysed in more detail.

For the CVTS results, the four key indicators 'incidence', 'participation', 'intensity' and 'total monetary expenditure' can be visualised by so-called radar charts, giving a more comprehensive picture in the field of enterprise-financed continuing training (CVT) (Käpplinger, 2006; Behringer et al., 2008b; Cedefop, 2010). Looking at the development from 1999 to 2010, countries can be classified into three subgroups, according to their developments over time:

- (a) in some countries there is a relative stability in the radar charts between the different survey waves of CVTS. This is valid for Bulgaria, Germany, Greece, Austria and Slovakia, though to differing degrees. A frequent graphical shape resembles that of a diamond (Figure 14, Austria). Many enterprises provide training (indicator of incidence), but participation of employees and the time/money invested are relatively low. Countries with results of this shape are Germany, Cyprus, Lithuania and Austria (Figure A3 in Annex 1);
- (b) then there are countries such as Estonia, France, Italy, Latvia, Hungary, Poland, Portugal, Romania, Sweden or the UK, in which indicators have changed considerably and the graphical shape has changed over time (Figure 14, Italy). For the moment, there remains here a partly open question

of whether these strongly diverging figures between survey waves indicate limited comparability of data over time, for example because of methodological changes (as in the case of Portugal and the UK), or if the structures of training provision have really changed as much and as frequently as indicated by the graph. Nonetheless, radar charts indicate quickly and intuitively that it is worth paying attention to these changes and their real or methodological reasons;

- (c) finally, there are countries in which the shape is relatively stable, but the values have increased or decreased significantly (Figure 14, Finland). Some of the Dutch and some of the Scandinavian figures often indicate, as with the Finnish example, decreased engagement over time, relative to the best performing country. But the main losses relative to the best performing country can be observed in terms of the time and money invested by enterprises. Countries expressing relative gains in the radar charts over time are Belgium, Spain or Malta.

Overall, it is of utmost importance to look behind EU averages since the developments in the Member States are very different. This becomes even more obvious when looking at the radar charts for just three countries as in Figure 14.

This brief summary highlights why it is important and analytically enriching to look at more than just one indicator such as participation rates (Cedefop, 2010). Despite the Lisbon goal (12.5% participation rate) and the ET 2020 goal (15% participation rate) with the focus on just one benchmark indicator of adult learning and despite the fact that activities of national governments are often mainly focused on raising the participation rates, analyses should not be based mainly on or even be restricted to just one indicator. There is an increasing interest in broadening the scope of indicators beyond the focus on participation rates. In particular, the time and finances devoted to training are very important as these factors are frequently main barriers to participation.

Table 8. **Key indicators of training provision of enterprises, EU averages by size class: levels for 2010 (CVTS4) and trends in EU ratios (CVTS3 and CVTS4: 2005 to 2010)**

Indicator	Enterprises with 10-49 employees		Enterprises with 50-249 employees		Enterprises with 250 or more employees	
	EU average	Trend	EU average	Trend	EU average	Trend
Training incidence (enterprises providing any type of training)	63%	↑	81%	↔	93%	↔
Training participation (employees participating in CVT courses)	25%	↑	34%	↑	46%	↑
Training intensity (hours in CVT courses per 1 000 hours worked)	4 hours	↑	5 hours	↑	8 hours	↑
Enterprises' direct monetary expenditure as a percentage of total labour costs	0.5%	↔	0.6%	↓	0.9%	↔
Enterprises' total monetary expenditure as a percentage of total labour costs	0.6%	↓	0.8%	↔	1.0%	↔

NB: ↑ Increasing by more than 10%; ↔ stable ($\pm 10\%$); ↓ decreasing by more than 10%

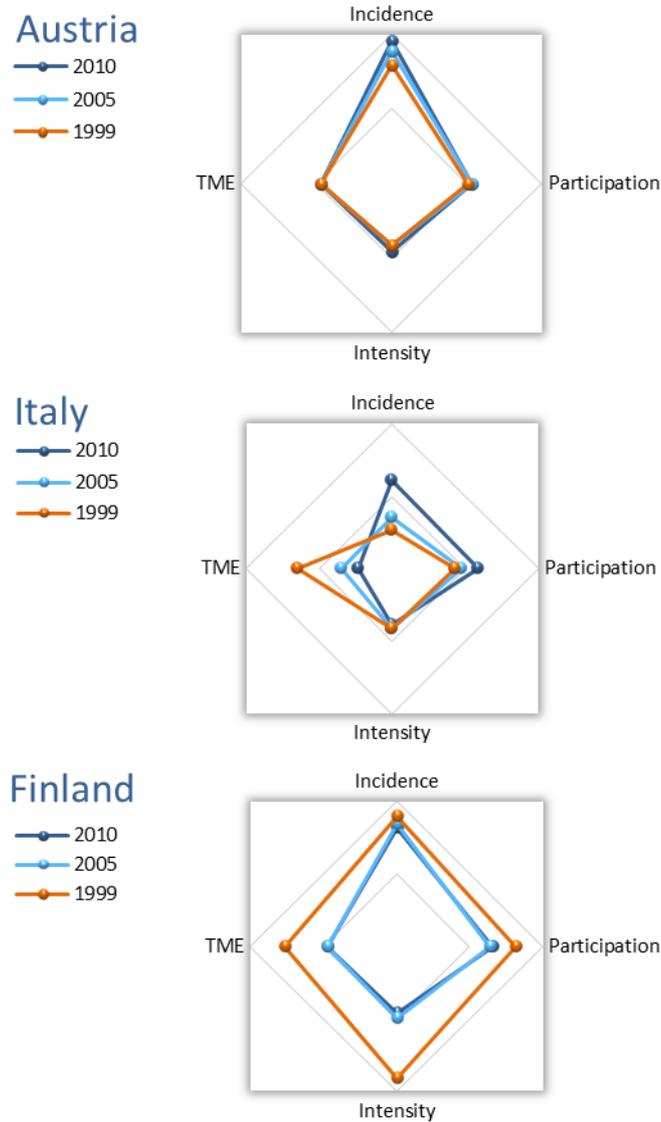
Source: Eurostat, CVTS, dissemination database (accessed 2.10.2014); own calculation.

Focusing on enterprises, the following results on differences according to enterprises' size class can be summarised at EU level (Table 8).

SMEs in particular are displaying improvements for many indicators, though these improvements are sometimes very small. Only the financial indicators are less encouraging and are decreasing in some cases, although this should be in the context of the economic situation occurring in the years covered by the study. Bigger enterprises train more employees, while the share of training enterprises remains relatively stable. Monetary expenditure is stable in big enterprises. Overall, it is encouraging that SMEs are displaying rising indicators since SMEs are the focus of EU policy and the policies of most Member States. Nonetheless, the financial engagement of all enterprises in particular has to receive increased attention since the development is stagnating or even decreasing.

These are the results on EU level. EU policy has to keep in mind that the developments in the different Member States are very different and divergent as indicated in the main part of this chapter. Figure 14 provides three illustrative examples at country level, based on radar charts. Radar charts for all countries and related methodology are presented in Figure A3 in Annex 1.

Figure 14. Radar charts on incidence, participation, intensity and TME for Austria, Italy and Finland in 1999, 2005 and 2010



NB: Names/codes of the indicators within the source: training enterprises as % of all enterprises, by type of training and size class [trng_cvts02]; percentage of employees (all enterprises) participating in CVT courses, by sex and size class [trng_cvts42]; hours in CVT courses per 1 000 hours worked (all enterprises), by size class [trng_cvts76]; cost of CVT courses as % of total labour cost (all enterprises), by type of cost and size class [trng_cvts54].

Source: Eurostat, CVTS, dissemination database (accessed 19.12.2013); own calculation.

CHAPTER 4.

Inequality/equality in adult education and training (AES)

4.1. Introduction

Europe's commitment to the social dimension of adult learning is evident in the Europe 2020 education and training strategy (ET 2020), which invites Member States to ensure 'equitable education and training systems that are aimed at providing opportunities, access, treatment and outcomes which are independent of socioeconomic background and other factors which may lead to educational disadvantage' (Council of the EU, 2010). To increase participation in LLL, groups with below-average participation rates must be reached by appropriate learning opportunities. The Bruges communiqué on supporting VET in Europe also highlights the need to respond to broader social challenges and to promote social cohesion (Council of the EU and European Commission, 2011). To design effective policy responses, it is important to study different social groups' patterns of participation in adult education and training.

In most countries, formal adult education and training (FED) is a cornerstone of second-chance education, while non-formal education and training (NFE) is mainly job-related (re-)training and often sponsored by employers. Although participation rates in FED seem low in comparison to NFE, both forms of adult learning should be regarded as important. FED leads to the next level of qualification, which is vital for finding a good job, advancing in a career or when changing career path by obtaining a qualification in a different field (voluntarily or because certain occupations are disappearing). FED is also considered among available remedies to overcome the consequences of early school leaving and is, therefore, of particular interest for achieving the ET 2020 goal of reducing the proportion of early school leavers (18-24 year-olds) to below 10%. In the knowledge society, early school leavers with no qualifications beyond upper secondary level are likely to be stigmatised, leading to unstable work and thus to social exclusion (Solga, 2008).

Despite progress in measurement approaches over time, country differences in participation rates of adults reflect very different local understandings of both FED and NFE in Europe, and this is likely to persist. Still, participation rates follow certain patterns, largely shaped by country-specific institutional 'packages'. Therefore, country differences in participation rates can be explained by education and labour market institutions.

Differences in (formal) adult education participation rates are also connected to the way the education system is organised in a country – how diverse and flexible educational supply is for adults (Hefler, 2011). For example, Ireland, the UK and the Flemish Community of Belgium have a wider understanding and concept of FED, which includes some key skills or basic skills qualifications (such as art or language programmes) that are not considered as FED in central and eastern Europe countries or Austria and Norway. Europe has diversity in the content and length of programmes, but also in the variety of institutions providing FED.

This chapter provides a review of inequalities in participation rates in FED and NFE, and in job-related and employer-sponsored training, and examines differences between social groups in terms of perception of barriers to LLL. These inequalities are presented as ratios between the participation rates of the sociodemographic groups compared. For instance, to analyse gender differences the participation rate for men is divided by the participation rate for women. A ratio with a value of one indicates no inequality in participation between compared groups; divergence from the value of one indicates how many times one group participates in adult education and training more than the other. Inequalities could also be measured as differences (rather than ratios) between the participation rates of different groups. In this report, ratios have been deemed to be more appropriate. However, a given value for the ratio may correspond to quite different situations as expressed by differences in percentage points. For instance, the ratio between 4% and 2% is two, while the ratio between 40% and 20% is also two. Inequalities are high in both cases, but at different levels of participation. Results should, therefore, be read in the light of the actual levels. Inequalities measured in this way merely reflect the comparative situation of groups, which could in turn stem from other qualifying characteristics of those groups. Although no causal relation can be proved, the descriptive statistics measure and reflect different situations across groups of policy interest.

The chapter begins by presenting country and sociodemographic differences in FED, followed by differences in NFE and, more specifically, in job-related and employer-sponsored training. These inequalities in participation rates are examined by gender, age, educational level, labour market status and occupation. Analysing the changes in inequalities from 2007 to 2011 will prepare the answer to the question of whether progress has been made in reducing inequality. The chapter's final part considers country variations in personal intentions to participate in LLL and the perception of barriers to learning. These individual perceptions/views are presented by gender, age and educational level.

4.2. Inequalities in formal education and training

FED typically includes extended spells of education and leads to formal qualifications. Typical examples of FED for adults include the return to education to earn general or vocational qualifications at upper secondary level, completing higher education as an adult or earning a vocational qualification in retraining.

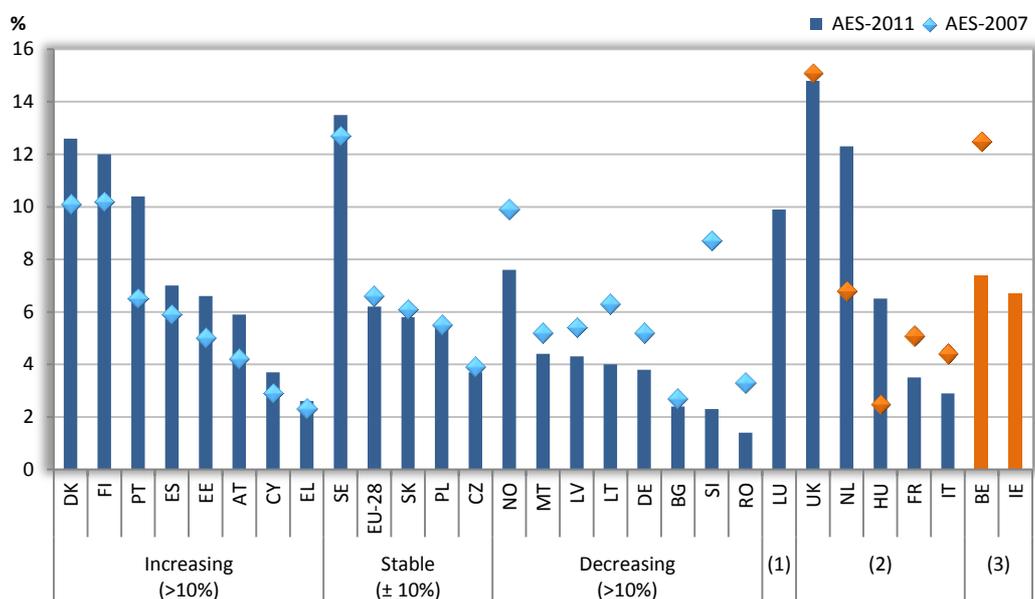
FED for adults represents an important element of LLL in Europe as it helps to raise the educational attainment of the population. In particular, it helps to overcome the consequences of early school leaving and increase social mobility, both vertically (such as climbing occupational ladders) and horizontally (such as moving between occupational fields) (Hefler, 2013). FED has recently received much attention from research (Saar et al., 2013) and European-level policy (Eurydice, 2011).

In the AES-2007, FED was defined as any activity within the national qualifications framework or the school system. However, the AES-2011 adopted a narrower definition of FED including only activities with a workload of six months of full-time education, in line with the ISCED-97 manual (UOE, 2010). This limits cross-period comparability to some extent and the impact is likely to vary across countries. However, the AES-2011 quality reports provide little information on the implementation of the new FED definition (for other issues with regard to cross-period comparability, see Annex 4). So, there is no information on the impact of the methodological change on the indicators. In addition, AES trends over time should be assessed considering the specificities of the AES-2007: it was a pilot survey and some countries did not implement it as a stand-alone survey.

Based on the AES-2011, overall participation in FED in the EU was 6.1% ranging from 2-4% in Romania, Slovenia, Bulgaria, Greece and Italy to 10-15% in Finland, Luxembourg, Portugal, the Netherlands, Denmark, Sweden and the UK (Figure 15). In Luxembourg, which only participated in the AES-2011, the value for FED is high (9.9%). Data for Ireland are not comparable.

The slight decline in the FED participation rate over time (6.6% in AES-2007) likely reflects the narrowing of the FED definition in AES-2011. However, in some countries, FED participation rates are rising considerably – notably in Portugal. A decrease in FED rates is most notable in Slovenia and Romania.

Figure 15. Participation rates of adults (25-64 year-olds) in formal education and training, AES-2011 versus AES-2007



NB: (1) No participation in AES-2007.

(2) Data for AES-2011 not fully comparable to AES-2007.

(3) Data for AES-2011 not fully comparable across countries.

Countries are ordered according to changes in total participation rates.

The reference period for the data differs between countries and the timespan between the two waves is not always four years.

Source: Eurostat, AES, dissemination database (accessed 7.1.2014); own calculation.

Apart from levels, data on FED can be used to look at inequalities in participation across different groups of adults and related developments over time. Since participation rates in FED are rather low (less than 6% in 15 countries), it needs to be considered in the following comparisons that rather small changes in participation rates might result in considerable differences between the groups compared.

Based on the AES-2011, data on gender differences ⁽⁴⁰⁾ indicate that in most countries the participation rates in FED among women are somewhat higher when compared to men (in the EU 6.7% for women and 5.8% for men) (Table A13 in Annex 1). So mostly in 2011 there are only small gender inequalities or no gender inequalities in FED participation rates. According to the AES-2011, the gender gap is widest in Slovakia; about two times more women

⁽⁴⁰⁾ In various countries, weightings for age and gender have not been implemented as foreseen (Belgium, the Czech Republic, Spain, Latvia, the Netherlands, Poland, Portugal and Slovakia). This may potentially limit cross-country comparisons; however, no information is available about the likely impact of this deviation.

than men participate in FED there (7.6% for women and 3.9% for men). Gender difference is notable also in Estonia, Romania ⁽⁴¹⁾, Sweden and Finland where the respective rates are about 1.5 times higher for women. Only two countries have somewhat more men than women participating in FED – Germany (4.3% and 3.3% respectively) and Bulgaria (2.6% and 2.1%).

Gender inequalities in participation rates have generally remained stable compared to the AES-2007 (in 12 countries out of 20 where comparisons are possible); where changes have occurred, they were mainly moderate, with decreasing levels of inequality in four countries (Czech Republic, Cyprus, Slovakia) and increasing levels in three countries (Denmark, Greece, Spain) (Table A13 in Annex 1).

Age plays a significant role in participation in FED (Table A4 in Annex 1). Similar results concerning participation in adult education and training by age and gender were reported by Desjardins et al. (2006) based on analysis of the international adult literacy survey and the adult literacy and lifeskills survey. According to the AES, in all countries participation in FED was highest for young adults, i.e. 25-34 year-olds (13.6% in the EU in 2011). This is partly explained by young adults obtaining initial education. Participation falls with age and more sharply after 45 years of age (6% among 35-44 year-olds and 3.7% among 45-54 year-olds in 2011).

Comparisons at country level for specific age groups, and particularly for older adults, are hampered by a small number of available observations. Meaningful statistical comparison is possible for 35-44 year-olds as opposed to 45-54 year-olds: the greatest differences in FED participation rates in 2011 are evident in countries where the rate for 35-44 year-olds is from 3.5 to 2 times higher than that for 45-54 year-olds. These countries are Hungary, Poland, as well as Italy, Latvia, Slovenia and Slovakia (although for the latter ones, the results should be interpreted with caution due to sample sizes and, in the case of Italy and Slovenia, also due to the low values for the reference groups). The smallest differences can be observed in Belgium, Denmark, Ireland, Luxembourg, the Netherlands and the UK where the rate for 35-44 year-olds is at most only about 1.3 times higher than that for 45-54 year-olds. Countries such as Austria, France, Spain, Portugal, Finland, Sweden and Norway stand in the middle. For Belgium and Ireland, no comparison is possible.

In several countries, the gap between the age groups 35-44 and 45-55 year-olds is decreasing compared to the AES-2007. Accordingly, a decrease can be

⁽⁴¹⁾ FED participation rates in Romania are very low: 1.1% for men and 1.6% for women.

observed in Denmark, Poland, Portugal, Slovenia, Slovakia, while it is only in Spain that differences have increased. In three Nordic countries – Finland, Sweden and Norway – differences between age groups remain stable. Yet many countries have no reliable data for age groups over 45 year-olds or comparisons across the two AES waves are not possible, thus analysis of inequalities is limited to 15 countries.

Analysis according to educational attainment confirms the persistency of a so-called Matthew Effect – those with advantageous socioeconomic backgrounds participate more in adult learning. Several studies have indicated that individuals with higher levels of FED as well as those in better occupations participate more frequently in educational activities (Booth, 1991; Oosterbeek, 1998; Brunello and Medio, 2001; Desjardins et al., 2006; Wolbers, 2005; Bassanini and Brunello, 2007; Dieckhoff et al., 2007; Roosmaa and Saar, 2010; O’Connell and Byrne, 2012). The higher education sector plays a dominant role in FED; however, adults with low FED have no access to higher education in most European countries (Saar et al., 2013; Eurydice, 2011).

Data show that in all European countries those with higher levels of education ⁽⁴²⁾ participate most actively in FED ⁽⁴³⁾ (Table A6 in Annex 1). Based on the AES-2011, the EU average participation rate in FED was 2.5% for adults with low educational attainment ⁽⁴⁴⁾, 5.4% for those with medium attainment ⁽⁴⁵⁾ and 11% for those with high levels of education.

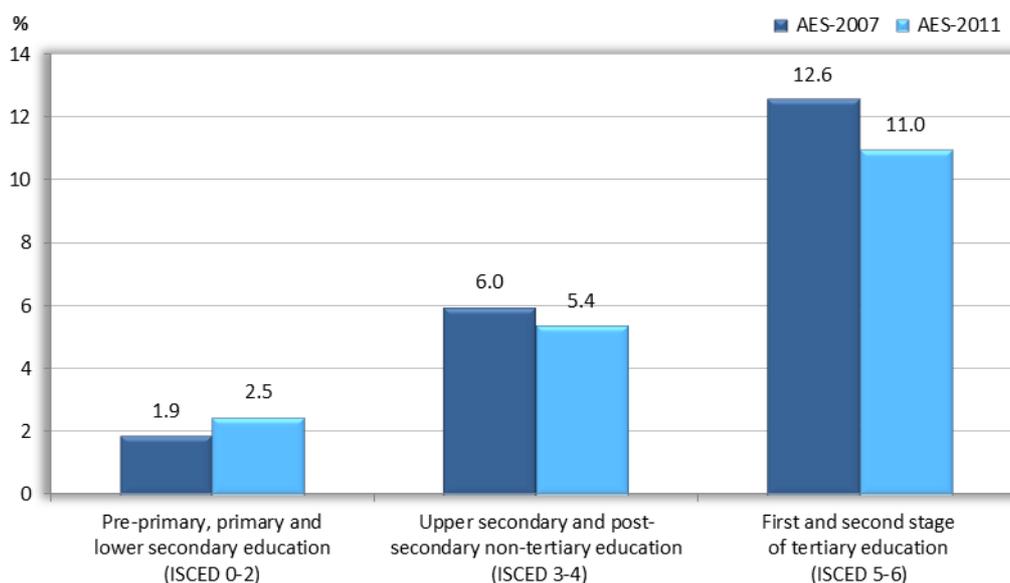
⁽⁴²⁾ ISCED-97 5-6: first and second stage of tertiary education.

⁽⁴³⁾ One exception is Portugal, where those with ISCED 3-4 participate somewhat more often in FED than those with ISCED 5-6.

⁽⁴⁴⁾ ISCED-97 0-2: pre-primary, primary and lower secondary education.

⁽⁴⁵⁾ ISCED97 3-4: upper secondary and post-secondary non-tertiary education.

Figure 16. **Participation rates of adults (25-64 year-olds) in formal education and training, EU average, AES-2011 versus AES-2007, by ISCED level**



NB: The reference period for the data differs between countries and the timespan between the two waves is not always four years.

Source: Eurostat, AES, dissemination database (accessed 2.4.2014); own calculation.

Comparisons at country level by educational attainment, and particularly for adults with low educational attainment, are hampered by the small number of available observations. In some cases, results are not made available and, where available, they should be interpreted with caution. The most pronounced differences between those with low and medium qualifications in 2011 can be observed in Spain, Hungary and Poland: in these countries only a fraction of low qualified adults participate in FED (ranging from 1% to 2.5%), and the participation rate of medium qualified adults is 2.9 to 4.6 times higher.

Based on the AES-2011, in Austria and Sweden low educated adults participate in FED as much as medium educated ones, although at different levels (3.78% and 8% respectively). Countries such as Belgium, Germany, Denmark, Luxembourg, Portugal and the UK present inequalities in educational attainment in between these extremes. For other countries, no comparison is possible.

Differences between low and medium educated adults have decreased compared to the AES-2007. However, reliable comparisons are only available for seven countries: Germany, Denmark, Spain, Poland, Portugal, Finland and Sweden. Only in Denmark has participation of low qualified adults decreased in relation to medium qualified adults.

Based on the AES-2011, adults with high educational attainment continued to participate more in FED than those with medium levels of education: about four to five times more in the Czech Republic, Poland, Romania and Slovakia, and about three times more in Austria. The participation gap between those educational groups was more than double in favour of higher educated adults in Estonia, Latvia and Lithuania (the Baltic countries), but also in France, Malta and Sweden. For Belgium and Ireland, no comparison is possible.

Differences between high and medium qualified adults in terms of their participation in FED showed mixed trends over time. In six countries, the gap between medium and high education has increased during the five-year period (the Czech Republic, Denmark, Lithuania, Austria, Romania and Slovakia). Seven countries show a decreasing trend (Bulgaria, Spain, Poland, Slovenia and especially Latvia, Norway and Sweden). In five more countries with comparative data available, no changes have occurred (Germany, Estonia, Greece, Portugal and Finland). In 10 countries, no comparison for trends is possible (Belgium, Ireland, France, Italy, Cyprus, Luxembourg, Hungary, Malta, the Netherlands and the UK).

Overall, participation in FED tends to be greater in countries where the proportion of the population with higher educational levels is higher (35-40%) (such as in Denmark, Luxembourg, Finland, Sweden, the UK and Norway) (Figure A4 in Annex 1).

The participation gap in FED among individuals with different labour market statuses ⁽⁴⁶⁾ is not very significant (Table A5 in Annex 1). Given the typically extended duration of FED, the interaction between short-term changes in employment status and participation in FED is of particular importance. Also, adults might withdraw temporarily from the labour market to participate in formal programmes (work-to-school transitions). Programmes in active labour market policy are organised as FED in some countries, such as in Sweden (Eurydice, 2011). Although employers support FED to a considerable degree (Hefler, 2013), their support is much more significant for NFE; thus, the status of being employed is less significant for FED than for NFE.

⁽⁴⁶⁾ Within the framework of AES, the labour status is measured according to the perceived main status of the respondents (variable mainstat) and not according to the labour force concept applied within the LFS (Eurostat, 2013a). This implies, e.g. that adults doing some paid work for a few hours a week could perceive themselves as either inactive or unemployed (and are not by definition classified as employed as in the LFS). Adults perceiving themselves as unemployed without actively looking for a job within the past two weeks are classified as unemployed (and not, as in the LFS, as inactive).

Based on the AES-2011, in the EU 5.9% of employed adults participated in FED. This compares to 6.6% for inactive adults and 6.4% for unemployed adults. In comparison to 2007, EU overall rates have declined slightly for employed and unemployed adults, and remain practically the same for the group of inactive adults. Among inactive adults (similar to the youngest age group), there should be a considerable proportion of adults obtaining initial FED. Data show that in 2011 eight of 24 countries have practically no differences between participation rates of employed and inactive adults. Differences in FED participation rates between employed and inactive adults are notable in the case of Germany, Denmark, Slovenia, Sweden and Norway where employed adults participate less (the respective ratios vary from 0.3 to 0.5, i.e. inactive adults participate two to four times more often) ⁽⁴⁷⁾. No comparable data are available for Belgium and Ireland.

In general, compared to the AES-2007, somewhat more countries have experienced a decline in participation inequalities among employed and inactive adults ⁽⁴⁸⁾.

Differences based on occupational groups are more substantial. Unreliable data due to small sample size issues or breaks in time series due to revision of the international standard classification of occupations (ISCO) allow only limited understanding of inequalities in FED participation by occupational group. However, in 2011 managers and professionals ⁽⁴⁹⁾ clearly participated more frequently in FED compared to clerical, service and sales workers ⁽⁵⁰⁾ – EU figures are 7.9% and 5.9% respectively (Table A7 in Annex 1). Among countries for which data are available, Austria has the greatest difference between these occupational groups (2.6), and the Czech Republic, Latvia, Poland and Slovenia have nearly a twofold difference.

The comparison of clerical workers to skilled manual workers reveals considerably higher inequalities ⁽⁵¹⁾. According to the AES-2011, the total rate of

⁽⁴⁷⁾ In Slovenia and Germany participation rates for employed people are very low (about 2%).

⁽⁴⁸⁾ Comparisons between employed and unemployed people are very restricted, because often there is no data for the latter group or these are unreliable. For countries with available data, it appears that unemployed people participate in FED more often than employed people (e.g. Denmark, Portugal and Sweden).

⁽⁴⁹⁾ According to ISCO-08 classification, categories 1-3: managers, professionals, technicians and associate professionals.

⁽⁵⁰⁾ According to ISCO-08 classification, categories 4-5: clerical support workers, service and sales workers.

⁽⁵¹⁾ According to ISCO-08 categories 6-8: skilled manual workers.

participation in FED among skilled manual workers was 2.5%. Among countries for which data are available, the participation gap between clerical workers and manual skilled workers is widest in Poland (ratio of 4.1), followed by Spain (around 3), and Hungary, Portugal, Slovenia and Sweden (respective ratios of 1.9 to 2.3). This is based on very low percentages of participation among skilled manual workers (0.7 to 6.3%) ⁽⁵²⁾.

It can be concluded, similarly to educational attainment, that countries with the highest proportions of the population working in high-level occupations (managers, professionals, technicians) (Figure A5 in Annex 1), also tend to have among the highest participation rates in FED – Denmark, Luxembourg, the Netherlands, Sweden, the UK and Norway.

4.3. Inequality in non-formal education and training

NFE encompasses a broad range of different activities. In the AES, the following types of NFE are captured: courses, guided on-the-job training (GOJT), workshops and conferences, and private lessons. These single activities tend to be short (in 2011, in the EU the mean duration was 65 instruction hours). However, adults may participate in numerous activities each year.

The composition of NFE activities across countries differs greatly because of:

- (a) different practices;
- (b) cultural differences in defining various types of activities (such as ‘courses and workshops’ or ‘workshops and on-the-job training’);
- (c) national statistical institutes’ differing emphasis in identifying NFE beyond courses ⁽⁵³⁾.

Data on the AES-2007 show that private lessons or courses generally predominate among NFE activities. However, this is not the case in Bulgaria, Spain, Cyprus and Slovakia, where only 24 to 42% of respondents acknowledge engaging in this type of training; instead most NFE in these countries consist of on-the-job training or seminars and workshops. In post-socialist countries as well as in France, Italy and Finland, respondents participate less frequently in seminars and workshops (up to 25%) compared to other EU countries (up to

⁽⁵²⁾ Due to the change in ISCO for occupational groups, no comparison across survey waves is possible.

⁽⁵³⁾ E.g. the AES-2011 quality report for Greece indicates that the Greek language has no term for ‘course’, thus it is impossible to differentiate between courses, workshops and seminars.

60%). AES data on specific types of NFE (courses, seminars, workshops) may not offer a reliable basis for cross national comparison and they are better used to derive a summary measure of NFE; yet, changes in the composition between various types may contribute significantly to cross country differences and changes over time in total NFE (Eurostat, 2010).

NFE in AES-2011 is defined as courses not belonging to the formal system of education ⁽⁵⁴⁾, which may include full-time education, GOJT, attendance at workshops and seminars and one-on-one (private) tutoring (such as private lessons). In the AES-2011, participation rates in NFE are likely to increase only slightly due to the new criteria of six months of full-time education, which can potentially shift classification of learning activities from FED to NFE.

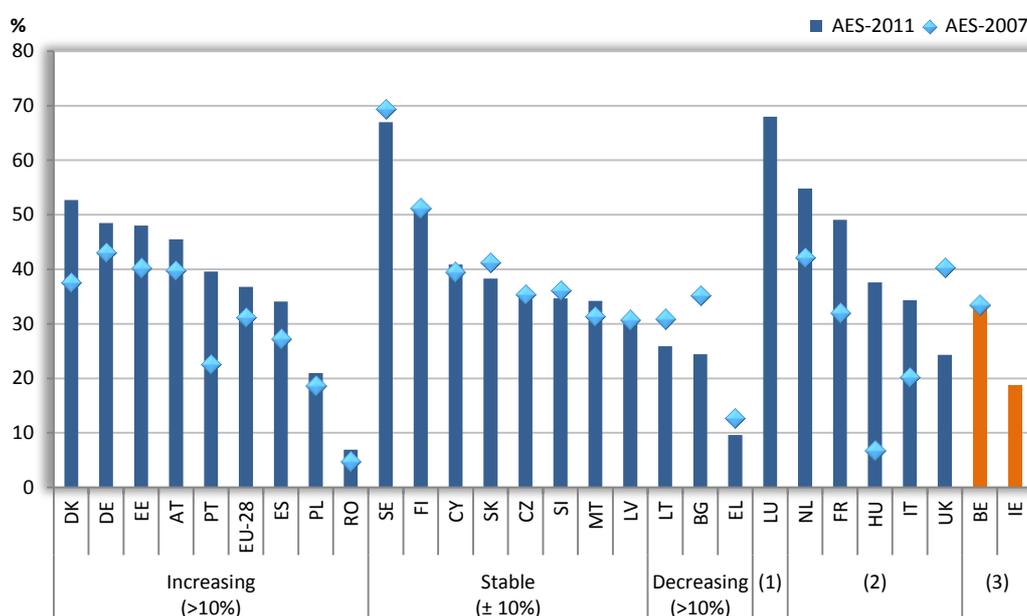
Overall participation in NFE in Europe in 2007 was 31.3%, which rose to 36.8% by 2011 (Figure 17). Luxembourg and Sweden have the highest observable rates of participation in NFE in 2011 with nearly 70% of the population participating in training, while Norway has about 60% of the population participating in training. Participation rates are close to 50% in Denmark, Germany, Estonia, France and the Netherlands.

The greatest decline (more than 10%) in NFE rates over time took place in Bulgaria, Lithuania and Greece, while NFE rates have risen in other countries, most notably in Denmark, Spain, Portugal and Romania. No comparison for trends is possible for eight countries (Belgium, Ireland, France, Italy, Luxembourg, Hungary, the Netherlands and the UK).

Differences in participation in NFE mainly follow patterns discussed in Section 4.5 on job-related, employer-sponsored training. However, they are also presented in detail in Annex 1.

⁽⁵⁴⁾ Due to the newly introduced criteria for FED, courses belonging to the formal system, yet which do not have a theoretical workload equivalent to half a year of full-time education, should be also reported as NFE.

Figure 17. **Participation rates of adults (25-64 year-olds) in non-formal education and training, AES-2011 versus AES-2007**



NB: (1) No participation in AES-2007.
 (2) Data for AES-2011 not fully comparable to AES-2007.
 (3) Data for AES-2011 not fully comparable across countries.
 Countries ordered according to changes in total participation rates.
 The reference period for the data differs between countries and the timespan between the two waves is not always four years.

Source: Eurostat, AES, dissemination database (accessed 7.1.2014); own calculation.

4.4. Inequality in job-related non-formal education and training

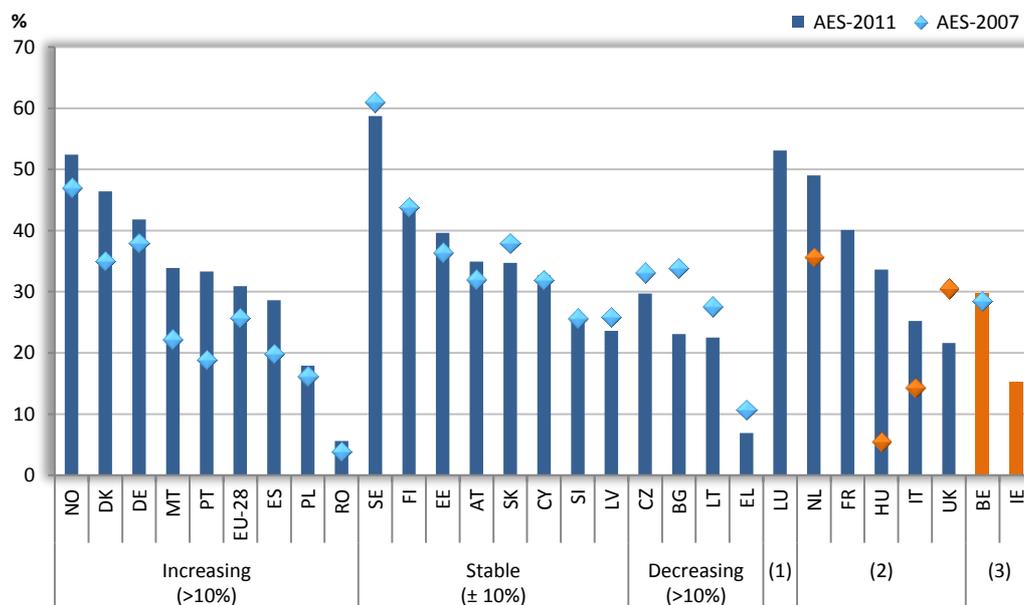
Participation in job-related NFE could (partly) be viewed as a proxy for participation in continuing vocational training (CVT). Job-related learning is defined as learning carried out by individuals to obtain knowledge and/or learn new skills for a current or future job, to increase earnings, to improve job and/or career prospects in a current job or another job and generally to improve their opportunities for advancement and promotion. It is relevant for employed adults and those who are not employed.

As outlined in Section 3.3.2, adults participate predominately in job-related NFE. In the EU on average, 30.9% of all adults or 84% of all participants in NFE undertake job-related learning activities.

Compared to the AES-2007, data from the AES-2011, between 2007 and 2011, show that participation in job-related NFE has somewhat increased in the EU average from 25.7% to 30.9% of all adults. However, due to restricted

comparability in some countries (France, Italy, Hungary, the Netherlands and the UK) the increase is likely to be overestimated (Figure 18).

Figure 18. **Participation rates of adults (25-64 year-olds) in job-related non-formal education and training, AES-2011 versus AES-2007**



NB: (1) No participation in AES-2007.
 (2) Data for AES-2011 not fully comparable with AES-2007.
 (3) Data for AES-2011 not fully comparable over time and across countries.
 Countries ordered according to changes in participation rates.
 The reference period for the data differs between countries and the timespan between the two waves is not always four years.

Source: Eurostat, AES, dissemination database (accessed 5.12.2014); own calculations.

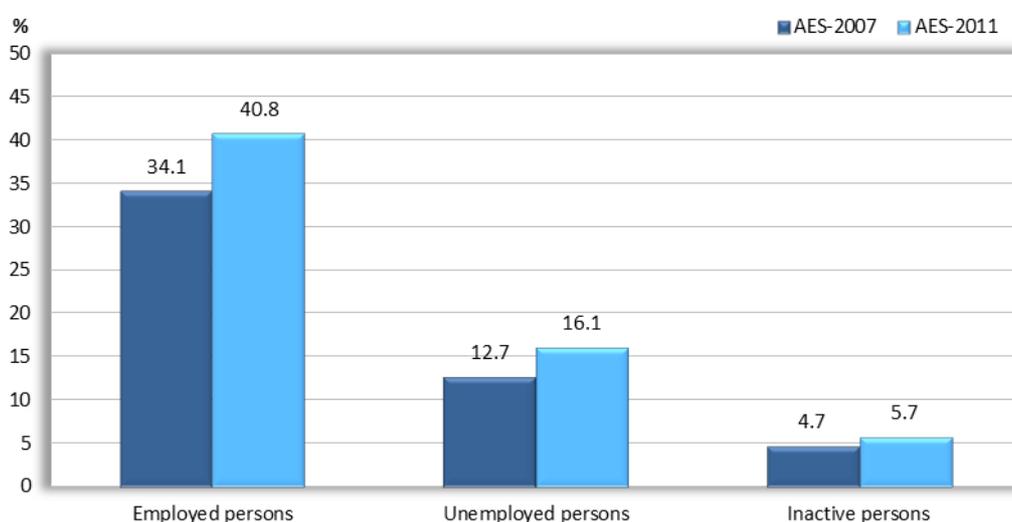
Based on the AES-2011, in eight countries (Denmark, Germany, France, the Netherlands, Luxembourg, Finland, Sweden and Norway) more than 40% of adults participated in job-related NFE. Seven further countries have participation rates between 30% and 40% (Estonia, Cyprus, Hungary, Malta, Austria, Portugal and Slovakia). In eight countries, between 20% and 30% of adults participated in job-related NFE (Bulgaria, Czech Republic, Spain, Italy, Latvia, Lithuania, Slovenia and the UK). Participation is lowest in Poland (16.2%), Greece (6.9%) and Romania (5.6%). (No fully comparable data for Belgium or Ireland.)

Participation has increased by at least 10% of the value for AES-2007 in eight countries (Denmark, Germany, Spain, Malta, Portugal, Poland, Romania and Norway) and remained relatively stable in another eight (Estonia, Cyprus, Latvia, Austria, Slovenia, Slovakia, Finland, and Sweden). In Bulgaria, the Czech Republic, Greece and Lithuania participation has fallen by at least 10% of the value for 2007, most heavily in Bulgaria (by 31.9% of the value for 2007). (No

statement on development over time possible for Belgium, Ireland, France, Italy, Luxembourg, Hungary, the Netherlands or the UK.)

As job-related NFE is beneficial for employed adults and those who are not employed (i.e. unemployed and inactive adults) and this distinction is of policy interest, differences in participation will be analysed according to the main status on the labour market (see Section 2.2 for background information on main status). As job-related NFE is mainly employer-sponsored (Section 3.3.2), inequalities in participation based on various other characteristics will be analysed in Section 4.5 (for employed adults).

Figure 19. **Participation rates of adults (25-64 year-olds) in job-related non-formal education and training, AES-2011 versus AES-2007, EU average by labour market status**



NB: The reference period for the data differs between countries and the timespan between the two waves is not always four years.

Source: Eurostat, AES, dissemination database (accessed 5.12.2014); own calculations.

According to the AES-2011, in the EU, employed adults participate much more frequently in job-related NFE (40.8%) compared to unemployed adults (16.1%) and inactive adults (5.7%). Being employed is therefore of utmost importance for access to job-related NFE. Unemployed adults may have participated in job-related learning with their previous employer and most likely within active labour market policies schemes. Adults who are not active in the labour market only participate in job-related learning to a limited extent. Training for unemployed and inactive adults, particularly that in the context of active labour market policies, employment rates and employer-sponsored training for employed adults are therefore of paramount importance for understanding participation in job-related learning and LLL in general.

For comparison over time across the EU, the limitations have already been outlined. In the EU, on average, the AES-2011 reveals that participation in job-related learning has increased compared to the AES-2007 for employed, unemployed and inactive adults, although to differing extents: by 6.7 percentage points (19.6% of the value of 2007) for the employed, by 3.4 percentage points (26.8%) for the unemployed and by 1 percentage point (21.3%) for the inactive (Table 9). In the EU average, the inequality in participation between the employed and the unemployed decreased slightly from a ratio of 2.7 in 2007 to a ratio of 2.5 in 2011.

When observing the difference in participation in job-related learning for the (currently) employed and the unemployed, the following picture emerges:

- (a) in four countries, in the AES-2011, participation of the unemployed is below the EU average, yet, inequality between the employed and the unemployed is decreasing (Czech Republic, Greece, Portugal and Slovenia);
- (b) in a further six countries, participation of the unemployed is below the EU average, yet, inequality between the employed and the unemployed is rising (Cyprus, Italy, Lithuania, Hungary, Poland and the UK);
- (c) in Spain, at 22.6% participation of the unemployed in job-related learning is higher than the EU average and inequality in participation between the employed and the unemployed is decreasing heavily (from a ratio of 2.5 to 1.6);
- (d) in Germany, Austria, Finland and Sweden, participation rates of the unemployed are higher than in the EU on average (ranging from 17.4 in Finland to 29.6% in Austria), yet inequality between the employed and the unemployed is rising slightly.

The AES sheds a different light on the importance of being employed for access to job-related learning than the labour force survey (LFS). The differences in participation between the employed and the unemployed are small when measured through the LFS (Cedefop 2013c, p. 36-38) and unemployed people even participate in LLL to a greater extent than employed people in various countries (Cedefop 2014). Based on AES data, unemployed people are at a substantial disadvantage compared to the employed. Methodological reasons play a key role ⁽⁵⁵⁾ in explaining the differences, yet the LFS underestimates the

⁽⁵⁵⁾ Reasons for the differences also include the following: AES uses the main social status (Mainstat), not the labour force concept to identify the three groups of the employed, the unemployed and the inactive. The observation period for participation and for the labour market status is longer in AES than in LFS (12 month versus four weeks), which implies that AES data report even smaller differences than when reporting on a more accurate basis (e.g. labour market status at time of participation

disadvantage of the unemployed by not observing participation in GOJT, which plays a fundamental role for job-related NFE in AES. In this respect, the advantage in skill formation related to the status of being employed is not fully captured.

4.5. Inequalities in job-related employer-sponsored non-formal education and training

The AES is an important source for learning about participation in job-related employer-sponsored NFE. Inequalities in access to this type of learning are analysed in this section.

In the AES, respondents were asked to report if the main purpose for participating in NFE was either personal or job-related. Further, respondents indicated whether the employer paid for training either fully or partly (tuition, registration or exam fees and books or technical study means) or the activity took place mainly or partly in working time. Relevant definitions of the concepts are provided in Section 1.2. Box 2 provides details of the approach used by Eurostat to identify job-related and employer-sponsored training in the AES

in job-related learning), as adults unemployed at the moment of the interview may have participated in job-related learning while in employment within the observation period.

Table 9. Participation of adults (25-64 year-olds) in job-related non-formal education and training, AES-2011 versus AES-2007, total population, broken down by labour market status

	Population			Employed persons			Unemployed persons			Inactive persons		
	2007	2011	Change in % from 2007	2007	2011	Change in % from 2007	2007	2011	Change in % from 2007	2007	2011	Change in % from 2007
EU-28	25.7	30.9	20.2	34.1	40.8	19.6	12.7	16.1	26.8	4.7	5.7	21.3
BE ^(a)	28.5	29.8		38.5	39.8		16.4	16.7		3.1	4.5	
BG	33.9	23.1	-31.9	48.4	36	-25.6	4.4					
CZ	33.1	29.7	-10.3	43.8	38.6	-11.9	8.9	15.2	70.8	2.6	3.2	23.1
DK	35	46.4	32.6	40.9	55.8	36.4		28.8		7.2	13.2	83.3
DE	38	41.8	10.0	48.1	50.9	5.8	21.6	22	1.9	10.1	12.7	25.7
EE	36.4	39.6	8.8	44.3	51.2	15.6		9.1		6	5.3	-11.7
IE ^(a)		15.3			19.5			8.6			2.1	
EL	10.7	6.9	-35.5	14.8	10.4	-29.7	5.9	4.5	-23.7			
ES	19.8	28.6	44.4	26.2	36.7	40.1	10.6	22.6	113.2	2.2	6.6	200.0
FR ^(a)		40.1			49.1			26.5			4.5	
IT ^(a)	14.3	25.2		20.8	37.1		7.2	12		1.8	3	
CY	31.9	32.7	2.5	40.7	41.9	2.9	19.1	11.9	-37.7	3		
LV	25.9	23.6	-8.9	34.3	32.4	-5.5		7.3				
LT	27.6	22.5	-18.5	37.4	32.3	-13.6	7.7	4.4	-42.9			
LU		53.1			66						8.7	
HU ^(a)	5.5	33.6		8.3	50.6		3.4	11		0.4	3.1	
MT	22.2	33.9	52.7	35	44.5	27.1		29.3			12.6	
NL ^(a)	35.7	49		45.6	61.8			27.3		11.6	14.6	
AT	32	34.9	9.1	41.2	44.2	7.3	30.8	29.6	-3.9	6.4	6.5	1.6
PL	16.2	17.9	10.5	24.2	26.3	8.7	4.5	4.1	-8.9	0.9	1.3	44.4
PT	18.9	33.3	76.2	25.3	45.7	80.6	5.4	14.3	164.8		2.6	
RO	3.9	5.6	43.6	5.6	8	42.9						
SI	25.6	25.1	-2.0	34.3	35.4	3.2	7.6	12.9	69.7	3.1	2.2	-29.0
SK	38	34.7	-8.7	48.7	44.6	-8.4				3		
FI	43.8	43.9	0.2	54.2	55.2	1.8	17.9	17.4	-2.8	13.9	12.8	-7.9
SE	61	58.7	-3.8	73.4	69.1	-5.9	30.9	27.3	-11.7	15.4	13.4	-13.0
UK ^(a)	30.6	21.6		38.7	27.8		18.1	10.6		8.2	5	
NO	47	52.4	11.5	55.7	61.7	10.8		35.8		10.8	11.1	2.8

NB: ^(a) Data are not fully comparable over time.

The reference period for the data differs between countries and the timespan between the two waves is not always four years.

Source: Eurostat, AES, dissemination database (accessed 5.12.2014); own calculations.

Box 2. Calculation of participation rates in job-related and employer-sponsored non-formal education and training

Calculation of job-related non-formal education and training

An adult is counted as having participated in job-related NFE when he has participated in NFE and when at least one out of three NFE activities randomly selected for in-depth investigation is qualified by the respondent as having a job-related purpose (variable NFEPURP). (In countries with fewer than three NFE activities in AES-2011, information on available activities is used). Guided on-the-job training is always considered to be job-related.

Calculation on employer-sponsored non-formal education and training

Participation in employer-sponsored NFE is indicated when at least one of the NFE job-related activities is on-the-job training or took place mainly within paid working time (NFEWORKTIME= 1 or 2) or was paid for fully or mainly by the employer (NFEPAIDBY_1=1). Moreover, self-employed persons who state that they have paid for their job-related training themselves are also counted as participating in employer-sponsored NFE ^(a).

^(a) For the detailed code used by Eurostat, see Box A1 in Annex 1.

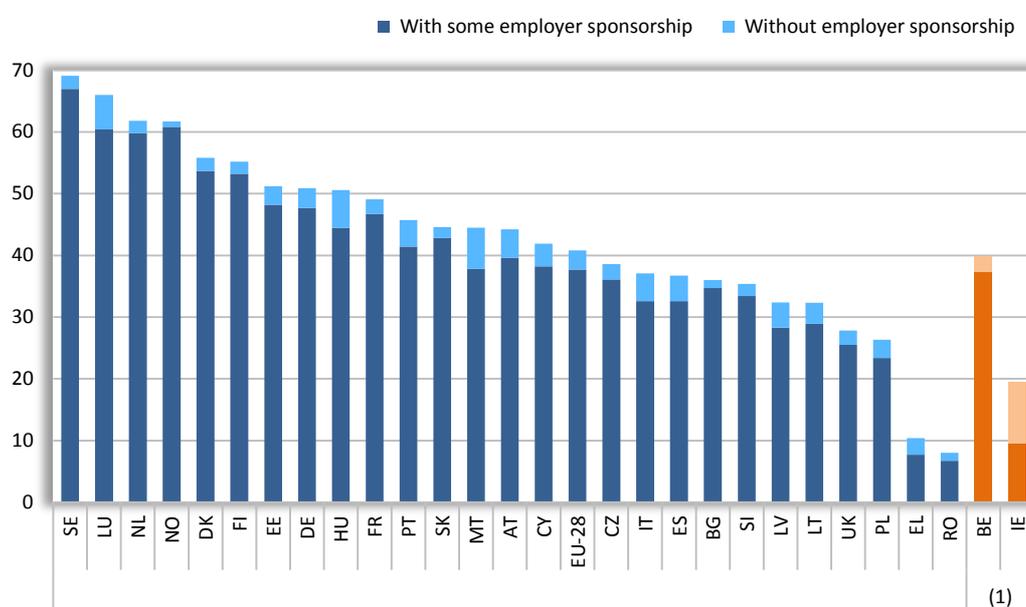
In this section, participation in job-related employer-sponsored education and training is studied, however, for the employed population only ⁽⁵⁶⁾. In the AES, unlike the LFS, it is possible to isolate the employer-sponsored component of training. However, the main socioeconomic status (mainstat) is used as a proxy for identifying the labour market status and the employed population in particular. In addition, information derived from the AES makes it possible to quantify inequalities in access to CVET based on sociodemographic characteristics of workers which CVTS does not fully cover. Differences in participation rates for socioeconomic groups (gender, educational attainment, age, occupation) are studied. Moreover, trends over time in equalities are observed (gender, educational attainment, age). By focusing on the employed only, different patterns are revealed than in the case of participation of the total adult population in NFE activities.

⁽⁵⁶⁾ Data on participation rates for the total employed population are taken from the Eurostat dissemination database. Data for breakdowns according to gender, age, educational attainment and occupation are calculated based on the AES-2007 and AES-2011 micro data sets. Responsibility for these data and for their interpretation lies with the authors of this report alone. In the latter case, the EU indicators stand for the averages for countries included in the data set.

Job-related education and training contributes most to the overall participation rate of adults in NFE activities. Employer-sponsored activities contribute most to the overall participation rates in job-related NFE (Section 3.3.2).

Among employed persons participating in job-related learning, there are only a few who do so without any support from their employer (Figure 20). Therefore, after introducing the differences between the rates of participation in job-related and job-related employer-sponsored training, only the latter is considered in the chapter.

Figure 20. **Participation rates of employed adults (25-64 year-olds) in job-related non-formal education and training with and without employer sponsorship, AES-2011**



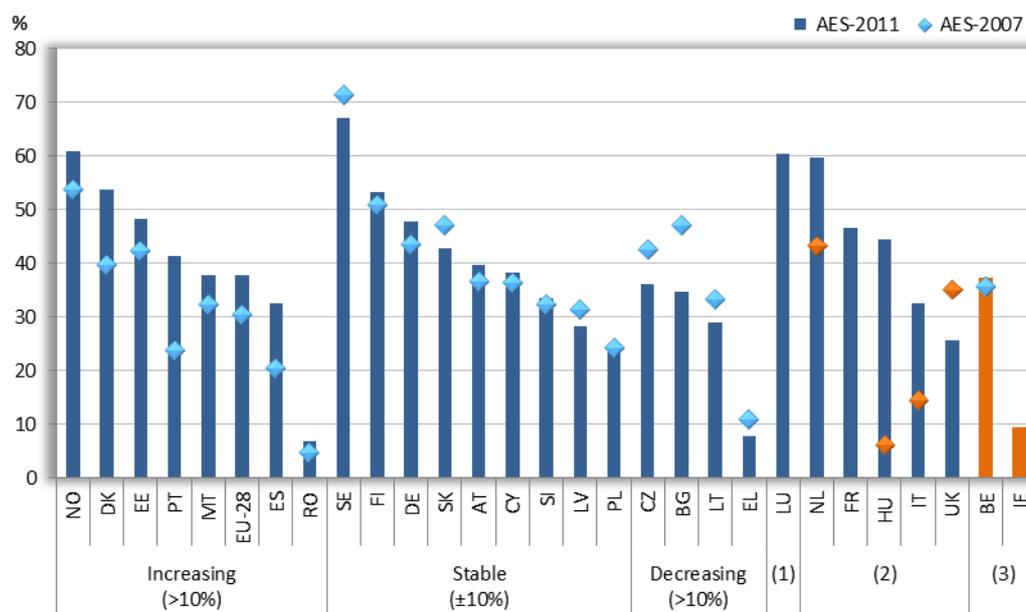
NB: (1) Data for AES-2011 not fully comparable across countries.

Source: Eurostat, AES, dissemination database (accessed 2.4.2014); own calculation.

According to the AES-2011, in 2011 40.8% of employed adults in the EU participated in job-related NFE. Just 3.1% of the employed participate without receiving any support from their employers. The remaining 37.7%, i.e. the vast majority, benefited from employer sponsorship for at least one learning activity. Differences across countries are mainly differences due to the employer-sponsored component. Only in three countries do more than 5% of employed adults participate only in non-employer-sponsored, job-related education and training (Luxembourg, Hungary, and Malta) (data for Ireland and Belgium are not comparable). Table 10 provides detailed country results for job-related training

and job-related employer-sponsored training for AES-2007 and AES-2011. In the following, only data for job-related employer-sponsored training are discussed.

Figure 21. **Participation rates of employed adults (25-64 year-olds) in job-related employer-sponsored non-formal education and training, AES-2007 versus AES-2011**



NB: (1) No participation in AES-2007.

(2) Data for AES-2011 not fully comparable to AES-2007.

(3) Data for AES-2011 not fully comparable across countries.

The reference period for the data differs between countries and the timespan between the two waves is not always four years.

Source: Eurostat, AES, dissemination database (accessed 2.4.2014); own calculation.

Comparing the AES-2007 and AES-2011, it can be noted that participation in employer-sponsored training by employed adults increased considerably in the EU average by 7.1 percentage points or 23.2% of the value of 2007. This is coherent with the finding from CVTS. However, the increase on EU level as measured through the AES is likely to be somewhat overestimated due to methodological changes between AES-2007 and AES-2011 in some Member States (France and Italy, in particular).

Leading countries in employer-sponsored, job-related NFE are the same as with those with the highest overall LLL participation rates: Denmark, Luxembourg, the Netherlands, Finland, Sweden, and Norway (participation rates between 53.2 and 60.8%), but also Germany, Estonia and France (Table 10). Participation in employer-sponsored job-related NFE is lowest (below 10%) in Greece and Romania. No comparison is possible for Belgium and Ireland.

Table 10. Participation rates of employed adults (25-64 year-olds) in job-related non-formal education and training, AES-2011 versus AES-2007

Country	Job-related NFE – employed			Employer-sponsored, job-related NFE – employed		
	2007	2011	Diff in % 2007	2007	2011	Diff in % 2007
EU-28	34.1	40.8	20.2	30.6	37.7	26.8
BE	38.5	39.8 ^(a)	^(a)	35.8	37.3 ^(a)	^(a)
BG	48.4	36.0	-31.9	47.1	34.7	-33.1
CZ	43.8	38.6	-10.3	42.6	36.1	-9.8
DK	40.9	55.8	32.6	39.7	53.7	33.4
DE	48.1	50.9	10.0	43.6	47.7	19.5
EE	44.3	51.2	8.8	42.3	48.2	4.8
IE	:	19.5		:	9.5	
EL	14.8	10.4		10.9	7.7	
ES	26.2	36.7	44.4	20.6	32.6	82.9
FR	:	49.1		:	46.7	
IT	20.8 ^(a)	37.1	^(a)	14.6 ^(a)	32.6	^(a)
CY	40.7	41.9	2.5	36.5	38.2	5.6
LV	34.3	32.4	-8.9	31.4	28.3	-15.6
LT	37.4	32.3	-18.5	33.4	28.9	-13.9
LU	:	66.0		:	60.4	
HU	8.3 ^(a)	50.6 ^(a)	^(a)	6.3 ^(a)	44.4 ^(a)	^(a)
MT	35.0	44.5	52.7	32.4	37.8	43.8
NL	45.6 ^(a)	61.8	^(a)	43.4 ^(a)	59.8	^(a)
AT	41.2	44.2	9.1	36.8	39.6	20.5
PL	24.2	26.3	10.5	24.2	23.4	
PT	25.3	45.7	76.2	23.8	41.4	70.8
RO	5.6	8.0	43.6	4.8	6.7	40.0
SI	34.3	35.4	-2.0	32.5	33.4	-3.0
SK	48.7	44.6	-8.7	47.3	42.8	-7.7
FI	54.2	55.2	0.2	50.9	53.2	7.8
SE	73.4	69.1	-3.8	71.4	67.0	-0.5
UK	38.7 (b)	27.8	(b)	35.2 (b)	25.5	(b)
NO	55.7	61.7	11.5	53.8	60.8	11.8

NB: (b) = Break in time series.

Source: Eurostat, AES, dissemination database (accessed 29.9.2014); own calculation.

Tables presenting participation rates in job-related employer-sponsored NFE for employed adults with detailed breakdowns by gender, age, educational attainment and occupation are included in Table A13 in Annex 1. Key findings are summarised here.

Among employed adults, gender differences in participation in job-related employer-sponsored NFE are extremely small: in 2011, on EU average, men (36.8%) participated slightly less than women (37.5%). In 2007, the gender differences were around the same level (men: 30.7%; women: 31.3%).

Based on the AES-2011 and among employed adults, women participated considerably more often (by 5 percentage points and more) than men in seven countries (Denmark, Estonia, Latvia, Malta, Finland, Sweden and the UK). Only in Luxembourg did considerably more men than women participate in job-related employer-sponsored NFE (men: 65.9%; women: 54.3%).

Inequalities according to gender for job-related, employer-sponsored training stayed roughly the same for most countries. The exception with a change of more than 5 percentage points in the differences between the genders is the Czech Republic, where the balance changed significantly to a higher participation of women. No information on trends is available for Belgium, Ireland, France, Italy, Luxembourg, Hungary, Malta, the Netherlands or the UK.

Inequalities by age are smaller when looking at participation rates in job-related employer-sponsored training for working adults than when looking at other participation rates, such as more general participation rates of the total adult population. The impact of age on participation in adult learning is smaller on the employed. This points to the particular importance of the employment status for participation in LLL.

Based on the AES-2011, in the EU the average participation rate in job-related and employer-provided NFE was 37.5% for employed 25-34 year-old adults, 37.6% for 35-44 year-olds, 38.2% for 45-54 year-olds and 33.3% for 55-64 year-olds. The ratio between the 55-64 year-olds and the 35-44 year-olds is 1.1. The ratio hardly changed between 2007 and 2011.

In the AES-2011, age inequality, as measured by the ratio between 35-44 and 55-64 year-olds, was biggest in Greece (ratio of 1.9). In Slovenia, Austria and the UK, participation for 55-64 year-olds is the same or even slightly higher than for 35-44 year-olds ⁽⁵⁷⁾.

When comparing the AES-2007 and AES-2011, differences in participation rates between 55-64 year-olds and 35-44 year-olds in job-related employer-sponsored education have remained practically unchanged in several countries (Bulgaria, Denmark, Estonia, Greece, Spain, Lithuania, Poland, Portugal, Finland and Sweden). Inequality has decreased in five countries (Germany, Cyprus, Latvia, Austria and Slovenia) with changes of between 0.2 and 0.3 in the ratio

⁽⁵⁷⁾ The composition of employed 55-64 year-olds is typically different from that of 35-44 year-olds, with typically more highly qualified employees and self-employed people. Based on the descriptive aggregated data, it is therefore not possible to say that there is no discrimination according to age in access to employer-sponsored education and training. To account for the differences in the composition of age groups, a multivariate regression analysis is needed and will be conducted in the forthcoming part of the study.

compared to 2007. In four countries (Czech Republic, Romania, Slovakia, Norway), inequality according to age has increased with changes of between 0.1 and 0.4 (Romania) in the ratio compared to 2007. Trends for nine countries are not reliably available (Belgium, Ireland, France, Italy, Luxembourg, Hungary, Malta, the Netherlands and the UK).

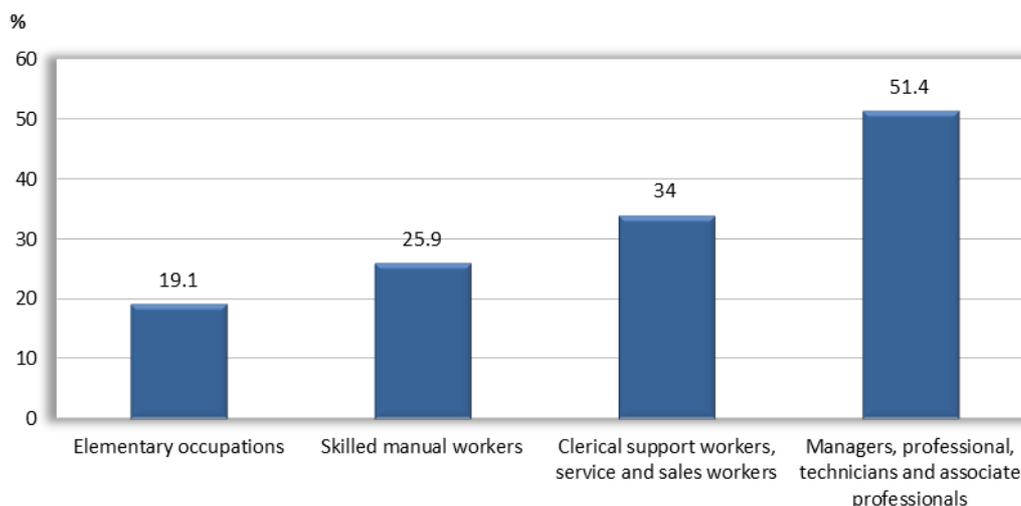
The AES makes it possible to quantify unequal access to employer-sponsored NFE by educational attainment of workers. Employed adults with low and medium educational levels have a clear disadvantage in access to job-related and employer-sponsored NFE ⁽⁵⁸⁾. Based on the AES-2011, in the EU Member States' participation rate was 23.3% for those with low educational levels (ISCED 0-2) and 33.8% for those with qualifications at medium level (ISCED 3-4), as opposed to 50.5% for those with high level education (ISCED 56).

Differences vary markedly across Member States. According to the AES-2011, in Greece and Lithuania more than three times as many highly qualified persons than medium qualified persons participated in job-related, employer-sponsored training. In Latvia, Poland and Romania, differences are also high (ratios of between 2.1 and 2.8). Differences in participation rates between medium and highly qualified persons are lowest in Bulgaria, Luxembourg, the Netherlands, Sweden and Norway (ratios of below 1.3) (no results are available for Belgium or Ireland).

For the EU on average, inequality in participation rates in job-related employer-sponsored training between medium and highly qualified persons has stayed practically the same (ratio in 2007: 1.47; and in 2011: 1.49). In Greece and Lithuania, inequality in participation according to educational attainment had increased significantly (from a ratio of 1.8 to a ratio of 3.6 in Greece, and from 2.3 to 3.2 in Lithuania). Inequality in participation according to the same indicator decreased markedly in Romania (from 3.6 in 2007 to 2.8 in 2011). No comparison over time is possible for nine countries (Belgium, Ireland, France, Italy, Luxembourg, Hungary, Malta, the Netherlands and the UK).

⁽⁵⁸⁾ For many countries, only unreliable data are available for the ISCED 0-2 group. Therefore, only employed persons with medium level qualifications are compared to highly qualified employed persons.

Figure 22. **Participation rate of employed adults in job-related employer-sponsored non-formal education and training by occupational group, AES-2011, %**



NB: The reference period for the data differs between countries and the timespan between the two waves is not always four years.

Source: Eurostat, AES, dissemination database (accessed 1.7.2014).

The AES also makes it possible to quantify unequal access to employer-sponsored education and training based on the jobs performed by workers. Based on the AES-2011, in EU Member States the average participation rate in job-related employer-sponsored learning showed high variability by occupational group: it was 51.4% for the occupational group of managers, professionals and technicians, 34% for clerks, service and sales workers, 25.9% for skilled manual workers and 19.1% for elementary occupations.

This pattern holds in all countries for which data are available. However, due to sample size issues statistical comparisons are better carried out contrasting the first two groups considered above. Greece, Latvia, Lithuania, Poland and Romania reported that managers and professionals participated twice as often in job-related employer-sponsored NFE compared to clerical, service and sales workers. The differences between these occupational groups are lowest (with a ratio of 1.2) in Bulgaria, Hungary, Sweden and the UK. No comparison is possible for Belgium or Ireland⁽⁵⁹⁾. Due to the adoption of the ISCO-08 in the AES-2011, a break in series in figures by occupational group and trends over time cannot be properly assessed.

Tables 11 and 12 look at inequalities in participation rates of employed adults in job-related employer-sponsored NFE. Key dimensions of interest are

⁽⁵⁹⁾ Due to the change in the classification, no comparison is possible between AES-2007 and AES-2011 for occupational groups.

considered (age, educational attainment and occupation), which break down the population of employed adults into various subgroups. Specific subgroups are considered and their participation rates are compared by means of ratios. The analysis is carried out at country level, making use of AES micro data and considering the level of inequalities (Table 11) and related trends (Table 11). The selection of groups compared is also influenced by the availability/reliability of data.

Table 11. **Levels of inequality (ratios) in participation rates of employed adults in job-related employer-sponsored non-formal education and training by sociodemographic groups**

	Groups compared	Level of 28 (ratio)	Participation rates compared to EU (37.7%)	Countries with disadvantages for the vulnerable group ...		
				smaller than EU average	larger than EU average	comparisons not possible
Age	35-44 to 55-64	1.13	+	DE, AT, SE	DK, EE, FR, CY, LU, HU, MT, NL, PT, SK, FI and NO	BE, IE
			-	BG, LV, LT, SI, UK	CZ, EL, ES, IT, PL, RO	
Educational attainment	High to medium	1.49	+	AT, DK, FR, LU, HU, MT, NL, PT, SK, SE, FI and NO	DE, EE, CY,	
			-	BG, ES, IT, UK	CZ, EL, LV, LT, SI, PL, RO	
Occupation	Managers/ professionals to skilled workers	1.95	+	DK, DE, FR, LU, HU, NL, AT, PT, SK, FI, SE and NO	EE, CY, MT	
			-	BG, CZ, ES	EL, IT, LV, LT, PL, RO, SI, UK	

Source: Eurostat, AES micro data; own calculations.

Table 12. **Developments of inequality (differences between 2011 and 2007 ratios) in participation rates of employed adults in job-related, employer-sponsored non-formal education and training by sociodemographic group**

	Groups compared	Inequality trend in the EU		Countries with ...			
				positive development (at least 0.1)	negative developments at (least 0.1)	stable developments	comparisons not possible
Age	35-44 to 55-64	stable (0.03)	+	DE, CY, AT	NO, SK	DK, EE, PT, FI, SE	BE, IE, FR, IT, LU, HU, MT, NL, UK
			-	LV, SI	CZ, RO	BG, EL, ES, IT, LV, LT, PL	
Educational attainment	High to medium	stable (0.03)	+	DK, AT, FI, PT and NO	DE, SK	EE, CY, SE	
			-	PL, RO	BG, CZ, EL, LT, SI	ES, LV	

NB: + signifies participation is above EU average, - signifies participation is below EU average, positive development means reduction of inequalities.

Source: Eurostat, AES micro data; own calculations.

Job-related learning is mainly employer-sponsored and participation in employer-sponsored training is lower for those working in jobs with lower skill requirements. These workers participate less in employer supported training (funded by the employer or taking place in working time) and therefore deserve specific policy attention. There is a set of policy options already accounted for in the EU policy framework, which could also be thought of as options to raise, mitigate or even compensate for lower participation in employer-sponsored training of these workers. They include raising awareness at enterprise level (among employers and employee) of the benefits of training for all workers, raising awareness of training as a way to (and/or as a non-salary benefit for) individuals' and workers' development (even beyond their current needs in the workplace), flexible training arrangements, including combinations of training leave, different sources of funding and different modes/times of delivery. The potential of training for innovation in enterprises could also be further promoted (see also Cedefop, 2012). Beyond employer support, workers' willingness to participate and related obstacles also matter.

4.6. Perceived barriers to adult education and training activities

Data on adults' willingness (or intention) to participate in education and training as well as on reasons for not participating, including possible obstacles and barriers, are of high policy relevance with a view to raising participation levels of

adults to meet the ET 2020 target of 15%. The AES offers relevant data in this respect.

Data on intentions to have any or more learning activities can be compared across periods. Trend data for some countries are not presented due to more general issues limiting AES data comparability. Trend data for the EU averages are not presented either, as changes in non-response patterns in some countries impacted on them. Barriers or obstacles to education and training are measured differently in AES-2007 and AES-2011 and comparisons over time are not reliable. As recommended by the research literature (Rubenson and Desjardins, 2009), AES-2011 asked all adults about perceived obstacles (25-64 year-olds) regardless of their intention to participate and regardless of actual participation. AES-2007 had only asked about obstacles to participation in adult education and training for those adults who wanted to but did not participate. Therefore, cross-period comparability is considerably limited; this sub-chapter analyses perceived barriers by age and highest level of education completed, but only considers the 2011 data ⁽⁶⁰⁾.

In 2011, in the EU as a whole, it can be estimated that 11.8% of adults did not participate in education or training in the 12 months prior to the interview but would have liked to have done so (Table 13). The unmet interest in participation is particularly high in some countries. The highest rates of non-participants expressing a wish to participate in adult education and training are found in Cyprus (24.8%) and Greece (19.4%). The respective rates are also relatively high in Estonia and Italy (16% and 18%). The lowest proportions (around 5-8%) of non-participants wanting to participate in LLL are in Germany, Austria, Sweden and Norway (some of the countries with the highest participation rates) and in Bulgaria and the Czech Republic (countries with lower than average participation rates), as well as in Portugal.

It can be estimated that, in 2011, 47.9% of adults in the EU did not participate in education and training during the 12-month period prior to the interview and had no intention to participate (Table 13). Adults who have not participated and do not intend to participate constitute a critical group for adult learning policies because they are the most difficult to attract to learning experiences. For them, policies dealing with obstacles and incentives are probably to be combined with initiatives aimed at raising awareness of the importance and availability of learning opportunities. In Bulgaria, the Czech

⁽⁶⁰⁾ In addition, data on intention for participation in LLL and obstacles to LLL is not available for the UK.

Republic, Lithuania, Poland and Greece, in 2011 roughly 60-70% of respondents did not participate and were not willing to participate in education and training.

Table 13. **Percentage distribution of adults by participation in education and training and intention to participate (further), AES-2011 versus AES-2007**

Country	Participants who did not want to participate more		Participant who wanted to participated more		Non-participants who did not want to participate		Non-participants who wanted to participate	
	2011	2007	2011	2007	2011	2007	2011	2007
EU	26.8	:	13.5	:	47.9	:	11.8	:
BE	19.5 (nc)	(b)	18.2 (nc)	(b)	48.8 (nc)	(b)	13.5 (nc)	(b)
BG	23.2	29.2	2.8	7.2	67.9	51.0	6.1	12.6
CZ	30.4	26.1	6.7	11.5	58.1	43.3	4.8	19.1
DK	19.7	:	38.8	:	26.6	:	14.9	:
DE	37.8	:	12.4	:	44.2	:	5.6	:
EE	28.5	27.4	21.4	14.7	34.1	37.7	16.0	20.2
IE	5.6 (nc)	:	18.8 (nc)	:	16.5 (nc)	:	59.1 (nc)	:
EL	6.1	8.7	5.6	5.8	68.9	51.6	19.4	33.9
ES	27.9	22.6	9.8	8.3	52.1	50.5	10.2	18.6
FR	29.9	(b)	20.6	(b)	35.7	(b)	13.8	(b)
HR		12.2		9.0		45.2		33.6
IT	22.9	(b)	12.7	(b)	46.4	(b)	18.0	(b)
CY	13.6	10.1	28.7	30.5	32.9	14.8	24.8	44.6
LV	19.7	16.2	12.6	16.5	53.7	33.3	14.0	34.0
LT	23.7	21.7	4.8	12.2	63.2	42.3	8.3	23.8
LU	27.3	:	42.8	:	15.1	:	14.8	:
HU	35.4	8.4	5.7	0.6	49.3	84.9	9.6	6.1
MT	:	:	:	:	48.8	:	15.3	:
NL	44.8	(b)	14.5	(b)	31.3	(b)	9.4	(b)
AT	35.3	28.6	12.9	13.3	43.9	39.6	7.9	18.5
PL	10.9	9.1	13.3	12.7	66.0	32.6	9.8	45.6
PT	30.7	18.6	13.7	7.8	47.5	51.9	8.1	21.7
RO		5.7		1.7		71.6		21.0
SI	23.5	22.7	12.7	17.9	51.9	33.1	11.9	26.3
SK	15.0	21.4	26.6	22.6	48.7	27.2	9.7	28.8
FI	36.9	35.1	18.8	19.9	33.7	28.7	10.6	16.3
SE	45.0	41.1	26.8	32.3	20.9	14.9	7.3	11.7
UK		26.2		23.1		26.9		23.8
NO	24.2	28.7	35.8	25.9	32.5	23.8	7.5	21.6
CH	40.6	:	24.9	:	22.3	:	12.2	:

NB: Own computations controlling for missing values and participation/non-participation rates. Data for Romania in AES-2011 not presented (>90% missing values); data for Denmark, Greece, Luxembourg, Latvia affected by missing values (between 10% and 20%); (b) break in time series; (nc) not fully comparable with other countries.

Source: Eurostat, dissemination database (accessed 12.4.2014); own calculation.

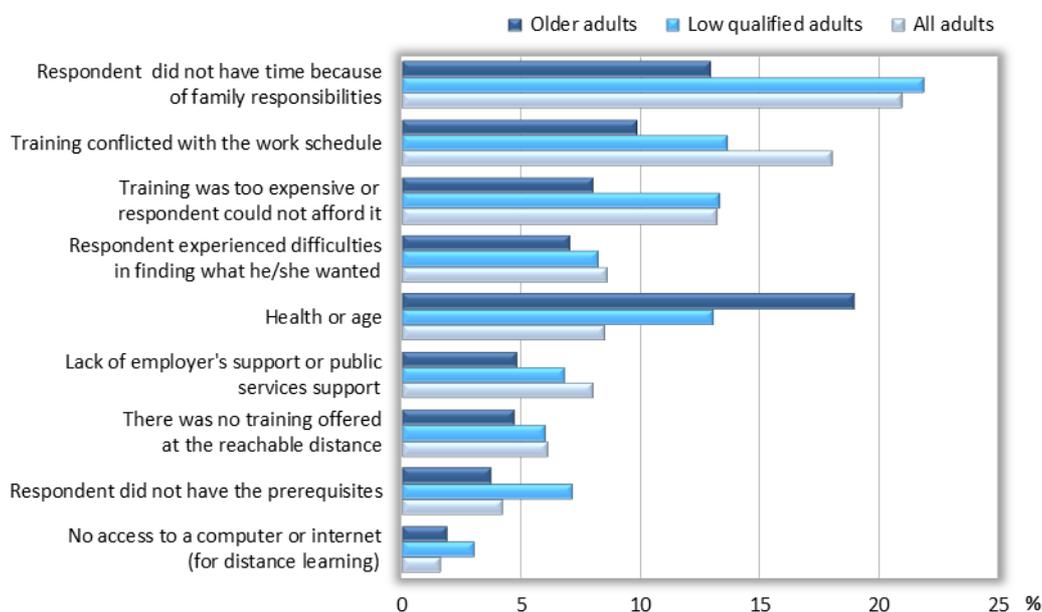
The AES-2011 asked all respondents about perceived barriers or obstacles to participation in adult education and training. An in-depth analysis of obstacles would require breakdowns for sub-groups of adults with/without participation and

with/without intention to participate. The following section presents only the most general results. They are still of interest, providing more general indications relevant for the whole population.

Figure 23 shows the response to the multiple-choice questions on obstacles. Based on the AES-2011, the most frequently cited obstacle (about 20% averaged for the EU Member States) was not having enough time because of family responsibilities and training conflicting with the work schedule. This was followed by costs; 13.2% of the respondents remarked that training was too expensive or not affordable. A study by Rubenson and Desjardins (2009) also concluded that time and money issues are most relevant when deciding on adult education and training.

About 8% of the respondents identified the following difficulties: difficulties in finding what they were looking for; lack of employer's support or public services support and health or age (feeling too sick or old to participate). Relatively few respondents indicated that no training was offered within a reachable distance (6.1%), they did not have the prerequisites (4.2%) or they did not have access to a computer or internet (for distance learning) (1.6%).

Figure 23. **Perceived obstacles to participation in adult education and training, percentage of adults who chose each given obstacle, EU average in 2011, AES-2011**



Source: Eurostat, AES, dissemination database (accessed 12.4.2014); own calculation.

Previous studies suggest that countries with different welfare regimes can share similar perceptions of barriers to adult learning (Rubenson and Desjardins, 2009). However, certain institutional contexts make it easier to overcome those obstacles; for example, social-democratic welfare states in Nordic countries have very high participation rates despite perceived barriers. Therefore, the next section outlines country differences in perceived barriers to adult education and training.

Family-related obstacles are recognised more frequently than in other countries (30% to 40% of respondents) in Greece, Spain, Italy, Cyprus and the Netherlands. Compared to other countries, the fact that training conflicts with the work schedule is most often mentioned as a reason for not participating in adult learning in Finland and the Netherlands (28.4% to 34.7%).

Another significant reason for non-participation is that training is perceived as too expensive or unaffordable – 13.2% as an average in all EU Member States. Costs are most often regarded as an obstacle in Greece (28.4%), Italy (22.2% of all adults), Estonia (22.1%), Latvia (19.3%) and the Netherlands (19.5%).

On average across the Member States, less than a 10th of respondents mention age and health or difficulties as an obstacle to participation. These obstacles are more relevant in Greece, the Netherlands and Estonia, where 16.2% to 18.2% of respondents reported facing age and health-related obstacles. In the same countries, 15.4% to 21.3% responded that not finding a suitable training offer was an obstacle. As expected, health or age is the most frequently mentioned obstacle for older adults.

The lack of prerequisites is a barrier mainly relevant for respondents with low formal qualifications (on ISCED 0-2), although it is not their main one. In the EU on average, 7.1% of low-qualified adults report this barrier (compared to 3.5% on ISCED 3-4 and 2.5% on ISCED 5-6). The lack of prerequisites is most often reported by low-qualified adults in Greece (29.7%), Romania (27.4%), Lithuania (16.9%) and Germany (15.9%) compared to other countries.

Table 14. **Four main obstacles to participation in adult education and training, AES-2011**

	No time because of family responsibilities	Training conflicted with the work schedule	Training was too expensive	Health or age
EU-28	20.9	18.0	13.2	8.5
BE	10.3	13.0	4.7	6.4
BG	6.2	7.2	8.9	3.1
CZ	22.1	11.1	7.6	7.1
DK	12.0	16.8	14.4	7.0
DE	23.0	21.2	13.2	12.1
EE	14.6	24.1	22.1	16.3
IE	28.5	6.7	8.8	3.1
EL	39.3	23.2	28.4	18.3
ES	30.7	20.5	6.6	5.6
FR	6.5	15.7	11.7	5.1
IT	31.8	25.0	22.2	8.7
CY	36.3	19.3	15.7	5.7
LV	9.9	15.3	19.3	3.8
LT	9.4	20.0	19.0	14.3
LU	21.4	24.0	12.9	6.3
HU	6.7	8.2	11.4	4.6
MT	17.7	19.1	6.9	4.4
NL	37.3	28.4	19.5	16.2
AT	13.2	12.2	7.4	5.2
PL	21.6	11.8	15.5	11.6
PT	5.0	1.6	5.5	3.8
RO	u	u	u	u
SI	16.1	13.0	12.6	6.9
SK	6.0	4.9	4.7	6.2
FI	21.7	31.1	11.1	12.8
SE	18.4	16.6	10.1	8.1
NO	14.2	17.1	9.4	6.7

NB: u = data are unreliable. Data for Romania not presented (>90% missing values); data for Denmark, Greece, Luxembourg affected by missing values (between 10% and 20%). As all adults are asked, the limitations in cross-country comparability outlined in Section 2.2 do not apply.

Source: Eurostat, dissemination database (accessed 10.12.2014); own calculation.

In summary, 10.9% of adults in Member States do not participate in education and training but are interested in doing so. Still, it is encouraging that in some countries with relatively low participation rates (Greece, Cyprus, Malta and Romania) a substantial percentage of adults would like to participate.

The AES-2011 confirms that the results of some earlier studies are still valid, indicating that the main obstacles to adult education and training are lack of time and money. For older age groups, the most significant obstacles are related to age and health issues. Adults with low educational qualifications report – similarly to all adults – mainly lack of time, costs and health and age problems. In addition, compared to the average for all adults, those with low qualifications are the group

which most frequently mentions that lack of prerequisites is a barrier to participation.

4.7. Summary and outlook

This chapter set out to study cross-country differences between 2007 and 2011 in participation in FED, NFE, but also in job-related employer-sponsored education for the employed and various sociodemographic groups. In Table 15, results are summarised for the socioeconomic dimensions used in the analyses, by referring to the EU averages.

Table 15. **Inequality according to various socioeconomic differences, expressed as inter-group ratios, EU average for 2011 and trends in EU ratios 2007 to 2011**

Gender: Women/men		Educational attainment: high to middle		Age: 35-44 to 55-64		Employment status: employed/ inactive		Occupational group: skilled manual workers to managers/ professionals/ technicians	
Level 2011	Trend 2007-11	Level 2011	Trend 2007-11	Level 2011	Trend 2007-11	Level 2011	Trend 2007-11	Level 2011	Trend 2007-11
Formal education and training (FED) – all adults									
1.0	↔	2.0	↔	2.9	↔	0.9	↔	3.2	na
Non-formal education and training (NFE) – all adults									
1.0	↔	1.6	↔	1.6	↓	3.0	↔	2.3	na
Job-related employer-sponsored non-formal education – employed									
1.1	↔	1.5	↔	1.1	↔	nap		2.0	na

NB: ↔ no change larger than 0.2 of the ratio; ↓ lower inequality by 0.2 of the ratio; ↑ higher inequality by 0.2 of the ratio; na = not available; nap = not applicable

Source: Eurostat, dissemination database (accessed 12.4.2014); own calculation.

Gender (women compared to men):

In the EU average, inequality according to gender is moderate, with in 2011 somewhat higher participation rates of women in FED, somewhat higher participation rates for men in NFE and slightly higher participation rates for women in job-related employer-provided education and training.

For the EU, inequality according to gender remained roughly the same, for all three indicators – FED, NFE and job-related employer-provided NFE of employed adults – alike.

Educational attainment (ISCED 3-4, medium levels of qualification compared to ISCED 5-6, high levels):

- (a) based on the AES-2011, differences are substantial between medium qualified and highly qualified adults in the EU, as measured by the ratios, for FED (ratio: 2.0) and NFE (ratio: 1.6) as well as for job-related employer-provided NFE of employed adults (ratio: 1.5). Prior education attainment is confirmed in its particular importance for access to and participation in LLL;
- (b) in the EU average, differences in participation rates for medium and low qualified adults have hardly diminished when comparing the results of AES-2007 and AES 2011.

Age (35-44 year-olds compared to 55-64 year-olds):

- (a) based on the AES-2011, in the EU average, 55-64 year-olds are clearly less likely to participate in FED. Younger adults are known for being much more inclined to enter FED than members of older age groups (Settersten and Lovegreen, 1998; Hefler, 2013). In participation in NFE, 55-64 year-olds are also clearly at a disadvantage compared to 35-44 year-olds, most likely, due to differences in employment rates and, therefore, participation in job-related NFE. However, among employed adults, 55-64 year-olds participate nearly as often as 35-44 year-olds in job-related employer-sponsored NFE;
- (b) comparing the AES-2007 and AES-2011, differences between the observed age groups remained stable in the EU average for FED and job-related employer-provided NFE. Participation between the age groups compared became more equal for NFE.

Employment status (employed compared to inactive):

- (a) for FED, the employment status plays a less significant role than for NFE. In the EU average according to the AES-2011, differences in participation rates for employed and inactive adults are therefore negligible. Given the importance of job-related learning, the differences in participation between employed and inactive are high for NFE. In the EU average, according to AES-2011 employed adults participate three times as often as inactive adults (ratio: 3.0);
- (b) inequalities according to the compared age groups have not changed in the EU average (AES-2007 versus AES-2011).

Occupational group (managers and professionals compared to skilled workers):

In the EU, differences in participation in LLL by occupational group are considerably high, for FED, NFE and job-related employer-provided training alike.

In the AES-2011, the ratio between managers and professionals and skilled workers was 3.2 for FED and 2.3 for NFE. Even when comparing participation of employed adults in job-related employer-provided training alone, twice as many managers and professionals as skilled workers participated in the EU average.

To sum up, in the EU average differences in participation for all three participation indicators observed are considerable for the dimensions of age, educational attainment and occupational group. For NFE, differences according to employment status are marked. Gender plays a less important role in the EU average and when observing aggregated data. A summary of the results of the analysis of the chapter on country level is provided in Section 6.2 of this study.

For a more refined analysis, a multivariate analysis of the reasons for differences in participation in job-related education and training will be prepared for a forthcoming Cedefop study based on AES-2011 micro data.

CHAPTER 5.

Training activities in enterprises: types, needs and obstacles

5.1. Introduction

With the Bruges communiqué, the European Union (EU) has stressed the key value of training activities in enterprises. It is underlined that continuing training encompasses all types of learning, in-company training and work-based learning as well as training courses: 'work-based learning is a way for people to develop their potential. The work-based component contributes substantially to developing a professional identity and can boost the self-esteem of those who might otherwise see themselves as failures. Learning on-the-job enables those in employment to develop their potential while maintaining their earnings. A well performing VET, which enables learning on and off-the-job on a part-time or full-time basis, can thereby also strongly contribute to social cohesion in our societies' (European Commission, 2011, p. 11).

The EU's emphasis on a comprehensive understanding of job-related learning is supported by research indicating that different forms of learning interact with and enhance each other in the different national contexts already (Behringer and Käßlinger, 2011). It is not desirable to have an unbalanced focus on just one form of formal, non-formal or informal learning.

This chapter starts with an in-depth discussion of types of continuing vocational training (commonly referred to as 'forms of CVT' in the framework of CVTS). It analyses training through CVT courses in combination and contrast with the so-called 'other forms of training'. Particular attention is paid to the role of these other forms of training for SMEs and a section is devoted to guided on-the-job training (GOJT). To understand the contributions made by small and medium-sized enterprises (SMEs) to lifelong learning (LLL) and their development over time, it is of crucial importance to have data for learning provided by SMEs through the provision of training courses, through GOJT or through hybrid combinations of both. The latter might offer advantages if learning through courses and on-the-job learning are combined to create enriched learning environments.

Employer-sponsored training plays a crucial role in increasing participation in LLL as outlined in the ET 2020 document. Empirical data support the high importance of employer-financed training in relation to other types of public or private training offers. But the role of employer-financed training should also not

be overestimated in its relevance since LLL requires a so-called life-wide perspective with many different learning contexts at the working place and beyond. Nonetheless, information on enterprises' perceptions of barriers against training activities is crucial for implementing successful policies for promoting CVT in enterprises with substantial and lasting effects. Therefore, Section 5.4 presents obstacles and reasons for non-provision of CVT. The CVTS data deliver important information on obstacles from the perspective of responsible persons within enterprises. As a result, the chapter will help to inform policies to initiate or to increase training activities in enterprises. Given their crucial role in Europe's economies, particular attention is given to SMEs.

5.2. Other forms of employer-financed training beyond courses – Incidence and participation

With regard to LLL, both policy and research have focused on courses. However, beyond training courses there are various other forms of learning. For some time now, there has been lively discussion on these other forms; in some contexts, they are almost regarded as a panacea. These forms, as measured by CVTS, include GOJT, job rotation, conferences and workshops, learning and quality circles and self-directed learning (including e-learning). There seems to be an agreement that their importance is high and further increasing, from the perspective of policy (European Commission, 2000) as well as from the perspective of research (see e.g. Baethge and Schiersmann, 1998, p. 31; Büchter and Glotz, 2001; Brussig and Leber, 2005). Further, the link between different forms of CVT is discussed – substitution (Staudt and Kriegesmann, 2002) or complementarities (Behringer et al., 2009; Turcotte et al., 2003).

There are different reasons given to support the argument of increasing importance of the 'other forms of training' beyond coursework. First, these training forms are considered as more effective in fostering methodological and social competence (Dobischat and Lipsmeier, 1991; Moraal et al., 2009), and in these fields increasing training needs are expected. Second, less formalised CVT is regarded as being more flexible and easier to adapt to the training needs of employees. In addition, they are considered less expensive and easier to organise than courses. For these reasons, less formalised CVT is assessed as particularly adequate for small enterprises (Brussig and Leber, 2005, p. 6; Dobischat, 1999).

This section discusses these other forms of education and training with a focus on employer-financed continuing education and training. First, the coverage of training in other forms than courses in CVTS will be explained,

accompanied by methodological remarks on indicators in CVTS. Second, the relevance of courses and other forms of learning will be discussed, taking incidence and participation rates as indicators.

5.2.1. Methodological remarks

CVTS covers continuing vocational training (CVT) of employees in enterprises. It covers training activities financed in total or at least partly by the enterprises. Financing could be direct or indirect, as it can include the use of paid working time for training. Training activities for employed persons holding an apprenticeship or training contract should not be considered part of CVT. Beyond CVT courses, CVTS collects information on so-called 'other forms of CVT' comprising five categories that range from traditional forms such as planned and GOJT or information events, as well as more modern forms such as learning circles, quality circles or self-directed learning (Box 3).

Box 3. Courses and other forms of employer-financed training in CVTS

CVT courses

They 'are typically clearly separated from the active workplace (learning takes place in locations specially assigned for learning, such as a class room or training centre). They exhibit a high degree of organisation (time, space and content) by a trainer or a training institution. The content is designed for a group of learners (e.g. a curriculum exists)' (Eurostat, 2012b, p. 24).

Other forms of CVT:

They 'are typically connected to the active work and the active workplace, but they can also include attendances (instruction) at conferences, trade fairs, etc. for the purpose of learning. They are often characterised by a degree of self-organisation (time, space and content) by the individual learner or by a group of learners. The content is often tailored according to the learners' individual needs in the workplace' (Eurostat, 2012b, p. 25).

Five single forms are differentiated:

- **planned training through guided on-the-job training (GOJT):**
'it is characterised by planned periods of training, instruction or practical experience in the workplace using the normal tools of work, either at the immediate place of work or in the work situation' (Eurostat, 2012b, p. 26);
- **planned training through job rotation, exchanges, secondments or study visits:**
'job-rotation within the enterprise and exchanges with other enterprises are "other" forms of CVT only if these measures are planned in advance with the primary intention of developing the skills of the workers involved. Transfers of workers from one job to another which are not part of a planned developmental programme should be excluded' (Eurostat, 2012b, p. 26);
- **attendance at conferences, workshops, trade fairs and lectures:**
'Attendance (instruction received) at conferences, workshops, trade fairs and

lectures are considered as training actions, only when they are planned in advance and where the primary intention of a person employed attending them is training/learning' (Eurostat, 2012b, p. 26);

- planned training through **participation in learning or quality circles**: 'learning circles are groups of persons employed who come together on a regular basis with the primary aim of learning more about the requirements of the work organisation, work procedures and workplaces. Quality circles are working groups, having the objective of solving production and workplace-based problems, through discussion. They are counted as "other" forms of CVT only if the primary aim of the persons employed attending them, is learning' (Eurostat, 2012b, p. 26);
- planned training by **self-directed learning** (e.g. self-directed e-learning): 'Self-directed learning occurs when an individual engages in a planned learning initiative where he or she manages the training time and the place at which the training takes place. Self-directed learning means planned individual learning activities using one or more learning media. Learning can take place in private, public or job-related settings. Self-directed learning might be arranged using open and distance learning methods, video/audio tapes, correspondence, computer-based methods (including internet, e-learning) or by means of a learning resources centre. It has to be part of a planned initiative. Simply surfing the internet in an unstructured way should be excluded. Self-directed learning in connection with CVT courses should not be included here' (Eurostat, 2012b, p. 26).

Courses are rather formalised, while 'other forms of training' often occur at the immediate place of work, are sometimes difficult to distinguish from regular work and learning (Moraal and Grünwald, 2004), and, therefore, are less visible and more difficult to survey. Particularly in cross-country comparative surveys, the classification into single forms is difficult. Therefore, participation rates for the single other forms are probably less accurate measures than indicators on courses. Considering their policy relevance for investigation of issues such as flexibility of training and its work-based nature and considering a well-established survey methodology, Eurostat disseminates these data. However, the CVTS does not provide an overall rate of participation in any of the other forms ⁽⁶¹⁾.

5.2.2. Incidence of CVT courses and other forms of CVT

Other forms of training (i.e. other than courses) play an important role for enterprises' provision of training.

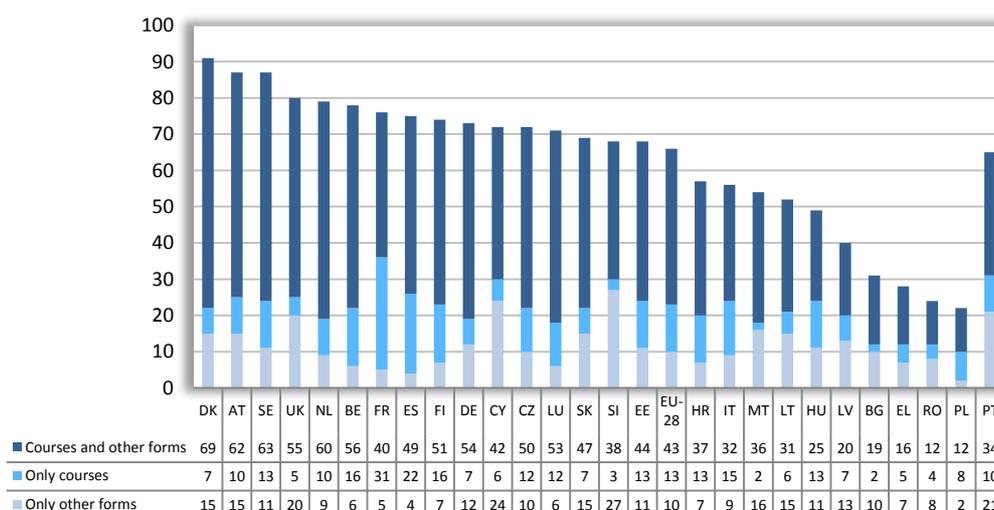
Enterprises providing training to their employees do so mostly by providing a combination of courses and other forms (Figure 24). In all countries the

⁽⁶¹⁾ For general remarks on the quality of incidence and participation indicators in CVTS see Annex 3 and 4. The five forms collected in CVTS4 were the same as in CVTS3, with minor changes to the wording and sequencing of categories in Eurostat's master questionnaire (Eurostat, 2012b, pp. 12-13), which might reduce cross-wave comparability to a certain extent (see Section 1.4 and Annex 4 for details).

combination of both types of employer-financed training is more frequent than provision of only courses or only other forms. Compared to other countries, there are more enterprises in France and Spain training their employees only through courses (31% and 22% respectively). In the EU on average, 13% of all enterprises provide only courses and no other forms of training.

In the EU, 10% of enterprises are providing training only through non-course activities. But this obviously varies across countries. In some countries the overall share of enterprises providing training is considerably increased by enterprises engaging only in other forms of training. In Slovenia, Cyprus and the UK, 20% or more of the enterprises are providing training only in forms other than courses. To a lesser extent this applies to other countries, such as Denmark, Lithuania, Malta, Austria and Slovakia, where 15-16% of all enterprises provide training only in other forms than courses.

Figure 24. **Training incidence, percentage of enterprises providing CVT: only CVT courses, only other forms of CVT or both, CVTS4**



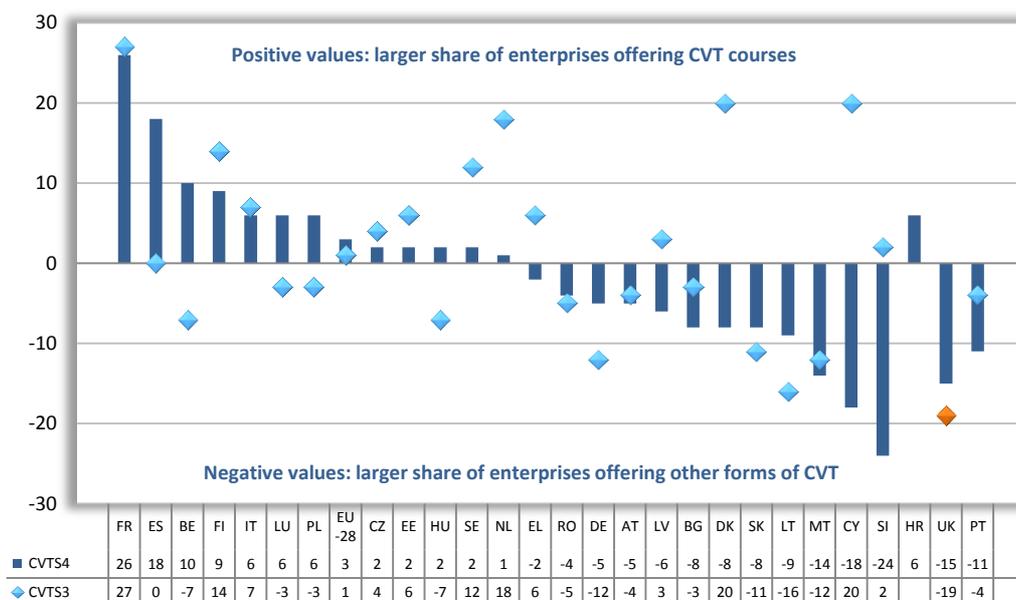
NB: Portugal data for CVTS4 not comparable.

Source: Eurostat, CVTS, dissemination database (accessed 9.7.2014); own calculation.

According to Eurostat estimates presented in the dissemination database, training incidence in the EU in 2010 is at 66%, with 56% of enterprises offering courses and 53% offering other forms of training. In about half of the countries, the incidence of courses in 2010 is higher than incidence of other forms; for the remaining countries, it is reversed (Figure 25; Table 16). In 2010, enterprises in Spain and France (and to a smaller extent in Belgium), have a more marked preference for courses over other forms of training. For example, France had an incidence of courses in 2010 of 71%, incidence of other forms of 45% – Figure 25

depicts the difference of 26 percentage points. Strong preferences regarding other forms of training appear in Cyprus, Malta, Slovenia and the UK.

Figure 25. **Training incidence, CVT courses versus any type of other forms of CVT: difference between the share of enterprises providing CVT courses and the share of enterprises providing other forms of CVT (percentage points); CVTS4 versus CVTS3**



NB: UK data for CVTS3 not fully comparable; Portugal data for CVTS4 not fully comparable.
 Source: Eurostat CVTS and dissemination database (accessed 25.2.2014); own calculation.

According to Eurostat estimates presented in the dissemination database, training incidence in the EU in 2005 is at 60%, with 49% of enterprises offering courses and 48% offering other forms of training. These values are slightly lower than the corresponding values based on CVTS4, implying a moderate increase of training incidence between 2005 and 2010.

Table 16 shows that both incidence of courses and incidence of other forms have increased on average in the EU.

Enterprises' preferences of training forms in a country are not always stable over time. Among those countries with a higher incidence of courses in 2010, there are four (Belgium, Luxembourg, Hungary and Poland) in which, in 2005, incidence of other forms exceeded incidence of courses (e.g. for Belgium in 2005, the incidence of other forms was seven percentage points higher than the incidence of courses, while in 2010 the incidence of courses was 10 percentage points higher than the incidence of other forms). Reversals also occurred in the group of countries where the incidence of other forms is now higher than the

incidence of courses, for example Denmark, Greece, Cyprus, Latvia and Slovenia.

Table 16. **Training incidence, percentage of enterprises providing CVT (CVT courses, other forms of CVT), CVTS4 versus CVTS3**

Country	2010			2005		
	CVT courses	Other forms	Courses or other forms	CVT courses	Other forms	Courses or other forms
EU-28	56	53	66	49	48	60
BE	72	62	78	48	55	63
BG	21	29	31	21	24	29
CZ	62	60	72	63	59	72
DK	76	84	91	81	61	85
DE	61	66	73	54	66	69
EE	57	55	68	56	50	67
EL	21	23	28	19	13	21
ES	71	53	75	38	38	47
FR	71	45	76	71	44	74
HR	50	44	57			
IT	47	41	56	27	20	32
CY	48	66	72	47	27	51
LV	27	33	40	30	27	36
LT	37	46	52	26	42	46
LU	65	59	71	61	64	72
HU	38	36	49	34	41	49
MT	38	52	54	31	43	46
NL	70	69	79	70	52	75
AT	72	77	87	67	71	81
PL	20	14	22	24	27	35
PT	44(b)	55(b)	65(b)	32	36	44
RO	16	20	24	28	33	40
SI	41	65	68	62	60	73
SK	54	62	69	38	49	60
FI	67	58	74	70	56	77
SE	76	74	87	72	60	78
UK	60	75	80	67(b)	86(b)	90(b)

NB: (b) = break in time series; data for UK (CVTS3) and Portugal (CVTS4) not fully comparable.

Source: Eurostat, CVTS and dissemination database (accessed 25.4.2014).

Analysis of the temporal development of the incidence of courses (Figure A6 in Annex 1) shows:

- (a) data from nine countries (Belgium, Germany, Greece, Spain, Italy, Lithuania, Hungary, Malta and Slovakia) and the EU average estimated by Eurostat

indicate the incidence of courses increased by more than 10% between 2005 and 2010 ⁽⁶²⁾;

- (b) in 12 countries (Bulgaria, Czech Republic, Denmark, Estonia, France, Cyprus, Luxembourg, Latvia, the Netherlands, Austria, Finland and Sweden) it remained stable;
- (c) in three countries (Poland, Romania, Slovenia) it decreased by more than 10%;
- (d) in Croatia, Portugal and the UK, it is not possible to make conclusions about development over time.

Regarding the development of incidence of other forms over time (Figure A7 in Annex 1), the picture is slightly different:

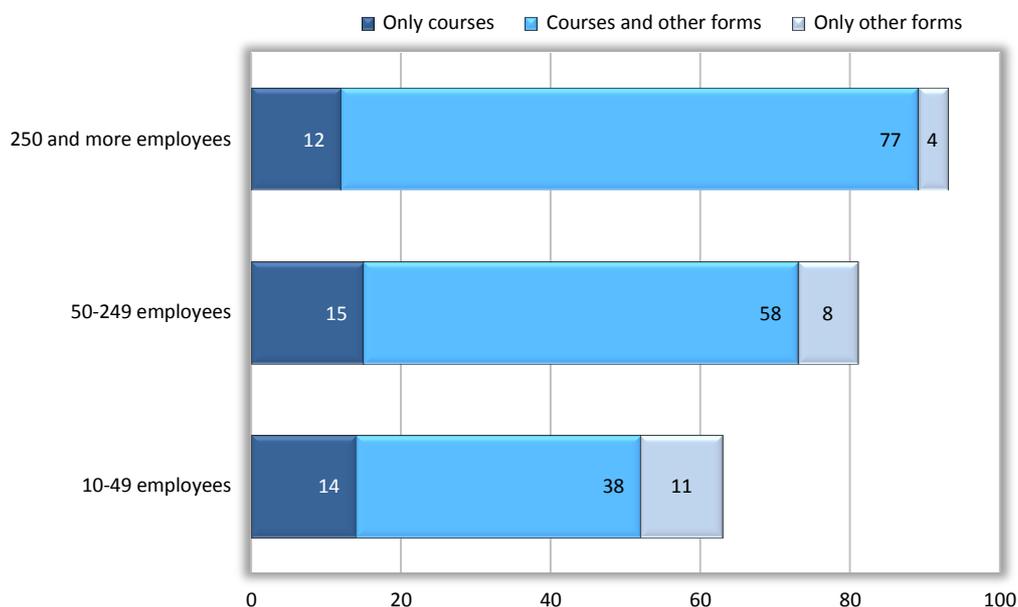
- (a) in 12 countries (Belgium, Bulgaria, Denmark, Greece, Spain, Italy, Cyprus, Latvia, Malta, the Netherlands, Slovakia and Sweden) and the EU average estimated by Eurostat, the share of enterprises offering other forms of training increased by more than 10% ⁽⁶³⁾;
- (b) in nine countries (Czech Republic, Germany, Estonia, France, Lithuania, Luxembourg, Austria, Slovenia and Finland), this share remained stable;
- (c) in Hungary, Poland and Romania, there was a decline of more than 10%;
- (d) again in Croatia, Portugal and the UK no development over time can be reported.

Enterprises' training behaviour is related to the size of the enterprise. The share of enterprises providing CVT only in other forms than courses is highest in small enterprises, and rather low in big enterprises (Figure 26). More pronounced is the difference in the share of enterprises providing both, courses as well as other forms of training. This share increases markedly with increasing enterprise size. This indicates that on average the gap between small and large enterprises in provision of training is mostly a gap associated with the provision of courses rather than with the provision of other forms of training, and that challenges faced by small enterprises relate to combining provision of other forms with additional provision of courses.

⁽⁶²⁾ In three countries (Belgium, Spain and Italy), this increase amounts to 50% or more, raising some doubts regarding comparability.

⁽⁶³⁾ This increase is startlingly high in Cyprus and Italy (both more than doubling the results), but also in Greece.

Figure 26. **Training incidence, percentage of enterprises providing only CVT courses, only other forms of CVT or both, EU averages by size class, CVTS4**



Source: Eurostat, CVTS dissemination database (accessed 9.7.2014).

Table 17 presents an analysis by country and enterprise size class. It shows that in every country, training incidence is highest for big enterprises and lowest for small enterprises. Comparing incidence of courses and other forms by size class, it also shows that:

- (a) in 14 countries, a higher share of small enterprises tends to privilege other forms of training over courses, while the reverse situation applies to 12 countries;
- (b) in all countries with only four exceptions, big enterprises are predominantly financing courses for their employees. The exceptions are Bulgaria, Slovenia and the UK, where even big enterprises offer other forms of training than courses more frequently. The fourth exception is Denmark, where incidence of other forms of training equals incidence of courses in big enterprises.

In almost all countries, the differences between small and big enterprises are more pronounced regarding provision of courses than provision of other forms, except for Belgium and Finland (see Table 17 for details). In particular, in Greece, Cyprus, Latvia, Lithuania, Malta and Slovenia, the spread of incidence of courses by size class is 15 percentage points higher than the spread of incidence of any type of other forms in the same country. The differences are rather small (5 percentage points at the most) in Belgium, Bulgaria, the Czech Republic, Spain, Italy, Luxembourg and the UK, i.e. in these countries provision of courses

seems to be related to the size class of the enterprise at a similar level as provision of other forms of CVT. Analysis based on micro data could shed more light on these questions, taking more characteristics of the enterprise into account. However, based on aggregated tables, it can be concluded that enterprises differ in their training behaviour by size class. Participation rate, volume of training and costs of training are mostly collected or analysed for courses only. However, using only these indicators does not provide a complete picture of the training behaviour of enterprises. The missing part is more substantial for small enterprises than for big ones.

Table 17. **Training incidence; percentage of enterprises providing CVT courses and any type of other form of CVT by size class, CVTS4**

Country	CVT courses				Any type of other forms			
	Total	10-49 employees	50-249 employees	250 and more employees	Total	10-49 employees	50-249 employees	250 and more employees
EU-28	56	52	73	89	53	49	66	81
BE	72	67	92	99	62	58	79	92
BG	21	16	38	70	29	24	45	76
CZ	62	57	82	96	60	55	77	89
DK	76	72	90	97	84	81	93	97
DE	61	56	73	92	66	63	74	89
EE	57	52	76	96	55	51	69	86
EL	21	17	38	79	23	20	38	62
ES	71	68	88	97	53	51	66	76
FR	71	67	93	98	45	42	57	65
HR	50	45	68	83	44	40	58	71
IT	47	44	70	89	41	38	61	80
CY	48	42	74	100	66	63	77	96
LV	27	23	41	75	33	30	45	65
LT	37	32	54	84	46	42	58	78
LU	65	60	83	99	59	55	72	89
HU	38	32	65	92	36	31	58	84
MT	38	31	60	90	52	47	71	86
NL	70	65	85	94	69	66	76	89
AT	72	69	89	98	77	75	84	95
PL	20	14	38	72	14	9	28	55
PT (b)	44	39	74	92	55	51	74	91
RO	16	12	28	56	20	16	29	54
SI	41	34	66	86	65	60	81	93
SK	54	49	73	86	62	58	74	83
FI	67	62	82	89	58	51	81	84
SE	76	73	92	98	74	72	84	91
UK	60	56	76	85	75	72	87	96

NB: (b) = break in time series; data for PT not fully comparable

Source: Eurostat, CVTS and dissemination database (accessed 25.4.2014).

Looking at the single forms (sub-categories) of other forms of training sheds more light on enterprises' training behaviour in countries. Table 18 shows that GOJT and conferences are the other forms of learning provided most frequently at the EU level and in almost all countries. According to Eurostat estimates, on average in Member States 34% of enterprises financed participation in each of these two forms in 2010, compared to 33% in 2005 (results for 2005 are available in Table A15 in Annex 1). This is roughly three times the value estimated for job rotation, learning or quality circles, and self-directed learning in the EU; also, this result is almost the same as in 2005. This also indicates the continual prevalence of the conventional forms among other forms of training ⁽⁶⁴⁾.

Countries differ in the share of enterprises that offer any other form of training, but the ranking is very similar. Some specifics appear: job rotation, exchanges, secondments and study visits are frequently used in Sweden (33%), Denmark (22%), Austria (20%) and Estonia (18%), compared to 10% on average – similar to CVTS3 results. According to Eurostat tables, learning circles and quality circles are frequently organised in Cyprus (30%), Finland (24%) and Austria (23%), compared to 10% on average.

5.2.3. Participation in CVT courses and in other forms of CVT

Many countries signal difficulties for enterprises to estimate the number of participants in training forms beyond courses. Particularly for self-directed learning, interpretation of participation rates requires some degree of caution ⁽⁶⁵⁾. This sub-section will first explore overall participation in courses and other forms of CVT.

⁽⁶⁴⁾ Note the possibility of a specific problem related to the subcategories of conferences, learning/quality circles and self-directed learning (including e-learning) in the case of Finland. Finland is therefore partially excluded in analyses and tables.

⁽⁶⁵⁾ For details, see Annex 4.

Table 18. **Percentage of enterprises providing any other form of CVT, by form of training, CVTS4**

Country	GOJT in work situation	Conferences, workshops, lectures and seminars	Self-directed learning (including e-learning)	Job rotation, exchanges, secondments, study visits	Learning circles, quality circles
EU-28	34	34	14	10	10
BE	40	40	17	14	12
BG	21	16	7	4	9
CZ	42	42	16	4	6
DK	56	63	33	22	18
DE	45	56	15	7	12
EE	36	38	21	18	8
EL	11	14	5	2	7
ES	35	23	20	7	11
FR	23	23	9	10	9
HR	25	33	8	8	6
IT	24	26	6	10	3
CY	41	38	13	12	30
LV	22	20	5	5	4
LT	23	36	14	2	14
LU	39	41	19	12	15
HU	19	28	8	4	5
MT	36	38	15	12	10
NL	39	50	29	13	17
AT	39	64	13	20	23
PL	8	11	3	2	1
PT(b)	41	30	9	6	11
RO	9	9	9	4	3
SI	47	49	12	9	15
SK	32	45	24	7	18
FI *	37			10	
SE	50	50	19	33	6
UK	59	46	26	16	14

NB: (b) = break in time series.

* Note the possibility of a specific problem related to the subcategories of conferences, learning/quality circles and self-directed learning (including e-learning) in the case of Finland. Finland is therefore partially excluded in analyses and tables.

Source: Eurostat, dissemination database (accessed 29.4.2014).

Overall the following points emerge from analysis of EU average data (Figure 27):

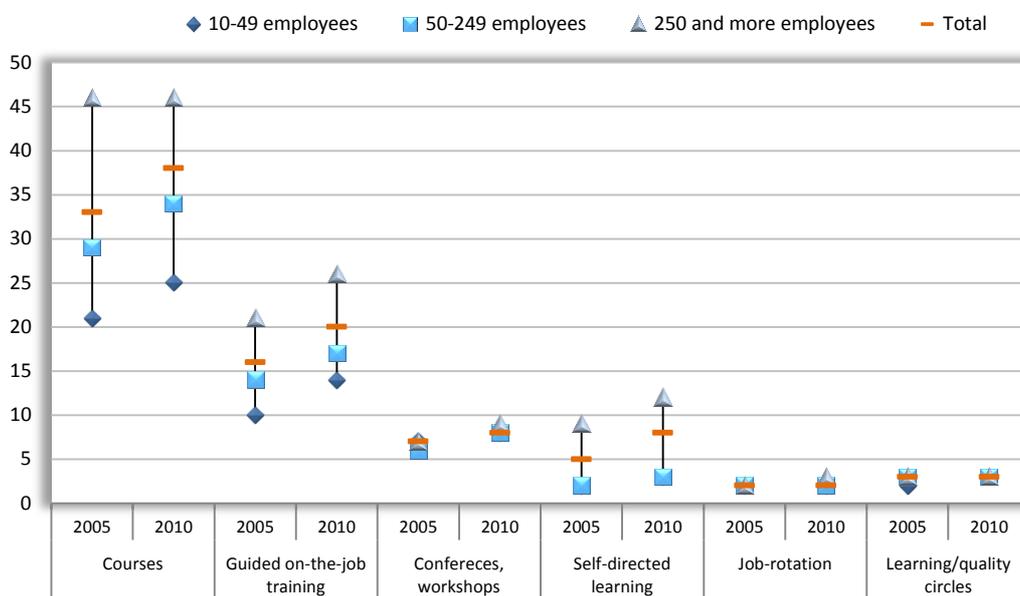
- (a) when looking at employee participation, on average in the EU CVT courses are still the most attended form of training in enterprises, followed by GOJT and attendance at workshops and conferences. Participation in employer-financed self-directed learning is as high as attendance of workshops and

- conferences, but data should be interpreted with caution ⁽⁶⁶⁾. Participation in job rotation and exchanges as well as in learning or quality circles is at a lower level;
- (b) in particular, GOJT in the work situation, which is excluded from the labour force survey (LFS) benchmark indicator on LLL, is the second most attended form of training in enterprises and it is on the rise;
 - (c) this is even more remarkable taking slight changes in the wording and sequencing of the items between 2005 and 2010 into account. These changes are suspected to exert a downward effect on the participation indicator on GOJT in the work situation in 2010, compared to 2005, equivalent to a possible underestimation of the progress made between 2005 and 2010;
 - (d) progress in employer-financed CVT was made with respect to participation in courses, GOJT, self-directed learning and to a smaller extent in conferences, workshops, lectures and seminars ⁽⁶⁷⁾;
 - (e) particularly for courses and GOJT strong variation by enterprise size class emerges, with employees in small and medium enterprises participating less;
 - (f) in enterprises of all size classes, the participation rate in courses and in GOJT increased between 2005 and 2010. Job rotation and learning or quality circles were stagnating at a low level. Regarding self-directed learning and conferences, workshops, seminars and lectures, the slight increases across time have to be treated with caution because of methodological changes (see Annex 4 for details). For courses, the increase for small enterprises amounted to 4 percentage points, while for medium-sized and big enterprises it was at 5 percentage points. However, given the lower participation in small and medium-sized enterprises, compared to bigger enterprises, the relative increase in course participation was highest in small enterprises and lowest in big enterprises (Table A16 in Annex 1). Also, for participation in GOJT the relative progress was highest for small enterprises. However, regarding conferences and workshops, the increase in small enterprises was markedly lower than in medium-sized or big enterprises.

⁽⁶⁶⁾ For details, see Annex 4.

⁽⁶⁷⁾ Eurostat estimates EU participation rates based on available data in 2005 and 2010. All participation rates based on CVTS are rounded, i.e. not providing decimal places.

Figure 27. **Training participation, percentage of employees participating in CVT courses and other forms of CVT, EU averages by size class (all enterprises), CVTS4 versus CVTS3**



NB: UK data for CVTS3 not comparable; Portugal data for CVTS4 not comparable.

Source: Eurostat, CVTS and dissemination database (accessed 10.7.2014).

Analysis based on relative participation rates (Table A17 in Annex 1) shows:

- in the case of courses the employee participation rate in small enterprises in 2010 is 74% of the participation rate in medium-sized enterprises, compared to 72% in 2005. For big enterprises, the relative participation rate in 2010 is 135%, which is a slight decrease in comparison to 2005 (141%);
- regarding GOJT, the gap between small and big enterprises is reduced as well, with an increase in the relative participation rate of small enterprises, compared to medium-sized enterprises, and hardly any change regarding the relative participation rate of big enterprises.

In conclusion, no clear assessment on converging or diverging participation over time in enterprises of different size is possible. Analysis based on changes in percentage points suggests that there has been progress in small and medium-sized enterprises but that such progress has been equal to or smaller than the progress in large enterprises. Based on percentage variation as well as on relative participation rates, progress was slightly more pronounced for small enterprises; on average the gap in employees' participation was reduced, at least for courses and GOJT. Particularly when considering courses and in GOJT, participation rates of employees working in small enterprises have increased,

However, there is no major evidence to conclude that the participation gap with employees in big enterprises has been significantly narrowed.

At country level, the following picture emerges (Table 19):

- (a) in almost all countries where data are available and comparable, participation in CVT courses is higher than participation in any other form of CVT, considered separately. Exceptions are Lithuania, where participation in GOJT was higher than participation in courses, and Bulgaria and the UK, where there is not much difference between participation in courses and participation in GOJT;
- (b) GOJT is the second most frequent form of CVT (measured in terms of employee participation) in almost all countries. Exceptions are Lithuania (GOJT ranking first), and Denmark, Austria and Slovenia (participation in GOJT ranking third, behind conferences, workshops, lectures and seminars) ⁽⁶⁸⁾. Compared to the EU average of 20%, the employee participation rate in GOJT is particularly low in Greece (6%) and in Italy, Hungary, Austria, Poland, Romania and Finland (10 to 12%). However, only in Greece, Hungary and Romania is this combined with low levels of participation in courses. Other countries with low levels of participation in CVT courses (22% or below) report results close to the EU average estimated by Eurostat, or even exceeding it, as far as GOJT is concerned (Bulgaria, Lithuania);
- (c) there is no clear picture regarding the ranking of the remaining other forms of learning. Participation in conferences, workshops, lectures and seminars ranks second or third in many countries: it shares the second ranking in Lithuania with courses, also ranking second in Denmark, Austria and Slovenia, ranking third in the Czech Republic, Germany, Estonia, Croatia, Cyprus, Latvia, Luxembourg, Malta, Poland and Sweden and shares the third ranking with self-directed learning in Belgium and the Netherlands and with quality/learning circles in Slovakia. Participation in conferences, workshops, lectures and seminars is particularly high in Denmark, Cyprus, Lithuania, Slovenia and Sweden (more than double the EU average). It is below the EU average in Belgium, Bulgaria, Greece, Spain, France, Italy, Latvia, Hungary, Poland and Romania. In Bulgaria, Greece, Hungary and

⁽⁶⁸⁾ For Finland the participation rate in guided on-the-job training equals the reported participation rate in self-directed learning. However, as mentioned in Annex 4, there are reservations regarding the published figures on attendance at conferences, self-directed learning and learning/quality circles. As values for Finland might be revised regarding these forms of CVT, they are not included in Table 19.

- Romania this is combined with low levels of participation in CVT courses (22% or below);
- (d) on average in the EU, 8% of employees participate in self-directed learning including e-learning. The highest participation rates (11%) are reported for Denmark and Germany, the lowest (3% or less) for Bulgaria, Greece, Cyprus, Latvia and Poland;
 - (e) overall, planned training through job rotation, exchanges, secondments or study visits is not frequently used as a form of providing employer-financed training (EU average estimated at 2%, national participation rates except for Sweden (9%) range between 0% and 4%);
 - (f) in the EU, an average of 3% of employees participate in training through learning or quality circles, this form of learning, with Bulgaria, Cyprus, Austria and Slovakia reporting the highest participation rates (between 8% and 10%).

As previously discussed, in most countries participation in courses increased or was more or less stable between 2005 and 2010. It is now analysed how this is combined with participation in other forms than courses (Table 19). However, due to often small values of participation in other forms of CVT, changes in participation rates are assessed by using simple variation in percentage points (rather than percentage variation of the indicator). Slovenia is the only country with a marked decline in participation of employees in courses. In this country, the decline in participation in courses comes with substantial increases in participation in conferences, workshops, lectures and seminars, but also in GOJT and in self-directed learning (including e-learning).

In eight countries the participation in CVT courses was stable (plus or minus 10% compared to 2005). Regarding participation in other forms of training, they can be split into the following groups:

- (a) stable participation in courses is combined with increasing participation in other forms. This is the case in France (increase in GOJT, stability of remaining other forms of CVT) and Austria (increases in GOJT, learning/quality circles, self-directed learning and conferences and workshops);
- (b) stable participation in courses is combined with decreasing participation in other forms. This is the case in Denmark (with major decreases in GOJT and conferences and workshops) ⁽⁶⁹⁾;

⁽⁶⁹⁾ This is also the case for Finland, but only data for GOJT and job rotation are confirmed (Footnote 68). The development of the other forms (not included in Table 19 because of reservations) might change the picture.

- (c) stable participation in courses is combined with mixed trends in other forms. This is the case for the Czech Republic, Luxembourg, Romania and Sweden, where participation in other forms is increasing for some forms and decreasing for some others and the magnitude of variations is rather limited.

In 15 countries (Belgium, Bulgaria, Germany, Estonia, Greece, Spain, Italy, Cyprus, Latvia, Lithuania, Hungary, Malta, the Netherlands, Poland and Slovakia) participation in CVTS courses increased by 10% or more between 2005 and 2010. Again, two further splits emerge:

- (a) in seven countries (Bulgaria, Greece, Italy, Cyprus, Latvia, the Netherlands and Slovakia) participation in courses and in all five other forms of training increased or remained at least stable;
- (b) the remaining countries tend to combine increased provision of courses with increased participation in one or more of other forms, but not in all of them. Developments in participation in other forms were not uniform in Belgium, Germany, Estonia, Spain, Lithuania, Hungary, Malta and Poland.

5.2.4. Participation in guided on-the-job training

In most countries, GOJT has the highest participation rate in the various forms of learning other than courses. Data on GOJT can be also considered as a proxy measure for work-based CVET. Therefore, this type of CVT will be explored further. Compared to CVTS3, according to Eurostat estimates participation in GOJT has increased on average by 4 percentage points or 25% of the 2005 baseline in the EU, which is greater than the increase in participation in courses (Section 5.2.3). There is considerable variation at country level (Figure 28): in 11 countries (Bulgaria, Greece, France, Italy, Cyprus, Latvia, Lithuania, the Netherlands, Austria, Slovenia and Sweden) participation in GOJT increased by more than 10%. In most of these countries, participation in GOJT was below the EU average in 2005, and in half of them, it is still below average in 2010. In four of these countries (France, Cyprus, Latvia and Lithuania), participation at least doubled between 2005 and 2010. Six countries (Belgium, Czech Republic, Germany, Spain, Hungary and Slovakia) had stable participation between 2005 and 2010. These countries, except Hungary, had above-average participation in both reference years. Seven countries (Denmark, Estonia, Luxembourg, Malta, Poland, Romania and Finland) reported a decrease of GOJT. Most of these countries had participation rates above or at EU average in 2005, but all are now below the average, except Luxembourg which is on a par with the EU average.

Table 19. Training participation, percentage of employees participating in CVT courses and other forms of CVT (all enterprises), CVTS4

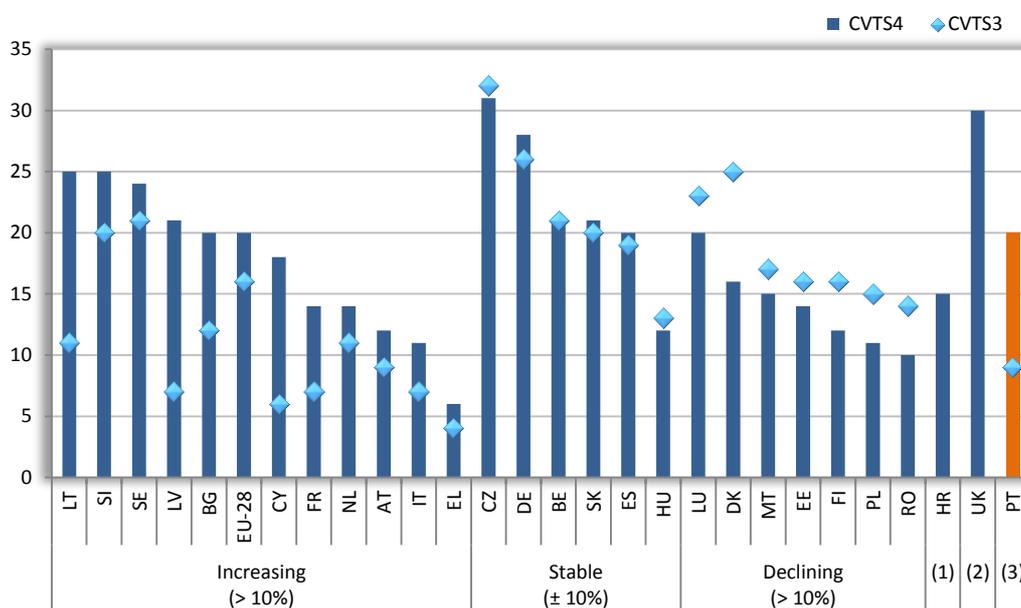
	Courses		GOJT in work situation		Conferences, workshops, lectures and seminars		Self-directed learning (including e-learning)		Job rotation, exchanges, secondments, study visits		Learning circles, quality circles	
	2010	change to 2005 (% points)	2010	change to 2005 (% points)	2010	change to 2005 (% points)	2010	change to 2005 (% points)	2010	change to 2005 (% points)	2010	change to 2005 (% points)
EU-28	38	5	20	4	8	1	8	3	2	0	3	0
BE	52	12	21	0	7	-1	7	1	2	-1	3	-3
BG	22	7	20	8	6	4	3	2	1	0	8	6
CZ	61	2	31	-1	11	1	6	1	1	0	3	-1
DK	37	2	16	-9	20	-18	11	-3	4	0	3	-3
DE	39	9	28	2	15	5	11	-1	2	1	4	-1
EE	31	7	14	-2	8	2	7	3	3	0	2	0
EL	16	2	6	2	2	0	2	2	1	0	4	2
ES	48	15	20	1	5	0	9	2	2	-1	3	-1
FR	45	-1	14	7	2	0	4	2	2	1	1	0
HR	23	na	15	na	8	na	5	na	1	na	3	na
IT	36	7	11	4	5	1	9	4	3	1	1	0
CY	37	7	18	12	17	12	3	2	2	1	9	5
LV	24	9	21	14	4	0	2	1	2	1	2	0
LT	19	4	25	14	19	11	7	4	0	0	6	-1
LU	51	2	20	-3	14	0	8	2	3	1	5	1
HU	19	3	12	-1	5	-1	8	5	1	0	2	-1
MT	36	4	15	-2	8	0	3	1	3	1	4	-2
NL	39	5	14	3	9	3	9	4	2	1	4	0
AT	33	0	12	3	14	5	6	5	3	1	10	4
PL	31	10	11	-4	5	0	3	2	1	0	0	-1
PT (b)	40	12	20	11	5	1	6	5	2	1	5	3
RO	18	1	10	-4	3	1	5	3	2	-1	1	-1
SI	43	-7	25	5	31	15	6	5	1	0	7	-1
SK	44	6	21	1	10	1	7	5	2	1	10	8
FI *	40	1	12	-4					2	-1		
SE	47	1	24	3	19	2	4	0	9	-3	1	-2
UK (b)	31	-2	30	na	8	na	9	na	4	na	3	na

NB: (b) = break in time series; UK data for CVTS3 not comparable. Portugal data for CVTS4 not fully comparable.

* Note the possibility of a specific problem related to the subcategories of conferences, learning/quality circles and self-directed learning (including e-learning) in the case of Finland. Finland is therefore partially excluded in analyses and tables.

Source: Eurostat, CVTS and dissemination database (accessed 30.4.2014 and 23.9.2014); own calculation.

Figure 28. **Training participation, percentage of employees participating in guided on-the-job training (all enterprises), CVTS4 versus CVTS3**



NB: (1) Did not participate in CVTS3.
 (2) Data for CVTS3 not applicable.
 (3) Data for CVTS4 not comparable.

Source: Eurostat, dissemination database (accessed 5.5.2014); own calculation.

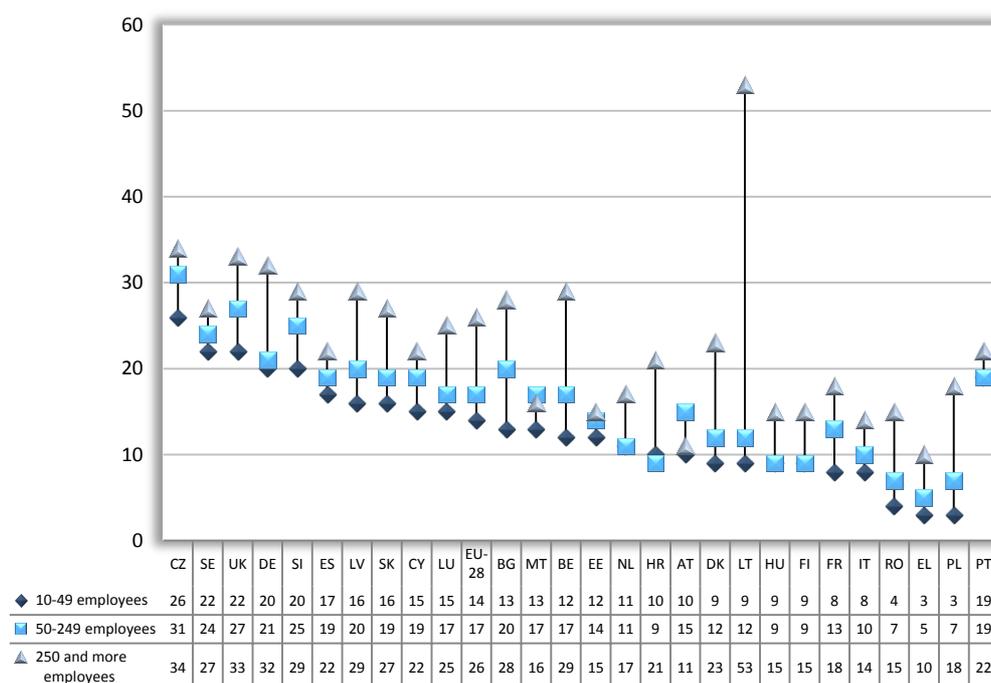
When comparing these results with the development of participation in courses over time, diverging developments appear:

- (a) in seven countries (Bulgaria, Greece, Italy, Cyprus, Latvia, Lithuania and the Netherlands), participation in courses and in GOJT increased by 10% or more between 2005 and 2010;
- (b) in three countries (France, Austria and Sweden), participation in GOJT increased, while participation in courses remained stable; in Slovenia, participation in GOJT increased, while participation in courses decreased;
- (c) in five of the six countries with stable GOJT, participation in courses increased, only in the Czech Republic did participation remain at the same level;
- (d) all seven countries with decreasing GOJT had at least stable course participation (Denmark, Luxembourg, Romania and Finland); three countries with a decreased GOJT had increased course participation (Estonia, Malta and Poland);
- (e) overall, more countries had increases in participation in courses and fewer had decreases, compared with the development of GOJT.

Size is related to an enterprise's training behaviour. In most countries, the participation in GOJT is lowest in small enterprises, and highest in large

enterprises (Figure 29). Exceptions are Malta and Austria with medium enterprises having the highest participation rate in GOJT); Hungary, the Netherlands and Finland where participation in GOJT in small enterprises equals medium enterprises; and Croatia where participation in GOJT is lowest in medium enterprises.

Figure 29. **Training participation, percentage of employees participating in guided on-the-job training by size class (all enterprises), CVTS4**



NB: Portugal data for CVTS4 not fully comparable.

Source: Eurostat, CVTS and dissemination database (accessed 30.4.2014).

As for participation in courses, relative participation rates regarding GOJT are calculated, with medium-sized enterprises as the reference group ⁽⁷⁰⁾. On average in the EU, the chances of an employee in a small enterprise participating in GOJT are 18% lower than those of an employee in a medium-sized enterprise (Table 20). This average is only marginally more equitable than the relative chances of participating in courses (Table 20). As with participation in courses, there are enormous differences between countries. In six countries (Bulgaria, Greece, France, Austria, Poland and Romania), employees in small enterprises have a rate of participation in GOJT lower than 70% of the participation rates of

⁽⁷⁰⁾ See Footnote 32 for the explanation of the calculation of relative participation rates.

employees in medium-sized enterprises in the same country. In five of these countries (Bulgaria, Greece, France, Poland and Romania), the chances of participation in employer-financed courses were also notably unequal for employees in small enterprises. A more equal distribution of GOJT participation with higher participation rates for employees in small enterprises (at least 80% of the participation rate of medium enterprises) appears in 16 countries (Czech Republic, Germany, Estonia, Spain, Croatia, Italy, Latvia, Luxembourg, Hungary, the Netherlands, Portugal, Slovenia, Slovakia, Finland, Sweden and the UK). This group includes all but one country (Denmark) with rather equitable course participation of employees of small enterprises (Germany, Croatia, the Netherlands, Finland, Sweden and the UK), but also includes countries where course participation is more inequitable than participation in GOJT (Czech Republic, Estonia, Spain, Italy, Latvia, Luxembourg, Hungary, Portugal, Slovenia and Slovakia). Overall, participation in GOJT of employees in small enterprises is only slightly more equitable than participation in courses.

Over time, there is no uniform trend regarding equity in participation in GOJT by size class across countries (Table A18 in Annex 1). In more than half of the countries, participation rates in GOJT for employees in small enterprises are getting closer to the reference group in this country, with remarkable developments in Denmark, Latvia and Sweden (the relative participation rate of employees in small enterprises increased by 30 points or more), but also in Germany, Italy, Hungary and Malta (the gap between small and medium-sized enterprises fell by 20-29 points). At the same time, equity was decreasing in other countries, notably in Luxembourg, Poland, Romania and Slovakia (the relative participation rate of employees in small enterprises decreased by 20 points or more).

There is no indicator available to sum up the participation in any other form of CVT. Based on Table 19 in Annex 1, the reader will find a discussion on possible estimations of participation rates in any other form of training which could be undertaken to overcome current data limitations. Results confirm the findings for differences across size classes and across countries established based on the incidence of other forms and the participation in GOJT in particular.

Table 20. **Training participation, relative participation rate by size class of employees participating in guided on-the-job training (all enterprises), CVTS4**

Country	Participation rate	Relative participation rate (index, 50-249 employees = 100)			Range (maximum-minimum)
	Total	10-49 employees	50-249 employees	250 and more employees	
EU-28	20	82	100	153	71
BE	21	71	100	171	100
BG	20	65	100	140	75
CZ	31	84	100	110	26
DK	16	75	100	192	117
DE	28	95	100	152	57
EE	14	86	100	107	21
EL	6	60	100	200	140
ES	20	89	100	116	26
FR	14	62	100	138	77
HR	15	111	100	233	133
IT	11	80	100	140	60
CY	18	79	100	116	37
LV	21	80	100	145	65
LT	25	75	100	442	367
LU	20	88	100	147	59
HU	12	100	100	167	67
MT	15	76	100	94	24
NL	14	100	100	155	55
AT	12	67	100	73	33
PL	11	43	100	257	214
PT(a)	20	100	100	116	16
RO	10	57	100	214	157
SI	25	80	100	116	36
SK	21	84	100	142	58
FI	12	100	100	167	67
SE	24	92	100	113	21
UK	30	81	100	122	41

NB: (a) Portugal data for CVTS4 not fully comparable.

Source: Eurostat, CVTS and dissemination database (accessed 30.4.2014); own calculation.

5.2.5. Summary of the relevance of different types of employer-financed CVT across Europe

Less formalised training forms, in particular workplace-based learning, have been attributed significant and growing importance for some time now. In the EU, the share of enterprises offering courses is slightly higher than the share providing other forms of training to their employees. Both EU average shares were higher in 2010, compared to 2005. Analysing single countries reveals diverging patterns, with enterprises having a preference for providing courses in about half of the

countries, and for providing other forms in the remaining ones. Many countries do not have enduring predominance of one type or the other (with changing patterns in 2010 compared to 2005). Further, most training enterprises use a combination of courses and other forms. However, in some countries the share of training enterprises is considerably increased by those only providing other forms of CVT (this means that in those countries more employers make exclusive use of other forms of training which seem to be particularly attractive to them).

Enterprises' training behaviour is related to the size of the enterprise. The share of training enterprises increases with the size of the enterprise. The share of enterprises providing CVT only in other forms than courses is highest in small enterprises, and rather low in big enterprises. More pronounced is the difference in the share of enterprises providing courses. Based on EU average data, the gap between small and large enterprises in provision of training is mostly a gap associated with the provision of courses rather than with the provision of other forms of training and the challenges faced by small enterprises relate to combining provision of other forms with additional provision of courses.

The relative importance of forms of training can also be measured on the basis of employee participation rates. On average in the EU, CVT courses are still the most common form of training in enterprises, followed by GOJT and attendance at workshops and conferences.

There is a general trend of participation rates increasing with the size class of the enterprise not only for participation in courses, but also for participation in other forms of CVT. The magnitude of the differences by size class, however, varies across countries and across type of training. No clear assessment on converging or diverging participation over time in enterprises of different sizes is possible. Analysis based on changes in percentage points suggests that favourable progress in small and medium-sized enterprises has been equal to or smaller than developments in large enterprises. Based on percentage variation as well as on relative participation rates, progress was more pronounced for small enterprises; on average the gap in employees' participation was reduced, at least for courses and GOJT. Based on EU average data, particularly when considering courses and GOJT, participation rates of employees working in small enterprises have increased. However, there is no major evidence supporting the conclusion that the participation gap with employees of big enterprises has been remarkably narrowed.

Seven countries clearly involve more employees in courses than in other forms of CVT taken together; this situation probably exists in another four countries. Only two countries indicated higher participation of employees in other forms of CVT rather than in courses. In the remaining countries, the question of

predominance of participation in courses or in other forms cannot be decided based on the available data. Descriptive analysis based on tables published by Eurostat does not lend itself to clear conclusions on the relevance of types of employer-financed CVT, nor on the question of complementarities or substitution. Nevertheless, it seems safe to say that analysis based on CVTS data does not indicate that courses are generally decreasing in importance or that other forms of CVT are edging out course-style training. Overall, participation in employer-financed CVT in forms other than courses, according to the answers given by employers, involves a smaller part of employees than employer-financed courses in many countries. But this part is not negligible and plays an important role.

Another strand of the discussion is on the adequacy of the types of CVT for small enterprises and on the role workplace-based CVT has for small and medium enterprises (see Chapter 1 for related discussion of policy papers). Based on the results presented, it is evident that enterprises differ in their training behaviour by size class. Among the single other forms of CVT, in nearly all countries GOJT has the highest participation rate among the employer-financed CVT in forms other than courses (reaching on average 20% of employees, compared to 38% in courses). Again, there is enormous variation across countries regarding the level of GOJT and its development over time. Participation in GOJT is related to the size class of the enterprise. Participation in GOJT of employees in small enterprises is on average only slightly more equitable than participation in courses (measured by relative participation rates), with strong variation between countries. Further analysis of GOJT could provide relevant insights, in particular when combining it with a related analysis of AES.

Information on CVT in other forms of learning is not as detailed as on courses. Concentrating on courses and neglecting statistical importance of GOJT leaves part of the reality of employer-financed training out of focus; thus, the picture is not complete. The missing part varies in size in different countries, but also with regard to different types of enterprises. A comprehensive picture of employer-financed training must include other forms than courses, too.

5.3. Skills considered important by all enterprises and skills targeted by enterprises providing courses

Knowing about enterprises' skills needs is of key importance for policy-making and educational provision alike. CVTS is a relevant source for observing skills needs from employers' perspectives.

CVTS4 has introduced a new question (A12) to collect from all the enterprises surveyed information on the skills they consider important for their

development in the near future ⁽⁷¹⁾. A battery of selected skills items, including an item 'other' is presented. Respondents are asked to state whether or not each item is deemed important. The answers are not mutually exclusive.

In addition, enterprises providing training courses are further asked whether or not such courses have targeted particular groups of skills ⁽⁷²⁾, using the same battery of skills as in the question on skills deemed important (A12). Contrary to the CVTS3, no quantitative estimates of the training hours provided in the various fields are collected any more, seeking to effectively reduce the response burden of the enterprises. Due to the change in the survey strategy, no comparison between CVTS3 and CVTS4 is possible.

Data on questions A12 and C5, including a breakdown for three size classes of enterprises, has been made available by Eurostat by December 2013 for 26 EU Member States and the EU average estimate. Data for Denmark were not available at the moment of data extraction ⁽⁷³⁾.

5.3.1. Skills considered important and skills targeted by courses

By using the same items for reporting on future skill needs and skills targeted by training courses, it becomes possible to relate perceived skill needs and implemented training activities. The analysis is developed in the following section.

Questions about future skill needs (A12) are answered by all enterprises, while questions on skills targeted by courses are asked only to enterprises with training activities in the reference period (2010). For better comparability, based on our own recalculation of the Eurostat figures, their answers are also expressed as a proportion of all enterprises.

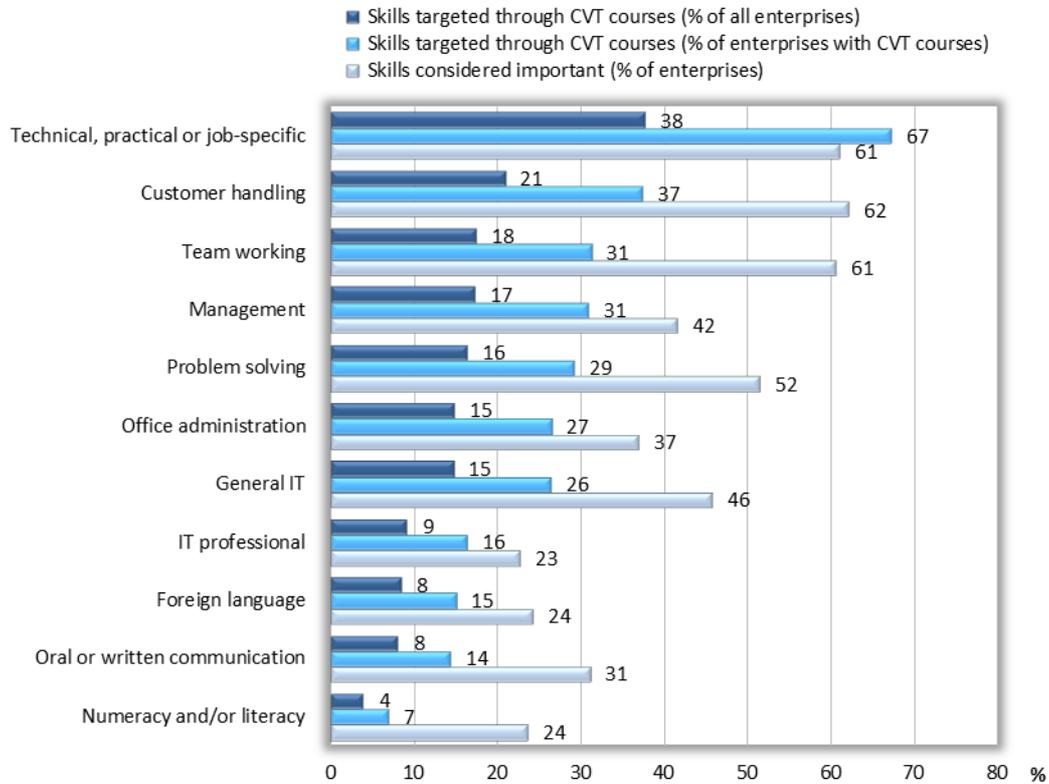
First, estimates for the EU and all enterprises are presented. Given their weight among all enterprises, figures represent mainly the small enterprises (Table A1 in Annex 1). Information on enterprises by size class is presented in the second part of the section.

⁽⁷¹⁾ Question A12: In your enterprise, which skills/competences (def. 24) are generally considered as important for the development of the enterprise in the next few years?

⁽⁷²⁾ Question C5: In 2010, which skills/competences were targeted by CVT courses?

⁽⁷³⁾ Ireland had not implemented CVTS4.

Figure 30. **Skills targeted by employer-sponsored CVT courses and skills considered important by enterprises for their development in the near future, EU, CVTS4, % of enterprises marking each option**



Source: CVTS, extracted by Eurostat on request of Cedefop (December 2013); own calculations.

In the EU, enterprises consider technical, practical or job-specific skills (61%), and transversal skills in the domain of customer handling (62%) and teamwork (61%) as the most important. The importance of technical, practical or job-specific skills is quite often combined with the provision of related training courses: 38% of all enterprises offer CVT courses in this skills domain, corresponding to 67% of enterprises with CVT courses. A smaller proportion of enterprises provide CVT courses in customer handling (21% of all enterprises or 37% of enterprises with courses) and teamwork (18% and 31%, respectively).

To a lesser, yet remarkable extent, problem solving and management skills are considered important for their future by enterprises. 52% of enterprises find problem solving skills key, yet only 29% of enterprises with courses or 16% of all enterprises have offered related training courses. Management skills are rated as important by 42% and supported by training measures by 31% of enterprises with courses or 17% of all enterprises.

General IT skills are also rated as important in the years to come by roughly half of the enterprises (46%) and supported by about a quarter (26%) of training

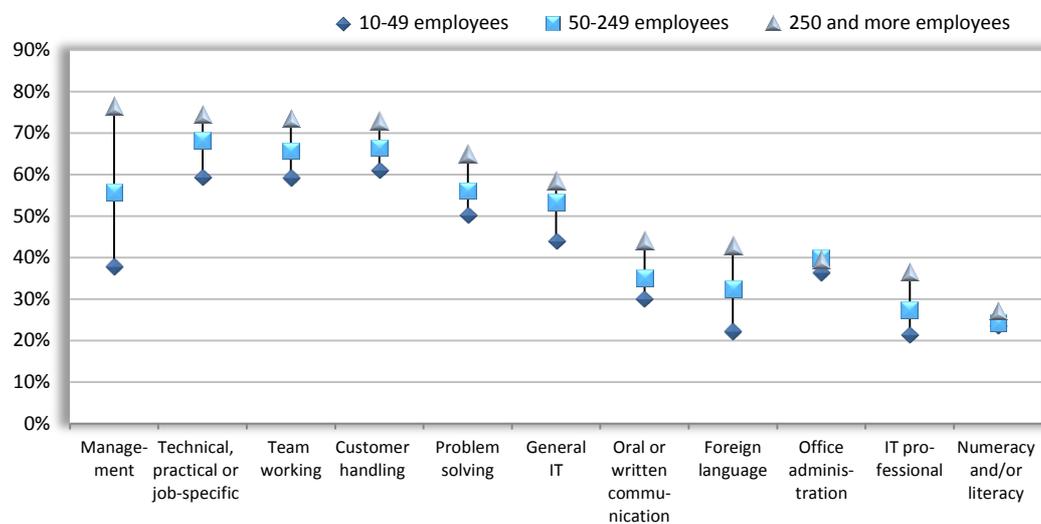
firms (or 15% of all enterprises) with dedicated courses. Specialised IT skills are regarded as key by just under a quarter of the enterprises (24%); 15% of enterprises with courses (or 8% of all enterprises) target professional IT skills.

Oral and written communication, foreign language and literacy and numeracy skills are indicated as important for enterprises' future development less often (24% to 31%) and are targeted by employer-provided training courses less often. This does not mean that those skills are not important for the enterprises at all; this simply means that they are less often considered as important priorities for the short-term development of the enterprises (the question is about importance in the next few years). The fact that they have less often been part of the continuing vocational training (CVT) strategy of enterprises does not necessarily mean they are not part of their initial vocational training (IVT) strategy or that new (young) employees do not need them. Skills considered important and skills targeted by courses vary by size class.

As a general pattern, large enterprises tend to mark almost all skills items more often than small and medium enterprises do. This means they more often perceive skills as an issue to which the future development of the enterprise is linked (Figure 31).

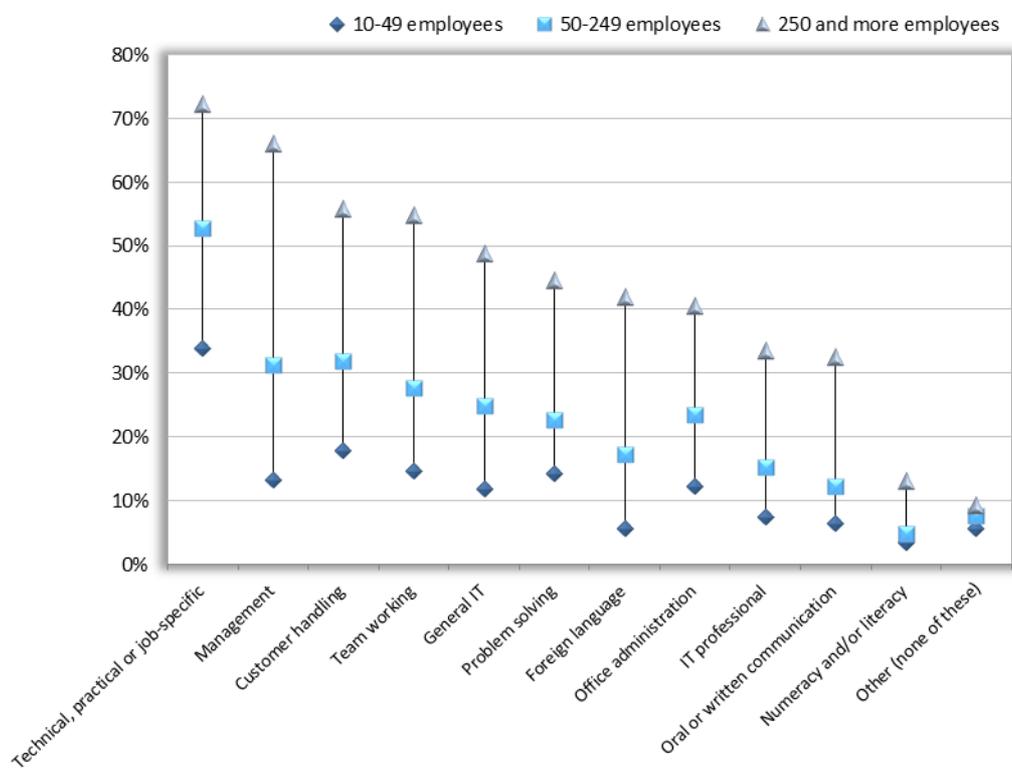
For most skills bundles studied, the perceived importance is higher in large enterprises than in small enterprises by about 10 to 15 percentage points. In particular, medium and large enterprises perceive management skills as much more important than small enterprises. Also, foreign languages are rated as considerably more important by large enterprises than by small organisations. On the other hand, for the skills related to office administration, and literacy and numeracy, there is practically no difference in the perceived importance between small and large enterprises.

Figure 31. **Skills important for enterprises' development in the near future by size class (% of enterprises marking each option), EU, CVTS4**



Source: Eurostat on request of Cedefop (December 2013); own calculations.

Figure 32. **Skills targeted by employer-sponsored CVT courses by size class (% of enterprises marking each option), EU, CVTS4**



Source: Eurostat on request of Cedefop (December 2013); own calculations; own estimates for EU.

5.3.2. Important differences in the perception of skill needs and the skills targeted by courses across countries

There are considerable differences in the perceived importance of skills across Member States, which are also mirrored by the skills targeted by courses. While an in-depth analysis of cross-country differences is beyond the scope of this chapter, illustrative examples are given in the remainder of this section.

Detailed tables on the skills considered as important (A12) and the skills targeted by the courses (C5) are presented in Tables A21 and A22). In the following, the most significant cross-country differences are highlighted for the 12 bundles of skills (including the category 'other') addressed.

Table 21. **Skills important for enterprises in the near future and skills targeted by employer-sponsored CVT courses; countries with the highest/lowest values, CVTS4**

	Skills perceived as important % of all enterprises			Provision % of enterprises with courses			%
	EU	Highest	Lowest	EU	Highest	Lowest	
	General IT skills	46	SI (70)	PL (16)	26	LU (42)	
IT professional skills	23	CY (36)	BE (11)	16	CY (33)	HR (9)	
Management skills	42	UK (68)	HU (13)	31	SI (53)	HU (15)	
Teamwork skills	61	AT (86)	LV (18)	31	UK (54)	LV (11)	
Customer handling skills	62	CY (86)	HU (31)	37	UK (56)	HU (17)	
Problem solving skills	52	SI (77)	PL (20)	29	SI (54)	ES (14)	
Office administration skills	37	SK (58)	LV (12)	27	LT (51)	LV (6)	
Foreign language skills	24	SI (58)	UK (11)	15	SK (30)	SE (5)	
Technical, practical or job-specific skills	61	BG (84)	HU (34)	67	UK (85)	HU (38)	
Oral or written communication skills	31	AT (66)	PL (4)	14	UK (35)	EE (5)	
Numeracy and/or literacy skills	24	BG (60)	LV (0)	7	UK (29)	FI (1)	
Other (none of these)	5	AT (18)	BE (0)	11	LV (29)	UK (0)	

Source: CVTS, extracted by Eurostat on request of Cedefop (December 2013), own calculations; own estimates for the EU.

The main points on skills at country level can be summarised as follows:

- technical, practical or job-specific skills are reported to be among the most important skill bundles in all countries; however, other groups of skills are rated as being of greater or similar importance in various countries. The importance attached to technical skills ranges from 84% in Bulgaria to 34% in Hungary. When it comes to the skills targeted by courses, in all countries most courses target technical, practical and job-specific skills;
- across countries, the importance attached to numeracy and literacy skills varies widely. While in Bulgaria 60% of employers highlight the importance

of numeracy and literacy, the same is true for a negligible number of enterprises in Latvia. The provision of support for literacy and numeracy skills is of outstanding importance only in the UK, reflecting policy priorities and the funding lines available in the recent first decade of the new millennium (Wolf and Evens, 2011). In the UK, 29% of enterprises with courses support literacy and numeracy. Above-average provision can also be found in Malta (11%), Slovenia (8%) and Belgium and Luxembourg (both 7%). In most countries, support for literacy and numeracy is hardly an explicit target of the courses provided;

- (c) in some countries, a considerably high number of enterprises found that not all their skill needs were expressed by the 11 options available, opting for the category 'others'. 18% of Austrian enterprises do so, representing the highest value. Moreover, in some countries enterprises find that a considerable share of their training courses target skills that are not subsumed among the 11 items proposed. The highest share is found in Latvia (29%).

Table 22 shows the three skills considered as most important and the three skills most frequently targeted by the enterprises in the participating countries.

5.3.3. Conclusions

In the EU on average, enterprises perceive customer handling, technical, practical or job-related, and teamwork skills as most important in the years to come. Problem solving and management skills are also rated as important by more than 40% of enterprises in the EU average in 2010. General IT skills also remain high on the agenda with roughly half of the enterprises considering them important.

The perception of future skill needs across small, medium and large enterprises does not differ considerably. Overall, large enterprises tend to indicate more often that skills are important for their short-term development. The differences with small enterprises are more pronounced in the domain of management and foreign language skills, which are both cited much more frequently as important in large than in small enterprises.

There are substantial cross-country differences, which also reflect differences in national contexts.

Enterprises most frequently combine indications of technical, practical and job-specific skills as important ones with the provision of related training courses. This also happens to a lesser extent for skills related to customer handling and teamwork and management. For other skills, this is found less frequently. This is another reason to look at the reasons for not providing training.

Table 22. Employers' views on the skills that are important for their enterprises in the near future by country, CVTS4

	Skills perceived as important Most frequent answers among all enterprises			Skills targeted in CVT courses Most frequent answers among training enterprises		
	1.	2.	3.	1.	2.	3.
EU*	Customer handling skills (62)	Technical, practical or job-specific skills (61)	Teamwork skills (61)	Technical, practical or job-specific skills (67)	Customer handling skills (37)	Management skills (31)
BE	Technical, practical or job-specific skills (66)	Customer handling skills (57)	Teamwork skills (56)	Technical, practical or job-specific skills (78)	General IT skills (35)	Customer handling skills (32)
BG	Teamwork skills (84)	Technical, practical or job-specific skills (81)	Customer handling skills (76)	Technical, practical or job-specific skills (85)	Customer handling skills (38)	Teamwork skills (36)
CZ	Customer handling skills (60)	Technical, practical or job-specific skills (56)	Teamwork skills (45)	Technical, practical or job-specific skills (72)	Customer handling skills (45)	Management skills (35)
DE	Teamwork skills (78)	Customer handling skills (76)	Technical, practical or job-specific skills (67)	Technical, practical or job-specific skills (65)	Customer handling skills (50)	General IT skills (39)
EE	Teamwork skills (69)	Technical, practical or job-specific skills (66)	Problem solving skills (63)	Technical, practical or job-specific skills (58)	Customer handling skills (31)	Teamwork skills (26)
EL	Customer handling skills (71)	Teamwork skills (57)	Problem solving skills (54)	Technical, practical or job-specific skills (68)	Customer handling skills (48)	Problem solving skills (35)
ES	Teamwork skills (61)	Customer handling skills (59)	Technical, practical or job-specific skills (57)	Technical, practical or job-specific skills (58)	General IT skills (28)	Customer handling skills (23)
FR	Technical, practical or job-specific skills (76)	Teamwork skills (56)	Customer handling skills (55)	Technical, practical or job-specific skills (74)	Office administration skills (33)	Management skills (30)
HR	Teamwork skills (75)	Technical, practical or job-specific skills (64)	General IT skills (61)	Technical, practical or job-specific skills (61)	Management skills (25)	Customer handling skills (22)
IT	Customer handling skills (50)	General IT skills (48)	Teamwork skills (43)	Technical, practical or job-specific skills (58)	Problem solving skills (33)	Teamwork skills (31)
CY	Customer handling skills (86)	Teamwork skills (84)	Problem solving skills (76)	Technical, practical or job-specific skills (57)	Customer handling skills (51)	Problem solving skills (45)
LV	Technical, practical or job-specific skills (50)	Customer handling skills (47)	Problem solving skills (30)	Technical, practical or job-specific skills (65)	Other (29)	Customer handling skills (27)
LT	Customer handling skills (68)	Teamwork skills (67)	Problem solving skills (59)	Technical, practical or job-specific skills (55)	Office administration skills (51)	Management skills (34)
LU	Teamwork skills (71)	Customer handling skills (66)	Technical, practical or job-specific skills (64)	Technical, practical or job-specific skills (76)	General IT skills (42)	Customer handling skills (37)
HU	Teamwork skills (43)	Problem solving skills (41)	Technical, practical or job-specific skills (35)	Technical, practical or job-specific skills (38)	Foreign language skills (25)	IT professional skills (21)

	Skills perceived as important Most frequent answers among all enterprises			Skills targeted in CVT courses Most frequent answers among training enterprises		
	1.	2.	3.	1.	2.	3.
MT	Teamwork skills (74)	Customer handling skills (73)	Technical, practical or job-specific skills (57)	Technical, practical or job-specific skills (63)	Customer handling skills (52)	Management skills (49)
NL	Customer handling skills (58)	Technical, practical or job-specific skills (51)	Teamwork skills (40)	Technical, practical or job-specific skills (62)	Customer handling skills (38)	Management skills (32)
AT	Teamwork skills (86)	Customer handling skills (81)	Problem solving skills (69)	Technical, practical or job-specific skills (69)	Teamwork skills (40)	Customer handling skills (40)
PL	Technical, practical or job-specific skills (51)	Customer handling skills (46)	Teamwork skills (33)	Technical, practical or job-specific skills (62)	Management skills (41)	Customer handling skills (37)
PT(b)	Teamwork skills (70)	Technical, practical or job-specific skills (59)	Customer handling skills (53)	Technical, practical or job-specific skills (64)	Teamwork skills (41)	Management skills (37)
RO	Teamwork skills (68)	Technical, practical or job-specific skills (67)	Customer handling skills (55)	Technical, practical or job-specific skills (78)	Customer handling skills (39)	Teamwork skills (38)
SI	Teamwork skills (83)	Customer handling skills (79)	Problem solving skills (77)	Technical, practical or job-specific skills (68)	Teamwork skills (54)	Problem solving skills (54)
SK	Technical, practical or job-specific skills (75)	Customer handling skills (75)	Problem solving skills (72)	Technical, practical or job-specific skills (73)	Management skills (40)	Customer handling skills (40)
FI	Customer handling skills (69)	Teamwork skills (66)	Technical, practical or job-specific skills (64)	Technical, practical or job-specific skills (67)	Management skills (43)	Customer handling skills (38)
SE	Customer handling skills (52)	Technical, practical or job-specific skills (52)	Management skills (43)	Technical, practical or job-specific skills (51)	Customer handling skills (30)	Management skills (28)
UK	Teamwork skills (81)	Customer handling skills (81)	Technical, practical or job-specific skills (80)	Technical, practical or job-specific skills (85)	Customer handling skills (56)	Teamwork skills (54)

NB: * the EU average is estimated.

Source: CVTS, extracted by Eurostat on request of Cedefop (December 2013), own calculations.

5.4. Obstacles and reasons for non-provision

Information on obstacles and reasons for non-provision of education and training is crucial when pursuing the EU goal of increasing participation in LLL. This information makes it possible to identify promising measures, which can mitigate institutional, dispositional or situational obstacles (Cross, 1992) and combat the reasons for non-provision. The goal of increasing participation can be legitimised by economic motives, as in other Cedefop publications: "CVT is a means of raising productivity, modernising work practices and facilitating innovation. Many studies show that adult training has a positive impact on firm productivity, on profitability, market share and stock market value, and competitiveness" (Hansson et al., 2004; Bassanini, 2004; De la Fuente and Ciccone, 2003; Böheim and Schneeweis, 2007)' (Cedefop, 2010, p. 74). In addition, the goal can also be legitimised by arguments of social justice (Gillen et al., 2010). Thus, the chance to participate in employer-sponsored training should not be a privilege of the already well-educated and well-paid, but democracies and knowledge societies should allow various access routes throughout people's lifetime for low-qualified people with low incomes in often precarious job positions. This argument is often a central element in the national and European policies especially targeted at low-qualified people; this leads the implementation of special measures for these target groups.

The outcome of these policies has sometimes been discussed critically (Markowitsch et al., 2013). Nonetheless, it is important to know why the training behaviour of individuals and enterprises does not change or does not change as much as wished, since public policies have many intervention options. When referring to enterprises, public policies:

- (a) can raise awareness of the benefits of continuing training (e.g. by public relations campaigns and marketing measures);
- (b) can support the search for information and decision-making with consulting and guidance when enterprises assess their training needs and seek suitable training offers;
- (c) can lower the financial burden through cofunding or total funding of continuing training measures for enterprises (e.g. by training vouchers or tax incentives);
- (d) can legally regulate or stimulate agreements by the economy and the social partners themselves (e.g. training funds, training leave schemes); or
- (e) can improve the provision of training by wider frameworks such as national quality standards, national qualification frameworks, etc.

This tool-kit for policy-makers is already substantial; even one approach such as training vouchers has many options available. This also means that informed decisions have to be made on how exactly to implement different tools (Käpplinger, 2013, p. 65).

To conclude, the goal of increasing incidence and participation in continuing training is now almost unilaterally accepted by all European stakeholders. Nonetheless, the strategies for achieving this goal are manifold and sometimes disputed. Discussions are especially taking place on which measures are most the effective and beneficial since the spending of public money is often under increasing pressure and needs solid legitimisation. Discussions about different options are often heavily influenced by theoretical or ideological positions, which frequently lead to fixed preferences for certain approaches. For example, public discussions on training vouchers or training funds reveal that certain stakeholders prefer certain measures. Considering this background, it is even more important to look at empirical evidence on the main obstacles and reasons for not providing continuing training on the part of enterprises and individuals. In the following parts of this report, the enterprises are taken as the vantage point, while Section 3.5 observes barriers as reported by adult individuals. Both perspectives deliver complementary information, since participation in continuing training is often neither solely an individual decision nor solely an organisational/institutional decision (Käpplinger et al., 2013, p. 18-20); decisions on education mostly result from a 'bounded rationality' because economic and societal structures provide and limit information and opportunities for decisions on learning. The following analysis will mainly consider enterprises and especially persons in influential positions and examine their perceptions of the main obstacles, which limit any engagement or increased engagement in providing continuing training for their employees.

5.4.1. Methodological remarks

CVTS delivers data on obstacles. They are considered in the wider range of reasons for not providing further training. In particular, enterprises which did not provide any training to their employees during the reference year are asked about the reasons for that [trng_cvts08 in Eurostat database]; enterprises which provided some training are asked about factors possibly limiting the provision of further training [trng_cvts38 on Eurostat database]. Thus, training behaviour for two groups of enterprises could be studied. It is important to recall the large differences between training and non-training enterprises, between size classes of enterprises and across countries. In some countries, only a few enterprises are

non-trainers – in particular among medium and large enterprises. Table 23 summarises the basics on which the following discussion is based.

Table 23. **Enterprises with and without training activity by size class (% of all enterprises)**

	Enterprises with training activity – (basis for indicators on obstacles for further training in Section 5.4.3)			Enterprises without training activity – (basis for indicators on obstacles for any training in Section 5.4.2)		
	10-49 employees	50-249 employees	250 and more	10-49 employees	50-249 employees	250 and more
EU-28	63	81	93	37	19	7
BE	74	94	99	26	6	1
BG	27	49	80	73	51	20
CZ	68	90	97	32	10	3
DK	89	98	100	11	2	0
DE	69	82	96	31	18	4
EE	64	83	97	36	17	3
EL	24	46	83	76	54	17
ES	72	90	97	28	10	3
FR	72	95	98	28	5	2
HR	53	73	86	47	27	14
IT	53	77	91	47	23	9
CY	68	88	100	32	12	0
LV	37	54	82	63	46	18
LT	48	67	89	52	33	11
LU	66	86	100	34	14	0
HU	43	74	95	57	26	5
MT	49	73	90	51	27	10
NL	75	89	97	25	11	3
AT	85	96	99	15	4	1
PL	16	41	75	84	59	25
PT (b)	61	86	97	39	14	3
RO	20	36	64	80	64	36
SI	64	84	95	36	16	5
SK	65	84	90	35	16	10
FI	70	91	90	30	9	10
SE	85	96	99	15	4	1
UK	78	93	98	22	7	2

NB: (b) = break in time series.

Source: Eurostat, CVTS and dissemination database (accessed 20.5.2014).

When comparing the results of CVTS3 and CVTS4, it is important to consider methodological changes. In CVTS4 respondents were invited to tick any obstacles which apply, while in CVTS3 only the three most relevant obstacles

should be ticked. Cross-wave comparability is therefore limited, in particular for less frequently reported obstacles ⁽⁷⁴⁾.

5.4.2. Reasons for non-provision indicated by non-training enterprises

The information in this sub-chapter refers to barriers and obstacles as reported by non-training enterprises. The share of non-training enterprises differs a lot between countries (Table 23) and by size class. Depending on the level of training activity of enterprises, the information here can provide information about the situation in the clear majority (e.g. Poland) or clear minority (e.g. Sweden) of enterprises.

In addition, since most enterprises are SMEs, the following figures are mainly driven by patterns in SMEs. This has to be kept in mind when drawing conclusions from the data provided in this section. However, this is not to the detriment of data: SMEs are the objects of specific EU policies, and are those which present less engagement in CVT. It will also be demonstrated that the obstacles mentioned by bigger enterprises are not so different from the obstacles mentioned by SMEs.

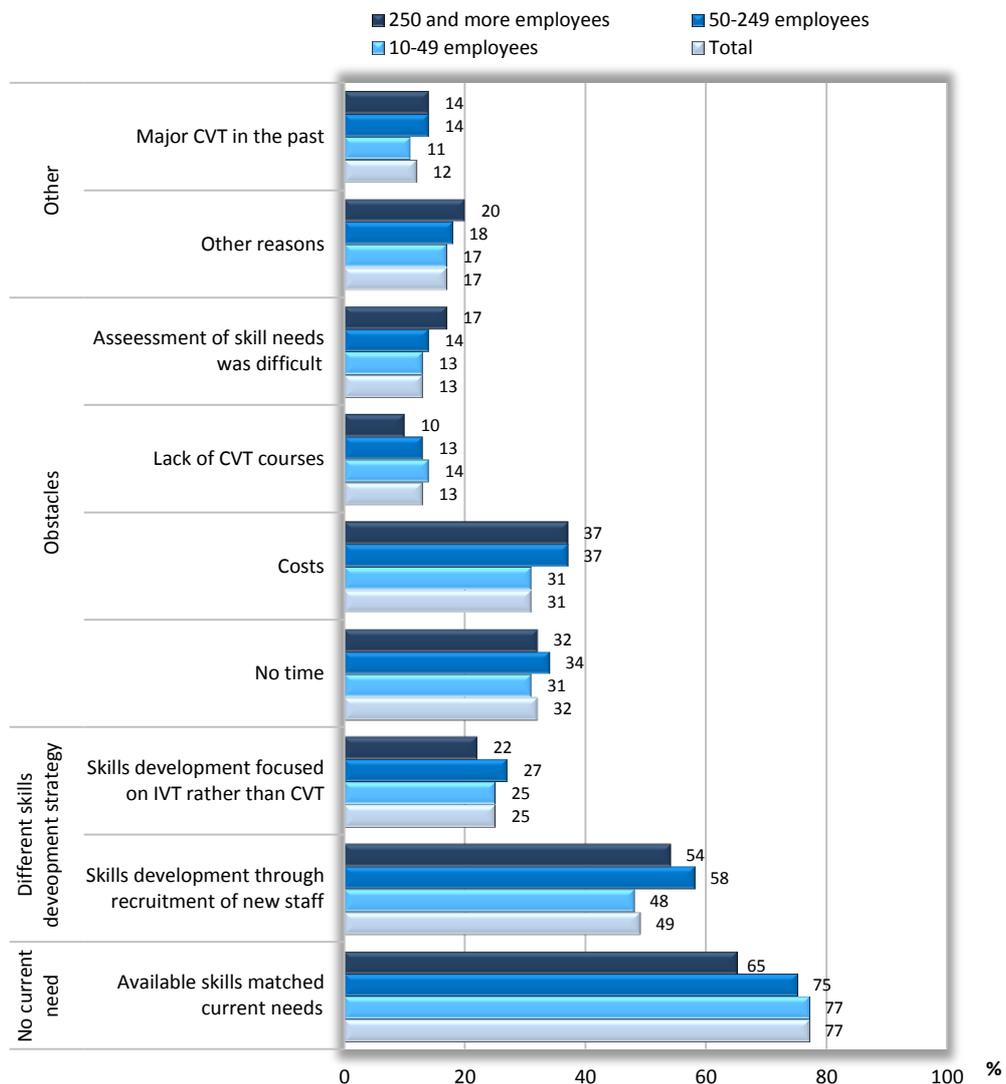
Figure 33 introduces the key results on reported obstacles with breakdowns according to enterprise size.

Most (77% of) enterprises not providing training throughout all size classes agree on the item that ‘available skills matched current needs’, implying no need for training. 77% of small non-training enterprises, as well as 75% of medium and 65% of large enterprises support the item. The item is self-explanatory: employers not providing training see current needs as being satisfied by available skills. However, it reflects and incorporates various situations. It may include a dispositional barrier, where representatives of enterprises interviewed do not share – or their statements refer to an organisational culture which does not display – a disposition required for actively pushing for training activities at company level. This might also reflect a lack of awareness or underestimation of some of the benefits of (and needs for) training in enterprises, particularly those which go beyond the satisfaction of immediate necessities and which are rather related to strategic investment. However, ‘no need’ could refer to difficulties in making any use of training, for example, in small enterprises in ‘low-tech’ sectors or services with little value added, where unskilled work with almost no introduction time dominates. It is challenging that so many non-training enterprises – although a minority of all enterprises in many countries – do not see a need for training despite the popular judgment that LLL is needed in the

⁽⁷⁴⁾ For details see Table A48 in Annex 4.

workplace. If the main reason for that is a lack of awareness, information campaigns and consulting have to be intensified. Particular attention could be devoted to the image of training as an enterprise investment for innovation and competitiveness beyond immediate and current needs. If the main reason for that is a correct assessment of the unique situations and dispositions in the enterprises, policies might, for example, rather target employees' learning beyond their present working situation.

Figure 33. **Reasons for not providing training, EU, by size class**



Source: Eurostat, CVTS and dissemination database (accessed 16.7.2014)

A considerable share of non-training enterprises puts forward alternative development strategies for personnel beyond continuous training. About half of

the enterprises (49%) put forward that they recruit personnel with the required skills on the labour market instead of training, again with little variation according to size (small: 48%; medium: 58%; large: 54%). Another quarter (25%) of non-training enterprises highlighted the importance of IVET as an alternative to CVT with almost no variation by size class.

The most frequently mentioned obstacles are ‘costs’ and ‘no time’; roughly one third of the enterprises providing no training support these items. This sheds light on the challenge of providing training despite tight finances within the enterprises and despite the heavy workloads of staff. The public provision of schemes such as educational leave or cofinancing via vouchers or training funds and the EU emphasis on flexibility of training arrangements (as for time, financing mode and place of delivery) also reflect the importance of these obstacles.

Other obstacles seem to be less important. Only 18% of enterprises report a lack of appropriate CVT courses and only 14% report difficulties with the assessment of skill needs. However, a lack of awareness might result in a low response for these particular items. For example, if enterprises do not actively look for opportunities, they might not experience difficulties finding appropriate training offers. When enterprises see ‘no need’, they might not even engage in any activity of assessing their skill needs and therefore experience little difficulties with the related activities.

Based on the EU average, non-training enterprises’ perceptions with regard to obstacles have not changed significantly over time between 2005 and 2010 as the following table indicates.

Table 24. **Most frequently mentioned reasons for not providing CVT activities (non-training enterprises) in 2005 and in 2010**

	2005 (reasons ranking in the top 3)	2010 (reasons ranking in the top 3)
Skills correspond to needs	in 27 countries out of 27	in 26 countries out of 26
People recruited with the skills needed	in 24 countries out of 27	in 26 countries out of 26
No time	in 17 countries out of 27	in 12 countries out of 26
Too expensive	in 8 countries out of 27	in 11 countries out of 26

NB: The three most frequently indicated reasons are reported in this table based on 2005 and 2010 data. Actual frequency figures cannot be compared due to change in the questions: in 2005 employers had to indicate the three most important reasons in a battery; in 2010 they could choose as many reasons as they wanted in the battery.

Source: Eurostat, CVTS and dissemination database (accessed 28.4.2014); own calculation.

A relatively stable development between 2005 and 2010 can be observed in relation to the main reasons not to train. Nonetheless, when looking at the results in more detail, bigger differences of course become visible especially in cross-country comparisons of reasons and their relevance. While ‘skills correspond to

needs' and 'people recruited with the skills needed' are unanimously cited in all countries as major reasons, other reasons are more diverging between countries. 'Too expensive' and 'no time' are cited in roughly half of the countries as the main reasons. 'Other reasons' and 'rather focus on IVT' are important reasons in three different countries.

5.4.3. Obstacles for training enterprises in providing more training

Enterprises providing (at least some) training have been asked why they do not provide more training than they do. Results closely follow the patterns revealed by the analysis of non-training enterprises. Among training firms, time constraints were more often highlighted as obstacles for more training than among non-training firms. Moreover, more firms with training activity stated more often that training in previous years had limited training activities than firms with no training activities. A detailed analysis of obstacles for firms with training activity is provided in Annex 1 (Figure A8 and Tables A23 to A26).

5.4.4. Summary: barriers for training and non-training enterprises

What conclusions for public policies on promoting enterprise-financed CVT and especially on promoting it in SMEs can be drawn from these data?

Enterprises already providing some training more readily accept financial and other public initiatives to alleviate the problem of a lack of resources for training. Non-training enterprises and especially SMEs can be much more reluctant to do any training, because they see 'no need' or they can acquire the skills needed via a recruitment strategy. Thus, to convince non-training enterprises and especially SMEs about the need for training, public policies might be better focused on providing information and guidance about the value of continuing training for these enterprises. This could possibly happen also with a view to enterprises' medium and long-term innovation and competitiveness strategies, which may go well beyond the more immediate skill needs. It could also be possible to consider that innovation and competitiveness do not only refer to the frontier of technological development, but also to process and product innovation which may occur relatively far away from it and that, regardless of this, organisational and marketing aspects are also an important pillar of innovation. The idea is that the value of training could be emphasised with respect to innovation and competitiveness and that innovation is also possible for small and medium enterprises and in more mature sectors as well.

Table 25. Reasons having an influence on the scope of non-training enterprises' CVT activities, CVTS4 (%)

	Existing skills and competences corresponded to the current needs of the enterprise		People recruited with the skills needed		No time		Too expensive		Rather focus on IVT than CVT		Other reasons		Major training effort realised in a previous year		Lack of suitable CVT courses in the market		Difficult to assess enterprise's needs	
	2010	L/S(*)	2010	L/S(*)	2010	L/S(*)	2010	L/S(*)	2010	L/S(*)	2010	L/S(*)	2010	L/S(*)	2010	L/S(*)	2010	L/S(*)
EU-28	77	12	49	-6	32	-1	31	-6	25	3	17	-3	12	-3	13	4	13	-4
BE	76	47	33	4	20	-9	15	-13	7	:	4	:	4	-39	10	-18	7	-21
BG	77	18	78	6	39	-21	49	7	37	6	2	:	8	-5	20	-16	14	-4
CZ	72	19	24	-16	8	-7	10	0	2	-3	9	:	7	5	1	-1	0	-2
DK	92	:	65	:	26	:	28	:	49	:	18	:	6	:	11	:	27	:
DE	80	6	37	12	40	6	28	-16	29	17	12	-14	4	-6	13	8	12	-12
EE	65	-35	57	-14	25	-10	47	12	14	-22	56	21	14	-16	16	-20	15	-20
EL	75	-5	60	6	41	4	37	-4	26	2	21	-10	3	-3	28	13	9	6
ES	69	23	24	-3	32	-5	15	-17	0	:	10	-24	4	-3	12	8	5	-11
FR	78	18	64	27	61	-19	41	14	55	4	23	4	30	-28	19	:	34	-38
HR	71	-6	50	-10	25	-10	28	-11	5	-1	19	11	19	-1	6	-5	4	-4
IT	83	13	28	-10	26	-8	28	-10	27	-7	21	-8	16	-16	15	-3	9	-17
CY	72	:	50	:	35	:	30	:	31	:	22	:	10	:	16	:	9	:
LV	82	3	72	-16	34	-13	47	9	34	0	22	0	16	-4	16	-6	26	7
LT	84	10	79	12	39	-20	68	13	11	8	14	6	11	-1	22	4	45	15
LU	79	:	39	:	18	:	12	:	5	:	18	:	1	:	4	:	4	:
HU	73	-2	29	-15	9	6	15	1	4	-4	11	-3	1	:	4	1	3	-8
MT	88	11	67	3	35	-29	24	2	8	-13	19	:	5	:	10	:	10	:
NL	70	41	42	18	26	17	20	8	15	11	16	-4	4	2	7	:	6	-2
AT	82	39	45	3	40	-59	39	14	27	-14	25	:	16	:	24	:	30	6
PL	81	9	69	-9	24	0	43	0	39	-3	24	-5	16	0	10	0	9	-2
PT	74	22	59	-10	36	-14	54	3	27	-13	37	-17	8	-4	31	1	30	-11
RO	64	5	63	-1	14	-5	30	-1	1	-1	1	-1	3	-4	4	-1	4	-1

	Existing skills and competences corresponded to the current needs of the enterprise		People recruited with the skills needed		No time		Too expensive		Rather focus on IVT than CVT		Other reasons		Major training effort realised in a previous year		Lack of suitable CVT courses in the market		Difficult to assess enterprise's needs	
	2010	L/S(*)	2010	L/S(*)	2010	L/S(*)	2010	L/S(*)	2010	L/S(*)	2010	L/S(*)	2010	L/S(*)	2010	L/S(*)	2010	L/S(*)
SI	88	40	60	-8	18	3	41	-18	31	7	11	2	30	5	8	1	6	:
SK	85	5	47	-21	19	-4	32	6	34	-3	12	2	25	-11	9	1	8	5
FI	74	68	54	47	44	-54	26	-75	32	25	7	:	4	0	15	:	15	-82
SE	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
UK	83	27	65	16	41	2	25	7	17	-1	17	-24	12	4	13	4	21	4

NB: The three highest values for a country are in blue cells.

(*) = difference between large enterprises and small enterprises; negative values point to barriers more important for small enterprises.

Source: Eurostat, dissemination database (accessed 28.4.2014); own calculation.

To increase training provision, it may be useful to combine different public strategies for training and for non-training enterprises. What does this mean exactly? Behringer and K apflinger (2008, p. 66) discuss in relation to CVTS3 data for non-training enterprises (especially SMEs) that public relations campaigns, supplemented by training advice for non-training enterprises might be useful tools to help understand the need for improved employee skills and the benefits of training. Much has been done recently on this issue, but these measures need further evaluation of their effectiveness. The lack of direct or indirect financial resources seems to be a valid reason only for a smaller part of the non-training enterprises. These enterprises much more often see no need for training or try to recruit the required skills via the labour market.

For enterprises already providing training with an existing awareness of the benefits of training, financial support, the promotion of substitution rules (job rotation) or GOJT might be helpful where the actual cost of training, including the absent staff costs (no time), are the reasons for not offering more or continuous training. Possible and likely deadweight losses have to be checked if they lead to additional or qualitatively improved provision. Public measures might also help to increase training for low-skilled workers since enterprises may tend to invest more in higher qualified employees working in skill-intensive occupations. This can be done in various ways. Public measures for low-skilled workers have to jointly address the different benefits of CVT for low-skilled workers in the workplace for employees and employers. Focusing solely on the socioeconomic group by referring to the motive of equity is not enough. This also means that CVT providers have to be able to explain and prove the ways in which the continuing training is beneficial for employers and employees. This can mean providing sound evidence, but also being able to provide demonstrative and convincing examples in explaining the benefits to decision-makers in enterprises.

Beyond targeting employees in reluctant companies, it seems crucial to change the perceptions of decision-makers within enterprises. From the viewpoint of increasing training participation, it might be useful to deliver training to individuals instead of (or in addition to) attempts for changing the CVT-related decision-making within enterprises. However, enterprises provide a unique framework for providing training, which cannot be fully substituted by off-the-job training not connected to the given workplaces. (Rosen, 1972; De Grip, 2008). For limiting the disadvantage of employees in non-training enterprises and for the economic performance of these enterprises alike, it is therefore crucial to turn organisations into active training organisations or training supportive organisations.

Overall, a critical assessment of the effectiveness of public policies might conclude that it is much more difficult and time-consuming to significantly change the behaviour of enterprises and especially SMEs (Markowitsch et al., 2013) than to support individuals directly. Overall, a mix of differentiated measures for employers and employees seems to be required to enhance participation in LLL (FiBS and DIE, 2013, p. 38).

5.5. Conclusions and outlook

CVTS makes it possible to measure participation in various forms of employer-financed training: (a) courses; (b) GOJT in the work situation; (c) conferences, workshops, seminars and lectures; (d) job rotation, exchanges, secondments or study visits; (e) learning/quality circles; (f) self-directed learning (including e-learning). This provides important information on policy-relevant themes such as the flexibility of CVT (in terms of forms, time, places, content and arrangements) and the work-based component of it.

CVTS4 data confirm that when enterprises train, they mostly use a combination of courses and other forms of training. In a few countries, the share of training enterprises is considerably increased by enterprises only offering other forms. Courses are the most frequent form of employer-financed training. Related participation rates rose between 2005 and 2010 from 33% to 38% (EU average) with increasing or relatively stable trends in most countries. Progress in participation in forms other than courses has been made, but it varies by form of learning and by country.

GOJT is the second most frequent form of CVT. This is valid at EU level and in most countries. Participation in on-the-job training is not small (with 20% of employees participating in 2010 across the EU). However, country-related participation rates in GOJT vary a lot presenting different levels. There is no clear trend towards increased participation in work-based CVT. Participation in GOJT increased on average in the EU, although not in all countries. On EU average, and in most countries, job rotation, secondments or study visits, as well as learning or quality circles, involve only very few employees (2 to 3%) with small variations compared to CVTS3.

Employer-sponsored self-directed learning of employees also increased, both on EU average (the employee participation rate rose from 5% to 8%) and in almost all countries, although to a variable extent. The participation rate in employer-sponsored self-directed learning is on EU average on a par with participation rates in workshop/seminars (which instead remained stable on the EU average). Nevertheless, participation in these forms of learning is still well below participation in courses and GOJT.

Such progress could be read jointly with data on CVT courses: participation in CVT courses has not decreased. It is still higher than participation in the other forms (when these are considered separately and in some countries also when these are considered together). Due to this situation, it can be stated that other types of learning, to a large extent, do not represent a substitute for employer-financed training courses. The substitution thesis claiming that courses are increasingly replaced by so-called 'other forms of training' cannot be verified at EU level. At country level, no clear trend is observable. Thus, despite data problems, data deliver no clear support for the substitution thesis. In other words, it is not fully justified to believe that other forms of CVT might compensate for low provision of courses. There is instead evidence that other forms of training, particularly when considered altogether, can play and indeed do play an important role aside courses and especially in hybrid combinations of both forms of learning.

There is a general trend towards increased provision of training with the size of the enterprise, both regarding incidence and participation rates of employees, and this holds for courses and other forms of training too. However, no clear assessment of converging or diverging participation over time in enterprises of different sizes is possible.

When discussing training obstacles in enterprises providing CVT to their employees or discussing reasons against training for non-training enterprises, it is most striking that many enterprises and especially SMEs see 'no need' for training or more training. LLL might be generally accepted, but it is not generally accepted or seen as needed on each shop floor.

A lack of finances and/or lack of time are often perceived as core problems in providing (more) CVT. Thus, initiatives such as financing schemes or educational leave schemes seem to be some appropriate measures at least in their foundations. Nonetheless, this does not relieve the challenge of finding the most effective and efficient measures. The 'orchestra' of financing and leave schemes is already huge (funds, vouchers, tax incentives, loans, time accounts, educational leave, etc.). CVTS data show that it is justified to discuss intensively measures for offering relief with respect to money and time in order to provide (more) training to employees.

Beyond money and time there are also other important obstacles such as a lack of suitable training offers or difficulties in assessing training needs. When you consider that national averages even hide many more differences within countries, it becomes obvious that there cannot be a single solution or measure which solves the problem at European level. There is rather a present need for elaborate policy strategies with different measures for employers and employees and their different subgroups in the different countries.

CHAPTER 6.

Financing adult learning – firms' expenditure on training

6.1. Introduction

The Bruges communiqué on enhanced European cooperation in vocational education and training (2010) calls steering and investing in VET 'the shared responsibility of national government, the social partners, VET providers, teachers, trainers, and learners' (European Commission, 2011, p. 12). It also calls for policies that should encourage enterprises 'to continue to invest in human resource development and in CVET', deciding 'on the right mix of incentives, rights and obligations' (European Commission, 2011, p. 20). These statements could be interpreted as support for policies that aim to increase investment by small and medium-sized enterprises (SMEs) in LLL. Overcoming low participation in continuing vocational training (CVT) in SMEs is perceived as a key to both more participation in LLL and improved equity in access.

Another purpose of the Bruges communiqué is to make the cofunding system of LLL more efficient: 'Budgetary constraints will force us to come up with innovative solutions to secure sustainable funding for VET and to ensure that resources are efficiently allocated and equitably distributed'. (European Commission, 2011, p. 12). The continuing vocational training survey (CVTS) is an important source for observing cross-nationally the cofunding for in-company training.

The following chapter explores the two recent waves of the CVTS to identify enterprises' stake in CVT. It observes changes in funding for the CVTS between 2005 and 2010 and considers the progress of SMEs towards 'not reduced' and ideally higher financial contributions to training. Moreover, it pays special attention to the available information on public incentives, rights and obligations in the field of enterprises' funding as revealed by the CVTS.

CVT could be seen from various vantage points, including the views of sociology of education, industrial relations and more generally, political economy. In the current chapter, the economics of education is the main framework of reference.

From an economic perspective, LLL is seen as an investment, which is expected to yield productivity gains which lead to returns on investment. With the applied ideal-type model, the key question is how benefits are distributed between employees and employers. It is assumed that the party which is

responsible for paying for training will reap the benefits of the activity later on. In the ideal-type labour market model, it is assumed that individuals alone will profit from their increased skills, as current or future employers will have to pay higher wages in line with their newly enhanced productivity. Enterprises are neither expected to invest in training nor to profit from training, as long as employees could request higher wages in line with the productivity gained. However, as the economist Gary Becker (Becker, 1975; De Grip, 2008) noted, certain types of human capital acquired through training are not transferable from one enterprise to another. This implies that firm-specific training does not increase the employee's market wage, so that it is the enterprise which reaps the benefits of the training investment. In this perspective, firms are expected to invest only in these firm-specific activities while individuals are expected to invest in transferable skills and qualifications. This strict approach has been softened and the core model has been extended to better fit with empirical findings: enterprises, not only employees, invest in and profit from general training as well. The key idea behind the so-called post-Beckerian approaches is that general training, in line with the particular needs of an organisation, boosts organisational productivity much more than the individual productivity of trained workers. Therefore, firms are able to pay higher individual wages, yet still profit from the much higher returns of investments for general training on an organisational level. Moreover, various other mechanisms may be in line, which greatly reduce the risk that trained workers leave the company before the firm profits from the training investments taken (Acemoglu and Pischke, 1999; Backes-Gellner and Mure, 2005).

While in theory individuals and enterprises have sufficient incentives to invest in training up to a level considered optimal for their welfare, in the empirical reality various constraints may limit their training activities, leading to so-called 'market failures'. Imbalances in labour markets, for example, may increase the risk that individuals cannot profit from their investments in skills yet remain unemployed or working at a wage below their productive contribution. Further, not all positive effects of training can be reaped by participants or by the enterprises providing the training. There are many benefits of training, for example reduced social security costs, which go neither to the training individual nor to the funding enterprise. These so-called 'positive externalities' together with reasons for 'market failure' are regarded as a justification for state intervention in the field of CVT with the goal of raising the level of investment, which is considered below the rate most beneficial for the society as a whole. Therefore, beyond the households and the enterprises, the State cofunds CVT.

Throughout this chapter, measured efforts for training are understood as an indication of employers' level of investment in human capital. Higher financial efforts are interpreted as a positive sign for higher investments. It is acknowledged that spending on training, however, is a more ambivalent indicator. From the standpoint of personnel management, in addition to its potential character as an investment, efforts for training represent a type of costs on top of the wage costs of the workforce. Parts of training may be mandatory (e.g. health and safety training) or may respond to the social rights of workers without improving a firm's productivity. Moreover, training levies may immediately increase wage costs (Section 6.2). From the standpoint of the firm, it is therefore crucial to reduce training costs for activities that do not contribute to increased productivity, and to increase spending for training which allows a return on investment. It is important to hold in mind this ambivalence of expenses for training – a type of personnel cost versus a type of investment – when interpreting the related indicators.

SMEs spend (relatively) less on training than large enterprises. A broad range of economic and sociological literature considers why SMEs might have a disadvantage in providing and gaining from training (European Commission and ENSR, 2003; Cardon and Stevens, 2004; Bryan, 2006; Brunello et al., 2007; Brown, 2007; Dawe and Nhi, 2007; Bishop, 2008; OECD, 2013). SMEs may choose different pathways to develop their workers beyond coursework. They may underestimate the return on investment on training or be caught by the risk of losing their investment when trained workers leave for better-paid employment in large companies. The current chapter pays particular attention to SMEs. CVTS is a key source for studying progress made by small and medium-sized enterprises in increasing their stake in LLL.

This chapter is structured into the following sections. Section 6.2 introduces the framework of CVTS for collecting data on firms' financial contributions. In particular, the concept of direct monetary expenditure and the concept of total monetary expenditure (TME) are introduced, the latter representing a firm's spending on training corrected by payments to and receipts from collective (parafiscal) (Schuetze, 2009) funding sources. Section 6.3 discusses the structure of the direct monetary expenditure of CVT (fees, travel and subsistence costs, costs for internal trainers and infrastructure). Sections 6.4 and 6.5 report on enterprises' investment for training based on direct monetary expenditure per employee (all enterprises), representing the funds devoted to training activities on a company level. The two sections differ because the indicator is expressed first in PPS per employee (Section 6.4) and then as a percentage of the total labour cost (Section 6.5). Section 6.6 introduces the information available in CVTS4 on

receipts from various sources supporting training investment in enterprises. Section 6.7 continues the discussion, introducing a different indicator, the enterprises' total monetary expenditure on CVT (TME), which is discussed again relative to the number of employed persons (Section 6.8) and then relative to the total labour cost (Section 6.9). Section 6.10 summarises the results with special attention to the developments for SMEs. To further justify the importance attributed to enterprise expenditure on training, Annex 1 (Table 36) presents an analysis, based on AES-2011 data, on job-related non-formal education and training (NFE) activities and in particular on their distribution by source of funding.

6.2. Framework of CVTS indicators on enterprises' expenditure on training

CVTS collects detailed information on the expenditure of enterprises for CVT courses, reporting on the following main components:

- (a) direct monetary expenditure (direct costs): direct expenditure represents all expenditures directly related to the implementation of CVT courses. Four subcategories of direct expenditure are surveyed, namely:
 - (i) costs for tuition fees for external trainers providing internal training;
 - (ii) travel costs and daily allowances paid for employees participating in external training;
 - (iii) personnel costs for internal trainers, including the personnel costs for the number of hours invested for providing training of employees, who provide training only as a minor part of their responsibilities;
 - (iv) costs for infrastructure (rooms used for internal training) and teaching material (e.g. computers, software, samples).

Direct monetary expenditure represents the financial efforts for the training activity observed. They could be interpreted as an indicator for enterprises' financial investments in LLL and are used as one of two main indicators reported in the following chapter. Direct costs is the technical term used in the CVTS framework, however it is commonly understood as an indicator for investment in human capital, which is not fully acknowledged by the term costs. Therefore, in the report, alongside direct costs, the expression direct monetary expenditure is used, to highlight the investive character of the expenditure made (in line with the concept of TME, see Section 6.2);

- (b) personnel absence costs (PAC) for participants: enterprises suffer forgone productivity when participants are participating in training during working time. Wage costs during training time are certainly an important component of enterprises' investments in training. Within CVTS, the personnel absence

costs are not measured directly, but are estimated by multiplying the number of average participation hours by the average wage costs for an enterprise. While forgone productivity clearly represents an important cost category, CVTS indicators for personnel absence costs suffer from significant limitations and are therefore not reported in this chapter ⁽⁷⁵⁾;

- (c) enterprises' contributions to and receipts from collective funding schemes: enterprises do not only bear the costs of training within the organisation but can be obliged to contribute to collective funding schemes or training funds (also called mutualised funding arrangements). Mandatory training funds on national or sectoral level aim to distribute the costs of training between employers and/or between employers and employees. They follow different procedures, for example they may collect funds from all firms and redistribute them to training firms or foresee 'train-or-pay' schemes, where firms providing training contribute less and non-training firms contribute more (for overviews compare Cedefop, 2008; Johanson, 2009; Müller and Behringer, 2012) ⁽⁷⁶⁾. Contributions represent enterprises' legal obligation to pay to train their employees. The contributions are fixed costs: these costs are largely disconnected from whether or not an enterprise provides training.

Where collective funding schemes exist, training enterprises receive financial support in some way from these sources. Beyond these receipts from funds, training enterprises may receive cofunding for their training activities typically from public sources, such as national or EU sources ⁽⁷⁷⁾. This type of

⁽⁷⁵⁾ Personal absence cost (PAC) is an opportunity cost which may not always occur because training may not always reduce employees' workload. In addition, PAC is estimated after the survey (hours of CVT courses multiplied by all employees' average hourly labour cost), which biases this indicator if trained employees do not receive the average wage.

⁽⁷⁶⁾ For a current overview see Cedefop's database: *financing adult learning* <http://www.cedefop.europa.eu/FinancingAdultLearning/> [accessed 22.5.2014]. By 2013, training funds on national or sectoral level are identified in Belgium, Denmark, Germany, Ireland, Greece, Spain France, Italy, Cyprus, Luxembourg, Hungary, the Netherlands, Slovenia and the UK. Also, training funds may exist for particular groups of enterprises only, e.g. in Austria for temporary work agencies (Trampusch and Eichenberger, 2011).

⁽⁷⁷⁾ From the standpoint of the economics of education, one has to assume that contributions of enterprises to mutual funds are entirely devoted to the training of any enterprises' employees and not to other adults currently not related to any enterprises (as inactive or long-term unemployed). Otherwise, contributions might represent a type of tax or social security payment unrelated to the actual level of company-provided CVT.

financial support for incentivising training is commonly referred to as ‘receipts’ for training in the CVTS framework.

Countries differ strongly on the presence and importance of collective funding arrangements and public cofunding for training in enterprises.

Contributions and receipts may be negligible in some countries (as in Germany, Slovenia, Finland and Sweden) or substantial in others (as in Greece, Spain, France and Italy). At country level, the balance of contributions/receipts is not necessarily zero. It can be negative because returns on contributions may not only be receipts or administrative costs but also services (consultancy services, financing CVT structures used by enterprises, etc. which reduce direct expenditure). The balance may also be positive if receipts are financed not only by contributions but also by public subsidies (from the State, the European Social Funds, etc.).

Later in this chapter, contributions, receipts, their sources as well as their relation are explored.

This chapter reports on direct costs, representing the expenditure for training corresponding to the given volume of training activities (such as number of training hours, participants). Together with the information on participation rates and hours of training, training costs represent the investments in training on a company level. Beyond existing obligations for training (e.g. due to health and safety regulations) or social partner agreements on training, training investments are within the discretion of the firms. Direct monetary expenditure can be considered as variable costs: the more an enterprise trains, the more direct expenditure will increase. This makes direct expenditure an indicator of an enterprise’s training behaviour.

In addition, the chapter considers enterprises’ TME as a second indicator of expenditure for CVT. TME represents enterprises’ spending for training, when taking payment to collective funds and receipts for training from various sources into consideration. TME is calculated as $TME = \text{direct expenditure} + (\text{contributions} - \text{receipts})$.

As collective funding arrangements and public cofunding schemes have become more important over time, the current chapter devotes particular attention to the information on these issues made available by CVTS.

Table 26 summarises the costs reported in CVTS and the indicators (direct expenditure, TME) calculated based on them.

Table 26. **Components of enterprises' expenditure for CVT courses: elements reported within the CVTS framework**

Fees and payments	Travel and subsistence	Labour costs of internal trainers	Training centre, teaching materials	Contributions	Receipts	Personnel absence cost, (PAC)
Variable costs		Fixed costs (in the short term)		Fixed and mandatory costs. Only contributions which finance CVT must be included. Concerns all enterprises (training and non-training).	Conditional on training	Rough estimate of PAC, potentially biased, no real expenditure of the enterprise
Direct monetary expenditure for CVT courses				Mutualised costs of CVT		
Total monetary expenditure for CVT courses (TME)						
Total costs of CVT courses						

Source: Adapted from Cedefop 2010, p. 91.

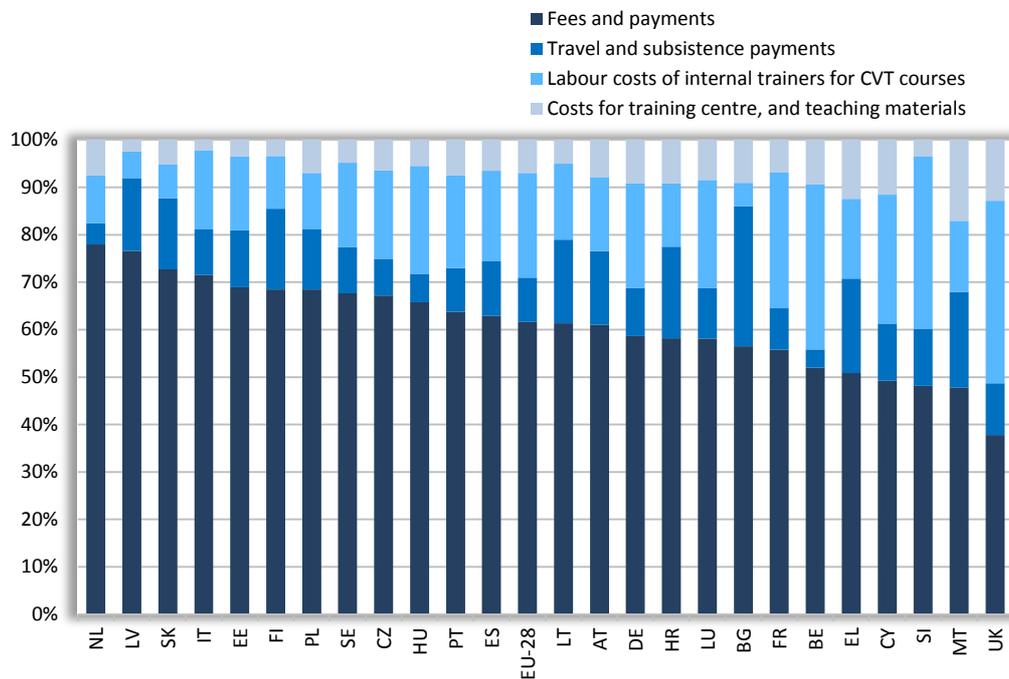
6.3. Structure of enterprises' direct expenditure for CVT

The structure of direct expenditure varies significantly between enterprises according to size and across countries, pointing toward differences in the preferred training organisation and the use of services provided in the training market. Therefore, the indicators provided in the following section represent important background information.

Indicators of the distribution of direct expenditure (including a size breakdown for three size classes) are calculated based on micro data-based extractions provided by Eurostat in April 2014 on behalf of Cedefop. Data for Denmark have not been submitted; data for Romania are unreliable.

In most countries, fees and payments to external trainers make up more than half of all direct expenditure reported. However, the proportion devoted to fees varies considerably between countries, making up more than 70% in Italy, Lithuania, the Netherlands and Slovakia, but somewhat less than 50% in Cyprus, Malta and Slovenia. The UK and Romania represent two outliers, with 38% and 29% of direct expenditure respectively.

Figure 34. **Structure of enterprises' direct monetary expenditure on CVT courses (enterprises providing CVT courses) – CVTS4 (2010)**



NB: Countries ranked by the share of fees and payments in the direct expenditure.

Source: CVTS, data extraction by Eurostat on request of Cedefop (data provided by 4.4.2014); own calculation.

The proportion of direct expenditure for travel and subsistence costs for participants varies substantially across countries, making up 30% of direct expenditure in Bulgaria and only 4 or 5% in Belgium, the Netherlands and Romania.

Costs for internal trainers, who devote their working time fully or partly to training activities, also varies substantially across countries, pointing to the fact that the role of internal training provision by a firm's own personnel also differs considerably across countries. Romania shows the highest share of direct expenditure for internal trainers (53%). By contrast, in Bulgaria, Latvia and Slovakia less than 10% of costs go to internal trainers.

Costs for infrastructure play a more insignificant role in most countries with a share of less than 10% of direct expenditure reported. Only Malta (17%), the UK and Romania (13%), Greece and Cyprus (12%) have somewhat more significant shares for this cost category.

The cost structure as reported in CVTS refers to the externalisation level of the training function in enterprises. Fees, payments, travel and subsistence costs are thus probably more frequently connected with external courses, while the

labour costs of internal trainers and costs for a training centre are more often linked to internal courses.

In consequence, the share of the latter two elements of costs is more significant in large enterprises. At EU level, these costs represent 30% of the direct expenditure in large enterprises and only 18% in small ones (for details see Table A28 in Annex 1).

However, at country level, no clear correlation can be observed between a country with a high share of labour costs of internal trainers and costs for training centres and the countries where enterprises provide internal courses frequently.

For studying the development of the structure of direct expenditure over time, only data for the CVTS2 (1999) ⁽⁷⁸⁾ are available (the related data are not available for CVTS3). To start with the overall picture, the structure of direct expenditure and its differences across countries is considerably stable over the 11-year period. In nine countries, single components increased or decreased between 10 and 19 percentage points. In Spain, Latvia and Luxembourg, the proportion of fees increased, in Hungary it decreased. In six countries, the proportion for internal training personnel increased (Czech Republic, Luxembourg, Hungary, Portugal, Sweden and the UK). Altogether, spending for internal personnel became more important in all countries, apart from the Netherlands. In the Czech Republic, the share of infrastructure costs dropped by 13 percentage points. Slovenia represents the only country with considerably changed cost structures, with strongly increasing shares for internal trainers (+26 percentage points) and strongly decreasing shares for fees (-21 percentage points) (see Table 27 for details).

⁽⁷⁸⁾ Costs in CVTS2 are surveyed in a similar way to in CVTS4; however, there are considerable methodological differences between CVTS2 and the later waves of the survey (Cedefop, 2010). The comparison between CVTS2 and CVTS4 could therefore only give a gross indication about stability and the change of the structure of direct costs over time.

Table 27. **Structure of enterprises' direct monetary expenditure on CVT courses; change between CVTS2 and CVTS4**

%

	Fees and payments			Travel and subsistence			Labour costs for internal trainers			Costs for training centre and teaching materials		
	1999	2010	Change	1999	2010	Change	1999	2010	Change	1999	2010	Change
NL	72	78	6	6	5	-1	18	10	-8	4	8	4
LV	65	77	12	18	15	-3	5	6	1	6	2	-4
IT	63	71	8	9	10	1	8	17	9	6	2	-4
EE	73	69	-4	13	12	-1	8	16	8	4	3	-1
FI	61	68	7	18	17	-1	10	11	1	6	3	-3
PL	60	68	8	19	13	-6	11	12	1	4	7	3
SE	64	68	4	11	10	-1	8	18	10	4	5	1
CZ	60	67	7	10	8	-2	6	19	13	19	6	-13
HU	80	66	-14	7	6	-1	5	23	18	5	5	0
PT	67	64	-3	9	9	0	8	20	12	5	7	2
ES	49	63	14	12	11	-1	16	19	3	8	7	-1
LT	67	61	-6	16	18	2	7	16	9	6	5	-1
AT	64	61	-3	14	16	2	8	16	8	9	8	-1
DE	51	59	8	14	10	-4	12	22	10	11	9	-2
LU	47	58	11	13	11	-2	22	23	1	7	8	1
BG	54	56	2	39	30	-9	4	5	1	3	9	6
FR	57	56	-1	6	9	3	25	29	4	1	7	6
EL	46	51	5	21	20	-1	13	17	4	9	12	3
SI	69	48	-21	13	12	-1	10	36	26	3	4	1
UK	32	38	6	9	11	2	28	38	10	16	13	-3

NB: Countries are sorted according to the proportion of costs for fees of the total direct costs.

Source: Eurostat, CVTS and dissemination database (accessed 3.4.2014); own calculation.

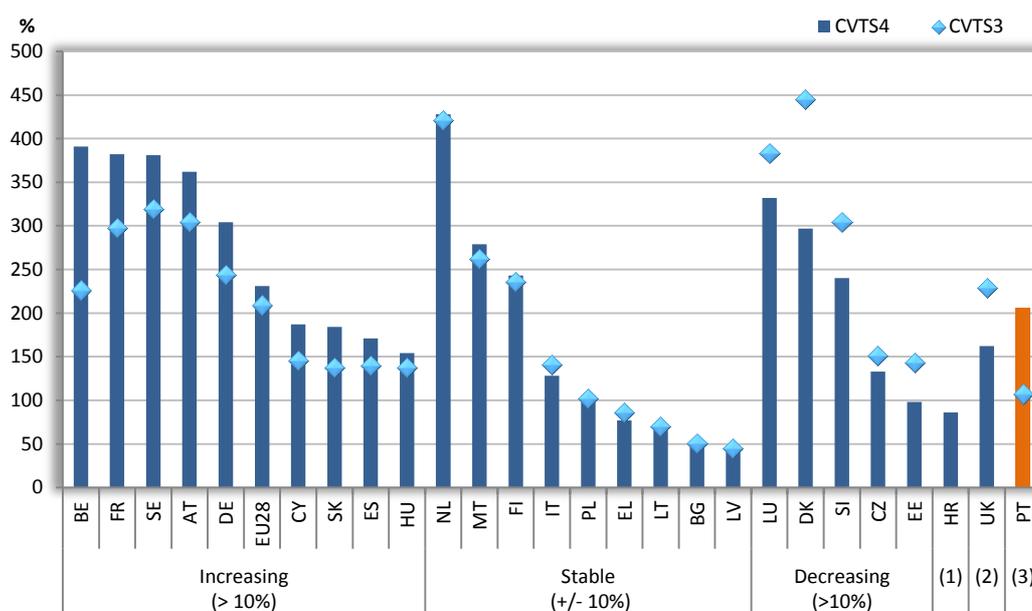
6.4. Direct expenditure in CVT per employee (all enterprises)

Direct expenditure per employee makes it possible to observe and compare enterprises' investments in training relative to the workforce. Direct expenditure is not influenced by enterprises' contributions to or receipts from collective funding schemes. The indicator of costs per employee is well introduced in policy monitoring.

By reporting the indicator related to all enterprises, cross-country differences in the training incidence are taken into consideration.

6.4.1. Development over time by country: direct monetary expenditure per employee

Figure 35. Enterprises' direct monetary expenditure on CVT courses per employee in PPS in 2005 and 2010 (all enterprises)



NB: (1) No participation in CVTS3.

(2) Data for CVTS3 not fully comparable.

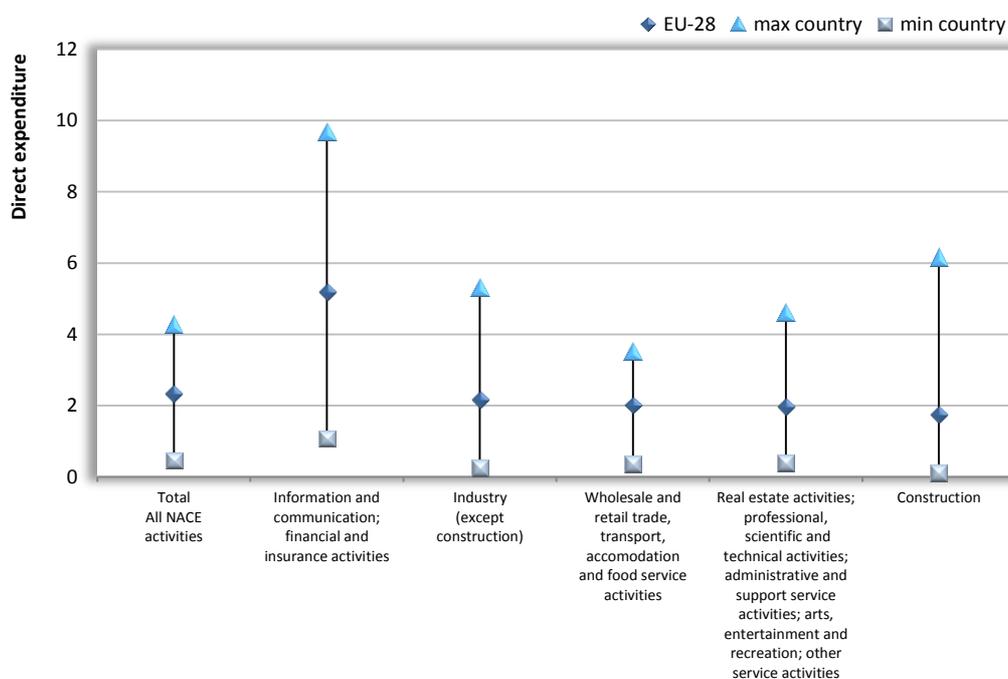
(3) Data for CVTS4 not fully comparable. Data on costs for Romania are missing.

Source: Eurostat, CVTS and dissemination database (accessed 3.4.2014); own calculation.

In the EU on average, direct expenditure per employee (all enterprises) was 209 PPS in 2005 and 231 PPS in 2010. This was a very slight increase by 22 PPS, increase of 10.4%, compared to the 2005 baseline figure. There are diverging trends for this indicator across countries. In nine countries (Belgium, Germany, Spain, France, Cyprus, Hungary, Austria, Slovakia and Sweden),

direct expenditure per employee increased by more than 10%; the greatest increases took place in Belgium (73%), the Slovak Republic (34%) and France (29%). In five other countries, direct expenditure per employee dropped by more than 10% (Czech Republic, Denmark, Estonia, Luxembourg and Slovenia); this was particularly the case in Denmark (-33%), Estonia (-31%) and Slovenia (-21%). Finally, direct expenditure per employee remained relatively stable (based on the metric adopted) in nine other countries, including countries whose enterprises invest above the EU average of 2010 (Malta, the Netherlands and Finland), but also countries whose enterprises invest less than the EU average (Bulgaria, Greece, Italy, Lithuania, Latvia and Portugal). (No comparable data are available for Croatia, Portugal or the UK.)

Figure 36. **Enterprises' direct monetary expenditure on CVT courses per employee, PPS, by sector of activity in 2010 (all enterprises)**



Source: Eurostat, CVTS and dissemination database (accessed 11.11.2013); own calculation.

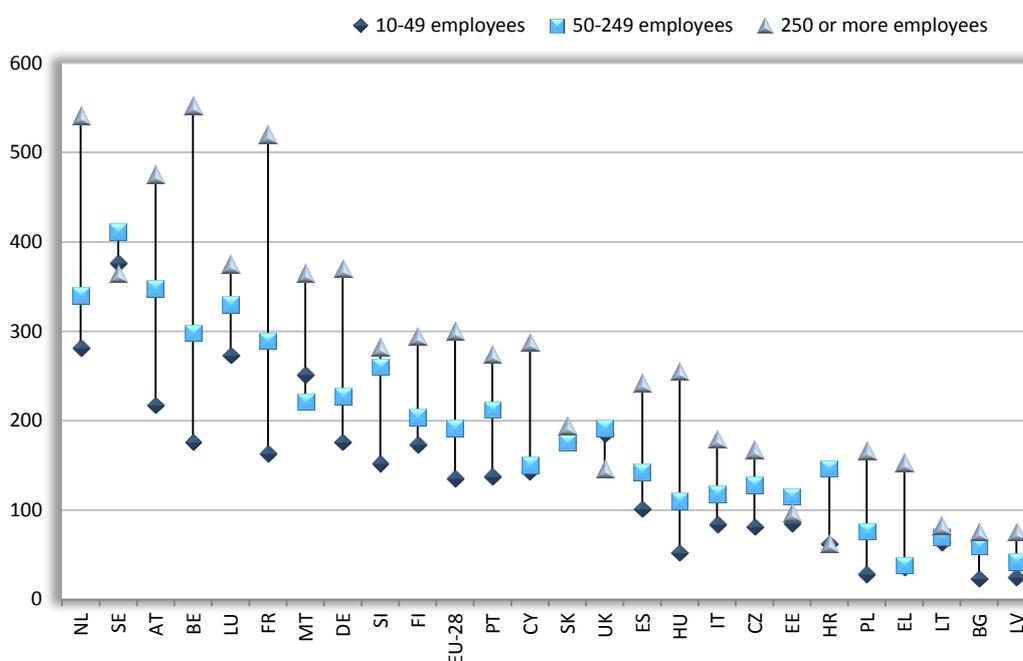
In 2010, the direct expenditure per employee varied not only from one country to the other, but also from one sector of activity to the other. CVTS4 data by sector suffer from two problems. Due to a change in the NACE classification of economic sectors of activity they cannot be compared over time. In addition, and contrary to the previous round of CVTS, they are disseminated with very little level of sectoral detail. The broad sectoral groups used for reporting the data hide considerable differences across and within sectors in training activities as

revealed by more detailed publications by national statistical offices or the more detailed sector data available for CVTS2 (Eurostat, 2002) and CVTS3. Based on available data, enterprises operating in ‘information and communication, and financial and insurance activities’ spend on average much more on training (about twice as much per employee as enterprises from the other sectors). However, differences at country level are larger in this sector than in others.

6.4.2. Development over time by size class

Various policy initiatives on EU and Member States level target an increase in training investments by small and medium-sized enterprises. Therefore, monitoring developments over time by size class is of particular interest.

Figure 37. **Enterprises’ direct monetary expenditure on CVT courses per employee, in PPS by enterprise size class and country in 2010 (all enterprises)**



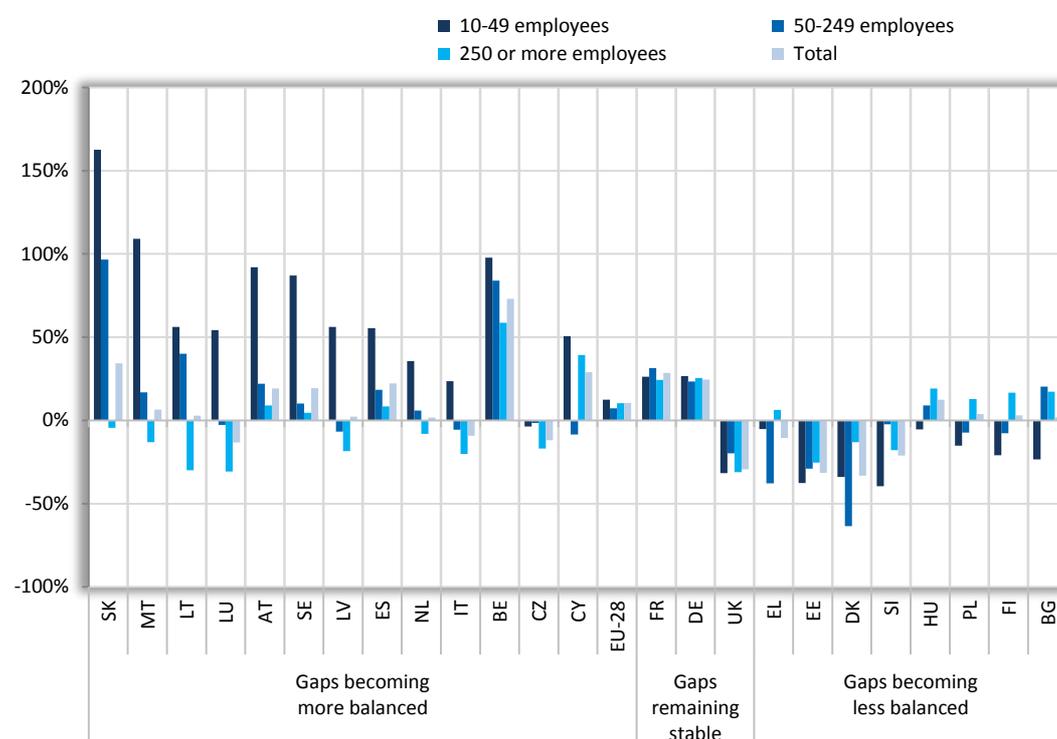
Source: Eurostat, CVTS and dissemination database (accessed 3.4.2014); own calculation.

In 2010, the direct expenditure per employee varied across enterprises’ size classes, with large enterprises spending considerably more. Based on EU average data, small enterprises (10-49 employees) had direct expenditure of EUR 135 PPS, medium-sized (50-249 employees) had direct expenditure of EUR 191 PPS and large enterprises (250 or more employees) had direct expenditure of EUR 298 PPS. In most countries, the larger the enterprises the more they invest on average in training of their employees (as measured by direct

expenditure per employee). Exceptions where small enterprises spend more than medium enterprises or small or medium enterprises spend more than large enterprises include Estonia, Croatia, Malta, Sweden and the UK. In all other countries (no information is available for Romania or Portugal) on average small enterprises invest less in training than medium enterprises, and large enterprises invest the most.

National differences between larger and smaller enterprises are highest in certain countries where firms invest a lot in training, notably Belgium and France. In these countries, small enterprises' investments in training lag relatively far behind the investments of large enterprises. By contrast, in Sweden and Luxembourg, which also carry out a lot of training, small enterprises' investments in training do not lag far behind those of large enterprises. There are other countries where enterprises' level of investment in training depends little on their size, but they are countries in which firms invest relatively little in training: these are Estonia, Lithuania and Slovakia.

Figure 38. **Change in enterprises' direct monetary expenditure on CVT courses per employee, by size class and country (change between 2005 and 2010 as a percentage of 2005 direct expenditure per employee)**



Source: Eurostat, CVTS and dissemination database (accessed 18.9.2014); own calculation.

Between 2005 and 2010, small and medium-sized enterprises have hardly caught up compared to their large counterparts in the EU average. Direct expenditure per employee increased by 12.5% (or 15 PPS) for small enterprises, by 7.3% (13 PPS) for medium enterprises and by 10.4% (28 PPS) for large enterprises. Across countries, however, a rather heterogeneous picture emerges.

In three countries, between 2005 and 2010, developments over time of the average training investments did not differ substantially across the three size classes (France, Germany and the UK). In some countries (Lithuania, Luxembourg, Latvia, Austria, Slovakia and Sweden), the investments in training increased much more (that is by more than 50%) in small enterprises than in large enterprises. So, in these countries, small enterprises' training investments are becoming more similar to those of large enterprises. In some other countries, small enterprises' investments increased somewhat more (between 10% and 50% of the value of 2005) than in large enterprises (Belgium, Spain, Italy, Cyprus and the Netherlands), which means that once again firms' behaviours are converging toward the behaviour of large enterprises. In eight countries (Bulgaria, Denmark, Estonia, Greece, Hungary, Poland, Slovenia and Slovakia), the average investments in training increased less in small enterprises than in large enterprises.

6.5. Direct expenditure on CVT as a share of total labour cost (all enterprises)

Training investments are often expressed as a share of the total labour costs. This indicator has the advantage of comparing training and labour costs for a 12-month period. The indicator is not sensitive to inflation, as the nominator and denominator are measured in monetary units (PPS). Moreover, it takes differences in wage levels and working time (proportion of full-time to part-time employment) into consideration. In the following, direct expenditure is expressed as a percentage of total labour costs for all enterprises.

In the EU on average in 2010, direct expenditure represented 0.7% of enterprises labour costs remaining stable over the five-year period (see also Figure 12). Developments for this indicator, however, differ widely across Member States. Key results are presented in Section 3.4.5

Table 28. **Change in enterprises' direct monetary expenditure in CVT courses between 2005 and 2010 by enterprise size (change between 2005 and 2010 as a percentage of the 2005 direct expenditure per employee)**

	10-49 employees		50-249 employees		50 or more employees		Total	
	PPS	% of 2005	PPS	% of 2005	PPS	% of 2005	PPS	% of 2005
EU-28	15	13	13	7	28	10	22	11
BE	87	98	136	84	204	59	165	73
BG	-7	-23	10	20	11	17	1	2
CZ	-3	-4	-2	-2	-34	-17	-18	-12
DK	-99	-34	-392	-63	-57	-13	-148	-33
DE	37	27	43	23	75	25	60	25
EE	-51	-38	-47	-29	-33	-25	-45	-31
IE	m	m	m	m	m	m	m	m
EL	-2	-5	-23	-38	9	6	-9	-10
ES	36	55	22	18	19	9	31	22
FR	34	26	69	31	102	24	85	29
HR	m	m	m	m	m	m	m	m
IT	16	24	-7	-6	-45	-20	-13	-9
CY	48	51	-14	-9	81	39	42	29
LV	9	56	-3	-7	-17	-18	1	2
LT	23	56	20	40	-35	-30	2	3
LU	96	54	-9	-3	-166	-31	-51	-13
HU	-3	-5	9	9	41	19	17	12
MT	131	109	32	17	-55	-13	17	6
NL	74	36	19	6	-47	-8	7	2
AT	104	92	63	22	39	9	58	19
PL	-5	-15	-6	-7	19	13	4	4
PT	(u)	(u)	(u)	(u)	(u)	(u)	(u)	(u)
RO	(u)	(u)	(u)	(u)	(u)	(u)	(u)	(u)
SI	-99	-39	-6	-2	-61	-18	-64	-21
SK	109	163	86	97	-9	-4	47	34
FI	-46	-21	-17	-8	42	17	7	3
SE	175	87	38	10	16	5	62	19
UK	-86	-32	-47	-20	-66	-31	-67	-29
NO	(m)	(m)	(m)	(m)	(m)	(m)	(m)	(m)

NB: (u) = unreliable; (m) = missing

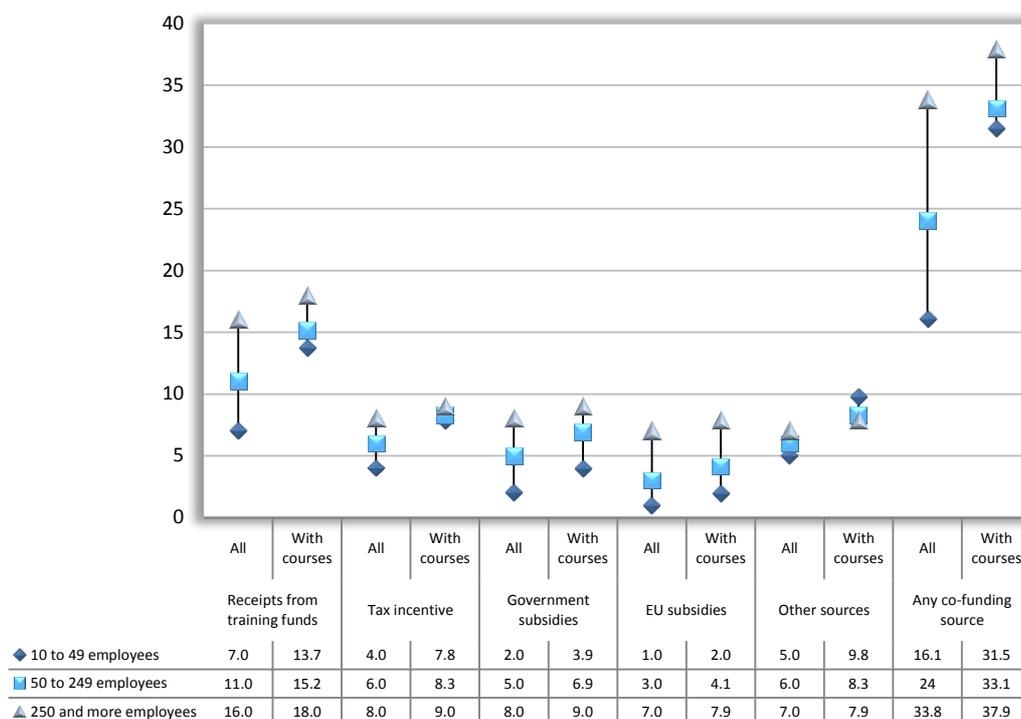
Source: Eurostat, CVTS and dissemination database (accessed 3.4.2014); own calculation.

6.6. Sources of receipts (collective funding schemes, public cofunding)

Enterprises may profit from several external financial sources. Public cofunding for CVT in enterprises is multifaceted and the number of schemes in place has strongly increased in recent years. Sources of cofunding constitute cases of receipts which reduce the costs of training. CVTS is a unique source for identifying the availability and use of subsidies across countries. Because

previous research has shown that respondents might have difficulties in specifying the sources of cofunding, the survey responses must be treated with caution (Hefler, 2006; Tütlys, 2008).

Figure 39. **Enterprises receiving financial support (receipts) for training according to source, as a percentage of all enterprises and of enterprises with training courses, 2010**



NB: Data for Denmark are missing; not applicable for Finland.

Source: CVTS, data extraction by Eurostat on request of Cedefop (data provided 4.5.2014); own calculation.

A first group of these external sources refers to public policies with public funds. It includes government funding (subsidies or taxes) and European subsidies (e.g. the European Social Fund).

Collective/mutual training funds are a second case. Their existence is not independent of public policy as the government helps to institutionalise such funds (e.g. with the force of the law or accounting/fiscal standards). They do not necessarily have an impact on the government budget and the enterprises provide the money, at least partially (frequently because of social agreements). Considering the various CVT systems across the EU, it is difficult to distinguish between mutualised private funds and public funds. Finally, the CVTS questionnaire asks if an enterprise usually benefits from a 'national, regional,

sectoral fund'. Yet, countries differ by the availability ⁽⁷⁹⁾ of different sources for cofunding for employer-provided training and these differences are also mirrored in information provided by the enterprises.

Figure 39 presents the relative importance of funding sources from which receipts are usually derived, expressed as a percentage of all enterprises ⁽⁸⁰⁾. For the EU, the most frequently available sources of funding are training funds. In 2010, 7% of all enterprises indicated that they had receipts in the reference period and usually make use of training funds. Large (16%) and medium-sized enterprises (11%) use funds more often than small ones. It should be highlighted that the frequency of use is not negligible, although it looks more modest by relating them to all enterprises. When relating the number of beneficiaries to the number of active training enterprises only ⁽⁸¹⁾ the picture changes somewhat, as the proportion of beneficiaries is clearly higher and the differences between the size classes considerably smaller, reflecting differences in related training incidences between small, medium and large enterprises. Countries strongly differ in the availability and types of funds present. Compulsory training funds are a particularly important characteristic of France, with 39% of enterprises receiving means provided by them (Le Deist and Winterton, 2012) ⁽⁸²⁾. Funds are also important in Belgium, Cyprus and the Netherlands, increasing by more than 10% of enterprises. On the contrary, in 11 Member States, less than 2% of enterprises claim to receive cofunding provided by funds (Bulgaria, Czech Republic, Germany, Estonia, Croatia, Lithuania, Latvia, Poland, Romania, Sweden and Slovakia; for details including breakdowns for enterprise size classes see Annex 1.6).

Tax incentives are reportedly used by 4% of all enterprises, again more frequently by medium (6%) and large (8%) enterprises than by small enterprises.

⁽⁷⁹⁾ See Cedefop's database on cofunding schemes: *Financing adult learning* <http://www.cedefop.europa.eu/FinancingAdultLearning/> [accessed 6.6.2014].

⁽⁸⁰⁾ All enterprises are asked whether or not they received cofunding (B5b), irrespective of their training activity in the reference period (e.g. also for training in previous years). Enterprises receiving any cofunding are further asked which sources the funds usually (and not necessarily in the current year) come from (B6). The figures for detailed schemes somewhat underestimate the number of enterprises usually profiting from these very sources, as only enterprises having received any cofunding in the reference year are invited to answer B6. Other enterprises might also usually profit from the sources in question, yet not in the year of reference.

⁽⁸¹⁾ A (most likely small) number of inactive enterprises might have received cofunding for previous or future periods, so the available relation is not fully accurate, yet still most likely delivering the main message.

⁽⁸²⁾ In France, 35% of enterprises claim to also receive funds from other sources, which might partly also refer to the various training funds schemes.

When related to the active training enterprises, the differences across size classes disappear, pointing towards the fact that even small enterprises know how to use tax incentive schemes. Based on CVTS data, tax incentives are particularly used in Austria and the Netherlands, but to a negligible extent in various other countries.

More direct government funding is reportedly used by 2% of the enterprises in the EU or 3.6% related to the active training enterprises. Large enterprises are more likely to receive government funding than small and medium ones. Again, country differences are highly significant; government subsidies are important in Belgium, Cyprus, Luxembourg, Austria and the UK, while in 12 Member States less than 2% of enterprises declare that they receive direct State cofunding.

Information on the importance of EU subsidies is likely to underestimate the role of the EU in cofunding training in enterprises, as EU funding might often be used as an additional source for national schemes, so the respondents might not be aware of the EU origin of the sources. According to the responding enterprises, less than 2% of enterprises in the EU average usually receive funding related to the EU. EU subsidies play a more visible role in Austria, the Czech Republic, Malta, the Netherlands and Slovenia, with large differences between small and large enterprises. For example, in Austria 4% of small enterprises, 19% of medium enterprises and 46% of large enterprises report receipts from EU funds, reflecting both differences in training incidence and the accessibility of funding schemes (Hefler, 2006; for details see Annex 1.6).

Other sources are frequently reported only in France (35% of enterprises), so the EU average mainly reflects the French case.

Without considering the amount of this support, one can notice that 17.8% of European enterprises reported receiving support. As these figures are strongly linked to the national training systems, the training behaviour of enterprises and the understanding of the CVTS question, a large dispersion can be observed starting from France (71.2% of enterprises) to Romania (0.2% of enterprises).

Considering all enterprises, large enterprises benefit more frequently from financial support for training (receipts) than small ones (33.8% and 16.1% respectively). This is an obvious consequence of the fact that large enterprises are more frequently training enterprises. Nevertheless, even if one reports the share of enterprises which profit from support by the share of enterprises which manage courses, the large training enterprises seem to be more capable of finding external resources than the small ones. This difference appears greater for EU and government subsidies (see tables in Annex 1.6). Differences in access to cofunding between size classes are pronounced (with a difference of more than 20% points) in Belgium, the Czech Republic, Greece, Spain,

Luxembourg, Cyprus, Hungary, the Netherlands and Austria. Among countries with considerable cofunding with 10% or more of all firms with training receiving support, only Estonia, France, Malta, Slovenia and the UK have schemes with more equal access of small, medium and large enterprises.

Results point to the fact that larger enterprises are more prepared to take advantage of existing schemes. Higher levels of professionalism in personnel management of large enterprises are likely to allow them to optimise their costs by finding subsidies and tax allowances. Therefore, public funding when associated with burdensome, complex and difficult procedures would have limited opportunities for counter-acting SMEs' disadvantage in providing training. Schemes targeted exclusively at SMEs or more tailored to their characteristics could constitute an interesting policy option, particularly if accompanied by actions for raising awareness, skills audits and advice and support with the procedures.

6.7. From direct expenditure to total monetary expenditure on CVT

Total monetary expenditure (TME) is composed of two types of training expenditure: direct expenditure (i.e. the sum of fees and payments to external organisations, travel and subsistence payments, labour costs of internal trainers, training centre and teaching materials) and contributions to collective or other funds. Receipts received to support training are deduced from such expenditure to derive the TME.

Contributions, as a component of the TME, mechanically increase it (i.e. even non-training enterprises have a non-zero TME). In addition, because contributions are independent of whether or not an enterprise trains its employees, and receipts (or cheap training services) depend on an enterprise training its employees, enterprises have an incentive to train their employees (in this sense, training one's employees is the easiest way to profit from one's compulsory contributions). However, if these incentives do not work at all, receipts reduce the direct expenditure that enterprises would have spent anyway. Contributions may also replace enterprises' training expenditure, which would leave enterprises' TME unchanged. In this case, a private expenditure is substituted with a mutualised expenditure.

Contributions to training funds are devoted to training, either to allocate receipts to enterprises or to finance training services (public goods) which promote CVT or decrease a training price. For enterprises, this should be an incentive to train their employees. Moreover, in the 'train or pay' system,

contributions can be smaller when enterprises train their employees, which adds a further incentive for enterprises to train their employees. As regards receipts, when enterprises can benefit from them (through training funds or the government or the European Social Fund), they benefit from these receipts conditionally on training their employees.

Enterprises' TME depends on two variables: enterprises' choice to spend money on direct expenditure, and the impact of public policies on enterprises' expenditure on CVT (contributions and receipts). Contributions are supposed to give enterprises an incentive to invest in CVT (i.e. they reduce the direct cost of further CVT for them or they have to contribute less when they provide more training), which would definitely be the case if enterprises' direct expenditure was higher in countries with relatively higher contributions. In addition, contributions have a compulsory dimension, which should increase enterprises' TME, if enterprises did not compensate for this effect by decreasing their direct expenditure (crowding-out effect).

6.8. TME per employee (all enterprises)

When comparing firms' direct expenditure and TME per employee in 2010 across European countries, three clusters of countries emerge. First, in six countries (Greece, Spain, France, Italy, Cyprus and Hungary), TME exceeds direct expenditure, because contributions substantially exceed receipts. In these countries (and in the EU), the difference between contributions and receipts is equivalent to 13% to 60% of direct expenditure. TME exceeds direct expenditure to the greatest extent in France, Hungary and Spain.

Second, in five countries (Czech Republic, Lithuania, Luxembourg, Poland and Portugal), direct expenditure exceeds TME, because receipts substantially exceed contributions (i.e. CVT is subsidised). In these countries, the difference between receipts and contributions is equivalent to 14% to 25% of direct expenditure. Direct expenditure exceeds TME to the greatest extent in Luxembourg and Lithuania.

Third, in 13 countries, TME is equivalent to direct expenditure, because receipts (more or less) equal contributions.

Table 29. Direct expenditure for CVT courses, balancing out of contributions to and receipts from collective funding schemes and TME, CVTS3 compared to CVTS4, PPS per employee (all enterprises)

	2005				2010			
	Direct expenditure	Balance	TME	Diff. as % of direct expenditure	Direct expenditure	Balance	TME	Diff. as % of direct expenditure
EU	209	41	250	19.6	231	39	270	16.9
BE	226	33	259	14.6	391	24	415	6.1
BG	50	-1	49	-2.0	51	-4	47	-7.8
CZ	151	-1	150	-0.7	133	-17	116	-12.8
DK	445	209	654	47.0	297	(na)	(na)	(na)
DE	244	-21	223	-8.6	304	0	304	0.0
EE	143	-4	139	-2.8	98	-9	89	-9.2
IE	452	-2	450	-0.4	Na	Na	Na	Na
EL	86	-23	63	-26.7	77	60	137	77.9
ES	140	39	179	27.9	171	79	250	46.2
FR	297	213	510	71.7	382	206	588	53.9
HR	(na)	(na)	(na)	(na)	86	49	135	57.0
IT	141	64	205	45.4	128	41	169	32.0
CY	145	67	212	46.2	187	173	360	92.5
LV	45	-18	27	-40.0	46	6	52	13.0
LT	70	-1	69	-1.4	72	-17	55	-23.6
LU	383	-50	333	-13.1	332	-90	242	-27.1
HU	137	72	209	52.6	154	82	236	53.2
MT	262	-37	225	-14.1	279	4	283	1.4
NL	421	-72	349	-17.1	428	16	444	3.7
AT	304	-11	293	-3.6	362	-20	342	-5.5
PL	102	0	102	0.0	106	-17	89	-16.0
PT	107	-8	99	-7.5	206	-29	177	-14.1
RO	62	0	62	0.0	1	41	42	4100.0
SI	304	-54	250	-17.8	240	-28	212	-11.7
SK	137	-13	124	-9.5	184	-10	174	-5.4

Job-related adult learning and continuing vocational training in Europe

	2005				2010			
	Direct expenditure	Balance	TME	Diff. as % of direct expenditure	Direct expenditure	Balance	TME	Diff. as % of direct expenditure
FI	236	3	239	1.3	243	0	243	0.0
SE	319	-5	314	-1.6	381	-5	376	-1.3
UK	229	32	261	14.0	162	5	167	3.1
NO	205	11	216	5.4	(na)	(na)	(na)	(na)

NB: (na) = not available

Source: Eurostat, dissemination database (accessed 12.11.2013); own calculation.

There is some indication that the relative magnitude of both contributions and receipts was higher in 2010 than in 2005. According to other Eurostat data published online ⁽⁸³⁾, at EU level the amount of enterprises' contributions to collective training schemes went up from 77 to 88 PPS per employee and the amount of receipts went up from 28 to 48 PPS per employee. These data refer to enterprises with CVT courses only and are not fully aligned with those presented in Table 29. They would suggest however an increasing role of financial schemes aimed at supporting enterprise training (at least within enterprises where training occurs).

6.9. TME as a percentage of labour costs (all enterprises)

Firms' contributions to LLL include both direct and mutualised costs of CVT. The sum of these two types of costs is called the total monetary expenditure (TME) for CVT courses. As an indicator, TME as a share of labour costs is useful for comparing European enterprises' contributions despite differences in purchasing power and labour costs across countries. Within any country, this indicator is also useful for comparing the evolution of enterprises' contributions across time.

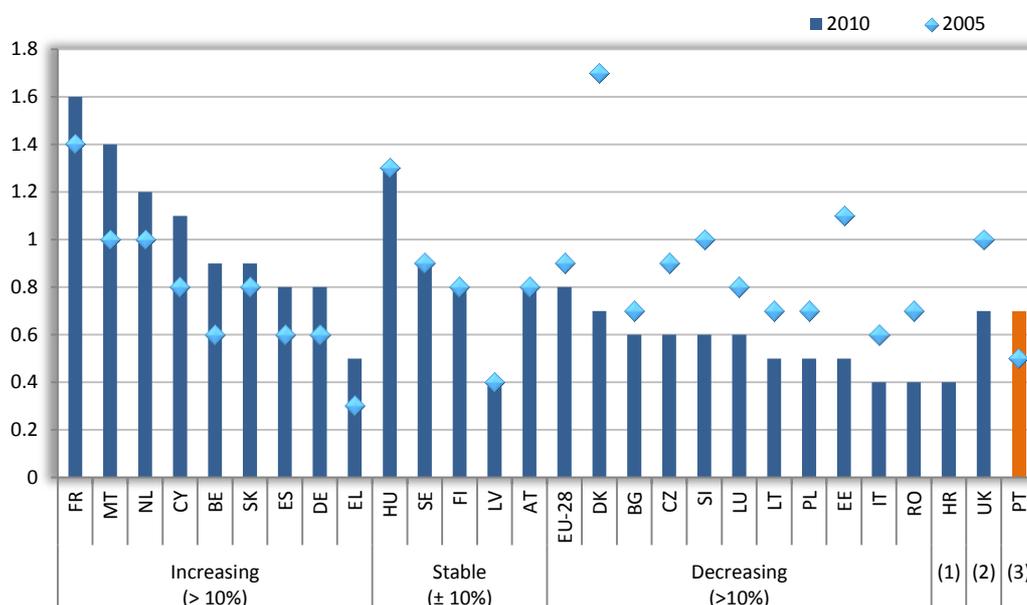
6.9.1. Development of TME as a percentage of labour costs (all enterprises) over time, by country

In the EU, in 2010, enterprises' TME for training courses accounted for 0.8% of total labour costs (EU average). It was 0.9% in 2005, implying a small decrease in training investments when measured against total labour costs.

In 2010, eight countries spent more than the average, with France (1.6%), Malta (1.4%) and Hungary (1.3%) reporting the highest TME as a percentage of total labour costs. By contrast, 18 countries spent less than the European average (0.8%), with four countries at the bottom of the league table with TME equal to 0.4% of their total labour costs (Italy, Croatia, Latvia and Romania).

⁽⁸³⁾ The Eurostat dissemination database, structure of costs of CVT courses per employee in enterprises with CVT courses (PPS) (trng_cvts59).

Figure 40. TME for CVT courses as a percentage of total labour costs in 2005 and 2010 (all enterprises)



NB: (1) No participation in CVTS3.
 (2) Data for CVTS3 not comparable.
 (3) Data for CVTS4 not comparable.

Source: Eurostat, CVTS and dissemination database (accessed 3.4.2014); own calculation.

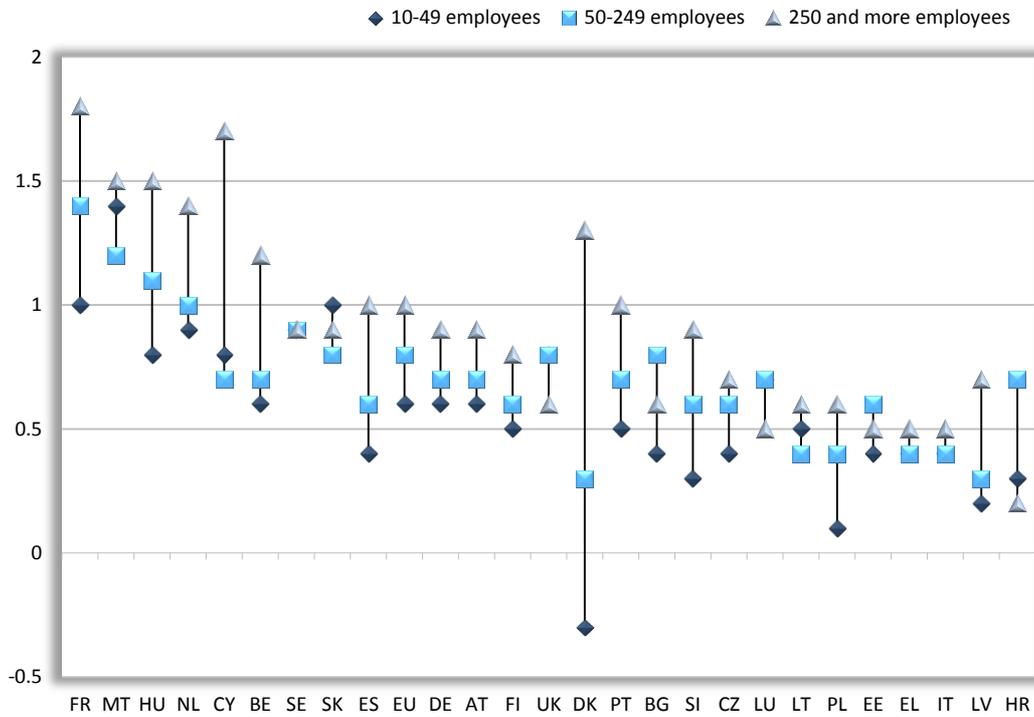
The dispersion (relative standard deviation ⁽⁸⁴⁾) of the EU's TME between countries is higher in 2010 than in 2005 (0.42 against 0.37), which indicates that enterprises' TME is becoming more dispersed among European countries. The increase in the dispersion results from the fact that the countries spending the most in 2005 spent even more in 2010 (France, Malta and the Netherlands), and also from the fact that some countries with low or average spending in 2005 spent less in 2010.

Between 2005 and 2010, firms' TME as a percentage of total labour costs increased in nine countries (Belgium, Germany, Greece, Spain, France, Cyprus, Malta, the Netherlands and Slovakia), decreased in nine other countries (Bulgaria, Czech Republic, Denmark, Estonia, Italy, Lithuania, Luxembourg, Poland and Slovenia) and remained stable in another five countries (Latvia, Hungary, Austria, Finland and Sweden). TME as a share of total labour costs increased most in Belgium and Malta (mainly because of large enterprises). By contrast, it decreased most in Estonia (because of both small and large

⁽⁸⁴⁾ The relative standard deviation is a measure obtained by dividing the standard deviation by the mean.

enterprises) and Slovenia (mainly because of small enterprises). (No information available for Croatia, Portugal or the UK.)

Figure 41. **TME for CVT courses as a percentage of total labour costs by enterprise size, class and country in 2010 (all enterprises)**



Source: Eurostat, CVTS and dissemination database (accessed 12.11.2013); own calculation.

Enterprises' expenditure varies by size. Small enterprises (10 to 49 employees) spend on average 0.6% of their total labour costs on CVT, as opposed to 0.8% in medium-sized enterprises (50 to 249 employees) and 1% in large ones (250 or more employees).

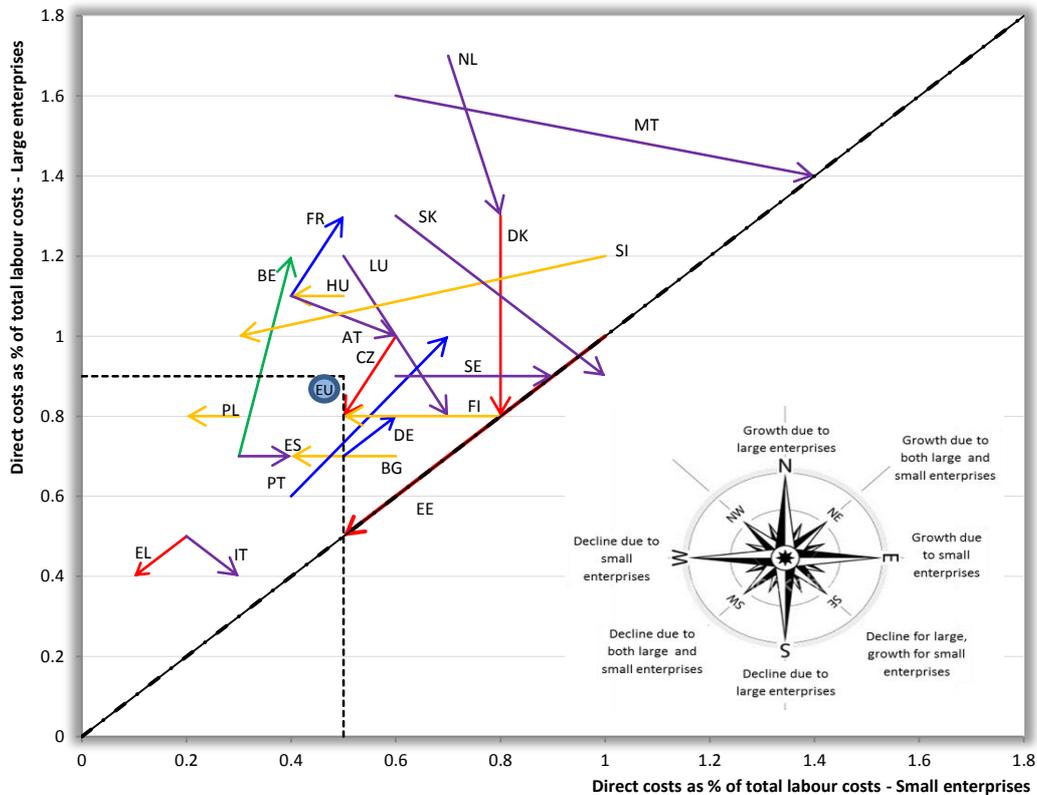
Measured through TME as a percentage of the total labour costs, national differences between larger and smaller enterprises are highest in Denmark, Cyprus and France. In these countries, small enterprises' investments in training lag relatively far behind the investments of large enterprises. By contrast, in Sweden enterprises' investments in training are independent of their size.

6.10. Patterns of change in firms' contributions between 2005 and 2010: the development among small versus large enterprises

In this section, patterns of increasing and decreasing investments by small and larger firms are studied across countries.

In Figure 42, each country's evolution between 2005 and 2010 is represented by an arrow. Each arrow joins two points: one representing the specific country situation in year 2005 to another one representing the year 2010. The direction of the arrow indicates the changes between 2005 and 2010. For each year and each country, a point's position on the x-axis represents small enterprises' direct expenditure as a percentage of their total labour costs (of all enterprises). Similarly, a point's position on the y-axis represents large enterprises' direct expenditure as a percentage of their total labour costs (medium enterprises are not considered here). Therefore, one may theoretically find eight types of trajectories (N, S, E, W, NE, SE, NW and SW). As a matter of fact, only seven types of trajectories are observed, each highlighted with a different colour. However, to make things simpler, we have grouped these trajectories into four groups.

Figure 42. **Enterprises' direct monetary expenditure on CVT courses as a percentage of total labour costs, from 2005 to 2010 (both training and non-training enterprises) – Small and large enterprises**



NB: There is no arrow for EU because the 2010 values are equal to the 2005 values

Source: Eurostat, CVTS and dissemination database (accessed 3.4.2014); own calculation.

On average the EU firms' direct expenditure as a percentage of their total labour costs did not change between 2005 and 2010, neither for small enterprises (0.5%) nor for large ones (0.9%). Moreover, large enterprises' direct expenditure as a percentage of their total labour costs is almost always higher than that of small enterprises (except for Slovakia in 2010), leaving the lower right corner empty. In addition to these observations, four main patterns of development may be identified:

- (a) in some countries, it is mainly large firms which increased their investments in CVT over time (northward arrows). Belgium is close to this pattern, which corresponds to a form of 'take-off': large enterprises are the first to increase their direct expenditure on CVT (as a percentage of their total labour costs);
- (b) in other countries, it is mainly small firms which increased their investments in CVT over time (eastward arrows). Spain and Sweden, but also to some extent Malta, are in this situation, which corresponds to a form of 'catch-up':

- small firms' direct expenditure on CVT (as a percentage of their total labour costs) catches up on larger firms' direct expenditure;
- (c) in yet other countries, it is mainly large enterprises which reduced their investments in CVT over time (southward arrows). Denmark and, to some extent, the Netherlands are in this situation where large firms' behaviour converges toward small firms' behaviour;
- (d) in a fourth category of countries, it is mainly small enterprises which reduced their investments in CVT over time (westward arrows). Bulgaria, Hungary, Poland and Finland display this pattern, which European public policies try to counteract.

In addition to these basic patterns of evolution, one may note two observations. First, in certain countries both small and large firms' direct expenditure has increased; this is the case for Portugal, but also for Germany and France. Second, in other countries both small and large firms' investments have decreased; this is the case in Estonia, but also in the Czech Republic and in Greece (the economic crisis may have played a role in firms' investments in CVT in these countries).

6.11. Conclusion and outlook

This chapter analysed firms' contributions to adult learning by analysing the following components: their direct expenditure on training (fees, payments, travel and subsistence costs; labour costs of internal trainers; and training centres and teaching materials); the balance of contributions to and receipts from collective funding schemes; and total monetary expenditure (the sum of direct costs and the balance of contributions and receipts). Firms' contributions through 'personnel absence costs' while participating in training are not considered due to the low accuracy of available indicators provided by CVTS. Firms' financial contributions to CVT are conceived as investments, rather than pure costs.

Table 30. **Direct expenditure/TME for the EU over time**

Evolution of the EU average, 2005-10 (as a percentage of 2005)	Direct expenditure (%)				TME (%)			
	Per employee		As a percentage of total labour costs		Per employee		As a percentage of total labour costs	
All	+11	↑	0	↔	+8	↔	-11	↓
10-49 employees	+13	↑	0	↔	+7	↔	-14	↓
50-249 employees	+7	↔	-14	↓	+4	↔	0	↔
250 or more employees	+10	↔	0	↔	+10	↑	-11	↓

Source: Eurostat, CVTS and dissemination database (accessed 3.4.2014); own calculation.

Taking all size classes of enterprises together, on the EU average enterprises' financial investment in CVT did not increase or only increased slightly from 2005 to 2010 according to the various indicators available. However, during a period of economic crisis, such results may not be as disappointing as they might seem, and they could also suggest that countries' public policies and employers' attitudes may well have contributed to keeping enterprises' investments in LLL at a constant level.

In the EU, between 2005 and 2010, small enterprises' direct expenditure remained stable at 0.5% of their total labour costs. Although, at a different level, so did large enterprises' direct expenditure (stable at 0.9% of their total labour costs). If one considers another indicator, enterprises' TME on CVT (TME) as a share of their total labour costs, the conclusions remain unchanged. Indeed, between 2005 and 2010, the EU's small enterprises' TME stayed constant at 1.1% of their total labour costs. The same happened for large enterprises' TME (unchanged at 1.9% of their total labour costs). Therefore, a remarkable gap continues to persist in the training investments of small enterprises compared to those of larger enterprises.

CHAPTER 7.

Outlook – A summary of trends over time according to AES and CVTS

Based on the data from the most recent waves of AES and CVTS, what picture can be drawn of the developments related to the targets of the ET 2020 strategy and the Bruges communiqué?

The time between the surveys (approximately 2005 to 2011) saw both a severe economic and fiscal crisis (Gallie, 2013) and a new wave of coordinated initiatives to make LLL accessible for all citizens. Multiple societal forces fuelled a strong expansion of adult learning in the last three decades in Europe and worldwide, although growth rates had slowed in some countries. Moreover, with the economic growth and progress of institutional reforms in the 10 States that joined the European Union (EU) in 2004 and the three most recent members, a further strengthening of LLL in these countries could be expected. Do cross-period changes report a further expansion of adult learning and job-related education and training in particular?

Member States have gone through a severe economic and fiscal crisis in the years from 2008 onwards and the economic recovery had not been completed by 2013 and nor had the reinforcement of austerity policies come to an end by this point in the majority of the Member States. This has reduced the margins for investments in LLL by states, enterprises, and households. Unemployment had dramatically increased and had hit young adults particularly hard. Demand-side contraction of the labour market made household investment in LLL even more risky. Some firms reacted to declining demand for their products by reducing employees and cutting costs, including training expenditures. Losses in training activities were partly balanced by anti-cyclical training investments (Section 2.3.1). The overall economic climate clearly lowered expectations for growth in participation rates in job-related adult education and training. However, the effects of economic downturn on participation in education and training are not necessarily negative or strongly negative. In some countries, the institutional framework for learning as well as enterprises' strategies for competitiveness gains may effectively counteract shrinking factors related to the reduced availability of resources.

In response to the needs of increasing LLL and also considering the economic ruptures of 2008 and 2009, a broad range of policy initiatives have been forged on European and national levels, such as in the national action plans

for adult learning (European Commission, 2007), the ET 2020 strategy or the Bruges communiqué. The following section provides trend information based on selected indicators of AES and CVTS. With a view to the targets outlined in the ET 2020 strategy and the Bruges communiqué, the aim of this section is to provide relevant statistical data from AES and CVTS as additional and complementary information to that derived from the labour force survey (LFS). Several indicators are used and grouped around various themes or objectives: increasing participation, increasing equality in participation, increasing training activities of small and medium enterprises, keeping training investments and increasing efficiency. Each section deals with a specific objective, makes use of various indicators and presents an overview of EU average trends for the indicators selected.

For each indicator, changes over time are calculated and presented in absolute and/or in percentage terms. An absolute change is calculated as a simple difference between EU averages at two different points in time: the value from the most recent survey wave (AES-2011 or CVTS4) and the value from the previous one (AES-2007 or CVTS3), with the latter acting as a baseline. A percentage change is obtained by considering the related absolute change and dividing it by the EU-average baseline figure (that is AES-2007 or CVTS3). The result is then multiplied by a factor of 100. As an example, one can consider the EU average number of hours spent on CVT courses per person employed (CVTS data). This went up from 9 to 10, leading to an absolute change of 1 and a percentage change of 11%.

The authors consider that the AES data for some countries are not fully comparable over time. AES trends for EU averages are thus affected, but still reported, when there are reasons to believe that the direction of the trend is accurately represented.

The indicators were selected considering data relevance, usefulness, and coverage for the current exercise. Some compromise was necessary. In particular, to measure inequality according to educational attainment medium level attainment (ISCED 3-4) and not low level attainment (ISCED 0-2) is compared to high level attainment (ISCED 5-6) because too many countries have no reliable figures for the lowest ISCED class. For measuring time for CVT paid for by the enterprises, the indicator of hours of training per employee (all enterprises) is used instead of the more preferable indicator of hours of training per 1 000 hours worked, because the rounding rules applied by Eurostat imply too strong a reduction of information, which could cause undesirable rounding effects and bias. For the same reasons, the indicator of direct costs per

employee is chosen and not the indicator of costs as a percentage of labour costs.

7.1. Goal: increasing participation

On average, in the EU, LFS data reveal stable or stagnating participation in adult education and training over the past years (EU averages for all adults as well as for employed adults, with participation measured in the four weeks prior to the survey and excluding guided on-the-job training (GOJT)). As shown in Figure 2, the structural indicator of LLL, which is at the centre of EU-level policy monitoring and which reports participation in LLL, stagnated during the time span observed (between 2007 and 2012). By 2010, participation in LLL was estimated at 9.7% for the employed. From 2007 to 2012, estimates for the EU saw the participation of employed persons in LLL reduced by 4.0% of the value for 2007.

Table 31 considers more indicators of participation and presents key trends for EU average values. The selection and specification of the indicators are made to allow for comparisons and integrations across sources. EU averages are considered. Standardisation of trends across indicators is achieved by using the EU-average baseline figure from the previous wave. For instance, the indicator time for training has increased from nine hours per employee in 2005 to 10 hours per employee in 2010. This implies an 11% increase over the value from 2005.

According to AES-2011, which also considers GOJT, 40.8% of employed adults participate in some form of job-related, non-formal adult education and training (NFE) activity in the EU at least once a year. Compared to AES-2007, some positive developments can be observed. However, given the effects of changes in methods in large Member States, the interpretation of changes in the EU average requires caution as it can be reasonably argued that it would draw a somewhat too positive picture. However, at least parts of the increase of 6.7 percentage points or 19.6% compared to the AES-2007 value could be seen as real, pointing towards a continuing expansion of job-related learning activities in the average of EU Member States, particularly for employed adults. Participation rates of workers in employer-sponsored continuing vocational training (CVT) as resulting from CVTS would confirm this interpretation.

CVTS4, contrary to LFS and in line with AES, indicates a more positive development for EU average participation rates for the employed. Participation rates of employed persons (all enterprises surveyed) in CVT courses increased from 33% to 38%. Working time spent on training increased from 9 to 10 hours per employee, taking all enterprises together. In the EU average, other forms of training were used more often, as illustrated by the example of GOJT. Despite its

policy relevance, particularly in work-based CVET policies, and despite its statistical importance (the second most attended form of training in enterprises following courses), this form of training is excluded from the LFS indicator. Participation rate as measured by CVTS increased by a quarter (or 4 percentage points) between 2005 and 2010.

Participation of adults in formal education and training (FED), comprising at least half a year of full-time education and leading to a qualification, plays a key role in achieving several of the ET 2020 goals. FED makes it possible to overcome the potential consequences of early school leaving, such as restricted access to further or higher education. Moreover, as large parts of FED are placed within the higher education sector throughout the EU (Hefler et al., 2011), it directly contributes to achieving the ET 2020 benchmark of 40% of 30-34 year-olds holding an ISECD 5/6 qualification. As for AES-2011, the revised UOE⁽⁸⁵⁾ definition has been applied (including the workload threshold of half a year of full-time education), the development for FED is likely to be underestimated. Although further studies seem required, available figures point towards the stagnation of this important sub-sector of LLL in the EU (Section 2.3).

Overall, AES and CVTS show slightly positive developments in particular because participation rates in job-related education and training for employed adults have improved despite the onset of the economic and fiscal crisis.

7.2. Goal: increasing equality in participation

The EU's policies on LLL have emphasised equality in participation and social inclusion ever since the Memorandum of LLL (Holford and Mohorčič Špolar, 2012; Rasmussen, 2014). Both the ET 2020 strategy and the Bruges communiqué reaffirm the need to reach vulnerable groups and reduce disparities across socioeconomic layers. The following summarises the results presented in Chapter 3. Inequalities are expressed as the ratio between the levels of participation for different reference groups. A ratio equal to 1 means there are no inequalities on average across the groups considered. A ratio largely different from 1 means there are large inequalities.

Considering EU average values, Table 32 considers:

- (a) participation rates of adults in FED, and related inequalities based on prior educational attainment;

⁽⁸⁵⁾ Unesco, OECD and Eurostat: the joint, register-based database on participation in formal education.

- (b) participation rates of adults in NFE, and related inequalities based on prior educational attainment, age, and employment status;
- (c) participation rates of employed adults in job-related, employer-sponsored training, and related inequalities based on educational attainment, age and occupational group.

Table 31. **Selected indicators of participation in adult education and training – EU averages and change over time as % of the EU average of the earlier wave)(LFS, AES, CVTS)**

Indicator	Source	Years (waves) selected	First wave	Second wave	% change
1 Participation rate in education and training (employed adults)	LFS	2005-10	10.6% (2005)	9.7% (2010)	-8.5% (↔)
2 Participation rate in job-related NFE (employed adults)	AES	2007-11	34.1% (2007)	40.8% (2011)	19.6% (↑)
3 Participation rate in FED (adults)	AES	2007-11	6.60%	6.20%	-6.1% (↔)
4 Participation in employer-sponsored CVT courses (employed adults)	CVTS	2005-10	33%	38%	15.2% (↑)
5 Participation in employer-sponsored guided on-the-job training (employed adults)	CVTS	2005-10	16%	20%	25% (↑↑)
6 Hours spent in employer-sponsored CVT courses per employee	CVTS	2005-10	9	10	11.1% (↑)

NB: Increase/decrease as % of the value of the EU average for the earlier wave: (↑↑) = +25%-50%; (↑) = +10%-25%; (↔) = ±10%.

The reference period for the data differs between countries and the timespan between the two waves is not always four years.

Source: Eurostat, CVTS, AES, LFS and dissemination database (accessed 18.5.2014); own calculation.

Table 32. Selected participation rates in adult education and training and inequality patterns for specific groups of adults. EU averages and relative cross groups ratios; AES-2007 versus AES-2011.

			2007			2011			Change 2011-07		
			Educational attainment								
			ISCED 3-4	ISCED 5-6	Ratio	ISCED 3-4	ISCED 5-6	Ratio	ISCED 3-4	ISCED 5-6	Ratio
FAE	7.	Participation rate of adults in FED by educational attainment	6	12.6	2.1	5.4	11	2.0	-0.6	-1.6	-0.1
NFE	8.	Participation rate of adults in NFE by educational attainment	29.9	51.5	1.7	34.4	55.8	1.6	4.5	4.3	-0.1
Job-related employer sponsored NFE	9.	Participation rates of employed adults in job-related employer-sponsored NFE by educational attainment	30.2	44.3	1.5	33.8	50.5	1.5	3.6	6.2	0.0
			Age group								
			55-64	35-44	Ratio	55-64	35-44	Ratio	55-64	35-44	Ratio
NFE	10.	Participation rate of adults in NFE by age group	19.7	35.4	1.8	25.6	40.7	1.6	5.9	5.3	-0.2
Job-related employer-sponsored NFE	11.	Participation rates of employed adults in job-related employer-sponsored NFE by age group	27.3	31.7	1.2	33.3	37.6	1.1	6.0	5.9	0.0
			Labour market status								
			Inactive	Employed	Ratio	Inactive	Employed	Ratio	Inactive	Employed	Ratio
NFE	12.	Participation rate of adults in NFE by labour market status	12.3	38.7	3.1	15.4	45.4	2.9	3.1	6.7	-0.2
			Occupational groups								
			ISCO 6-8	ISCO 1-3	Ratio	ISCO 6-8	ISCO 1-3	Ratio	ISCO 6-8	ISCO 1-3	Ratio
NFE	12a.	Participation rate of employed adults in NFE by occupational group				31.3	60.5	1.9			
Job-related employer-sponsored NFE	12b.	Participation rates of employed adults in job-related employer-sponsored NFE by occupational group				25.9	51.4	2.0			

NB: AES-2007 and AES-2011 used ISCED-97 to measure educational attainment. In ISCED-97: ISCED 3-4 refers to adults whose highest level of education is at upper secondary or post-secondary non-tertiary level (medium level). ISCED 5-6 refers to adults whose highest level of education is at tertiary level (high level). AES-2007 and AES-2011 used the main current labour market status to proxy the LFS situation on the labour market. AES-2007 used ISCO-88 and AES-2011 used ISCO-08 to classify jobs into occupational groups (data are not comparable). In ISCO-08: ISCO 1-3 refers to managers, professionals, technicians and associate professionals; ISCO 6-8 refers to skilled manual workers working as skilled agricultural, fishery and forestry workers, craft and related trade workers, plant and machines operators and assemblers.

The reference period for the data differs between countries and the timespan between the two waves is not always four years.

Source: Eurostat AES, LFS and dissemination database (accessed 18.5.2014); own calculation.

Table 32 shows the following patterns:

- (a) equality according to educational attainment is low for all three types of adult education and training studied: formal (FED), non-formal (NFE) and job-related employer-sponsored NFE;
- (b) equality based on labour market status is particularly low for participation in NFE, a ratio of around one to three is found in favour of employed adults as opposed to inactive adults;
- (c) equality according to occupation, for employed adults, is low for NFE as well as for its job-related, employer-sponsored component;
- (d) equality according to age is considerably low for NFE. Yet, when focusing on employed adults participating in job-related employer-sponsored training, the data show that they have much greater equality according to age.

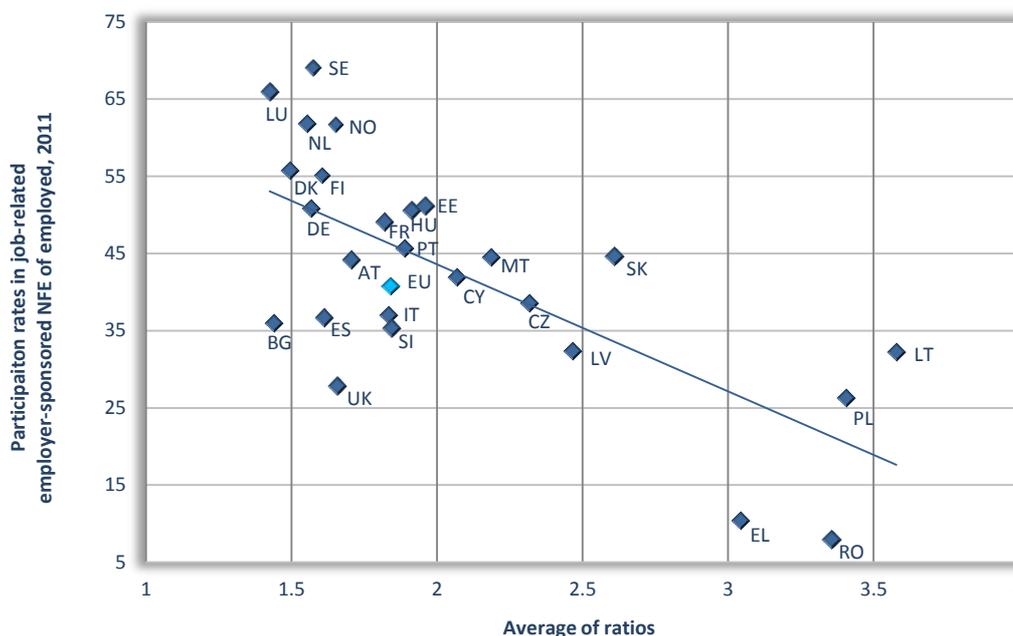
As for trends in inequalities, the aggregate data for the EU show the following picture. Although the extent differed (in absolute and percentage terms), positive developments affected almost all groups considered for this cross-group analysis and relative inequalities remain major. The ratios analysed here go in the desired direction (downward convergence to one) but the magnitude of their changes has not been as substantial as to remarkably lower inequalities.

To provide an overview across indicators and dimensions of inequality for socioeconomic groups, a composite indicator has been constructed at country level based on the ratios for the eight indicators considered in Table 32 (see also Table A38 in the Annex for the underlying data). The ratios for the indicators are added together and divided by eight ⁽⁸⁶⁾. The composite indicator summarises inequalities in participation. The composite indicator does not pretend to be a reference measure; a more complex methodology would be required to derive this. Rather, it has been calculated with the sole aim of deriving a possible explanatory variable for participation levels. The resulting composite indicator is plotted against the participation rates in job-related employer-provided education and training for employed adults (Figure 43).

Earlier comparative research on inequality across countries has revealed that inequalities – measured by ratios between particular socioeconomic groups or by odd ratios in multivariate regression models – tend to be higher when participation in LLL is lower (Roosmaa and Saar, 2010; 2012). The levels of inequality, as revealed by the ratios used, also partially point in this direction.

⁽⁸⁶⁾ In the case of missing values, the available indicators are added and divided by the number of indicators included in the analysis.

Figure 43. **Composite indicator of inequalities versus participation rates of employed adults in job-related employer-sponsored training in 2011**



NB: The trend line represents the linear regression (OLS); data for Belgium and Ireland are not represented due to low comparability.

Source: Eurostat, AES and dissemination database (accessed 18.5.2014); own calculations.

Four groups of countries emerge:

- countries with above-average participation and below-average inequalities: this group brings together all Nordic states (Denmark, Finland, Sweden and Norway), many States in Central Europe (Germany, France, Luxembourg, the Netherlands and Austria), but also Estonia and Portugal;
- countries with below-average participation and below-average levels of inequality: this group includes Bulgaria, Spain, Italy and the UK.
- Countries with above-average levels of participation and above-average levels of inequality: this group consists of Cyprus, Malta, Hungary and the Slovak Republic;
- countries with below-average levels of participation and above-average levels of inequalities: this group includes on the one hand countries which display levels of inequality and participation relatively close to the EU average (Czech Republic, Latvia and Slovenia). On the other hand, Greece, Lithuania, Poland and Romania combine very low participation rates with very high levels of inequality (Belgium and Ireland could not be included in the analysis for reasons of comparability).

Overall, the relationship between levels of inequality and participation goes in the expected direction – the lower the participation, the higher the inequalities.

However, beyond this general trend, there is a lot of variation, which requires further analysis.

7.3. Increasing enterprises' contributions and the efficiency of public cofunding

Increasing enterprises' funding of job-related education and training could be interpreted as an underlying goal of both the ET 2020 strategy and the Bruges communiqué. Possible strategies could include financial incentives and obligatory training. However, countries are encouraged to choose the instruments most appropriate for their particular situation. Available evidence should be used to improve the effectiveness and efficiency of measures taken to increase employers' commitment.

CVTS provides a unique source for observing enterprises' spending on CVT, their contributions to mutual training funds and training facilities. The CVTS also notes a firm's receipts from training funds, as well as other types of government support for training.

As discussed in detail in Chapter 6, in the EU on average enterprises' direct expenditure on training only increased moderately between 2005 and 2010 by 10.5% or EUR 22 PPS per person employed. Similarly, a slight increase is observed for the average enterprise's total monetary expenditure on training per employee, which also accounts for enterprises' contributions to and receipts from collective training schemes. Considering the small magnitude of such increases as well as the less favourable developments of the same indicators expressed as a share of the total labour costs, this reports assess the developments in enterprises' expenditure on training as relatively stable.

Table 33. **Selected indicators of enterprises' expenditure on CVT: direct expenditure and TME (all enterprises) – EU, EUR PPS per employee and % change**

	2005	2010	Absolute change in PPS per person employed	Change in %
20. Direct expenditure	211	233	22	10.4
21. Contributions	58	67	9	15.5
22. Receipts	21	38	17	81
23. TME	250	270	20	8

Source: Eurostat, CVTS and dissemination database (accessed 18.5.2014); own calculation.

Further studies would be required to investigate the interaction of enterprises' training activities with various types of cost-sharing mechanisms, such as mutualised training funds or government funding (Brisbois et al., 2009).

7.4. Goal: increasing SMEs' training activities – Synopsis of the findings

As employer-sponsored training is important for participation in LLL, increasing training activities in SMEs and reducing inequalities in training provision among different size enterprises then contributes to higher and more equal participation across the population.

As discussed in Chapters 2, 4 and 5, small enterprises (10-49 employees) and to a lesser degree medium-sized enterprises (50-249 employees) have increased their training performance between 2005 and 2010 across a wide range of indicators. In this sub-section, seven indicators are used for to assess the progress made by small enterprises both in relative terms to their performance in 2005 and *vis-à-vis* large enterprises.

When measured against the backdrop of the previous survey wave, up to 2010, small enterprises have improved their performance over medium and large enterprises in the EU average. As values for SMEs in 2005 are comparatively low, small absolute increases, however, lead to strong relative ones. To put relative changes into perspective, it is also important to observe the absolute changes according to the relative indicators.

Table 34 presents a comparison between small and large enterprises for seven key indicators of training. Levels and trends for relevant EU averages are presented.

The situation for small enterprises can be summarised as follows. Among small enterprises, those providing CVT courses to their employees represented 52% in 2010. Compared to 2005, this indicator increased by 18% (or eight percentage points). Over the same period, the participation rates of employees in courses increased by 14% (or four percentage points). The participation rate of employees in GOTJ went up by 40% (or four percentage points). The hours in training per employee increased by 20% (one hour). The smallest increases can be observed for enterprises' direct expenditure per person employed (+13% or EUR 15 PPS) or TME per person employed (+7% or 11 PPS). For all but one indicator (TME), the EU average in relative terms indicates that developments for small enterprises are more positive than for large enterprises. In absolute terms, changes are more positive or equal to changes for large enterprises for three

indicators (incidence in courses and other forms, hours per employee; for details see Table 34).

Table 34. **Selected indicators of training activities in small enterprises (10-49 employees) and large enterprises (250 or more employees): EU averages and relative cross-group ratios (CVTS4 versus CVTS3)**

	2005			2010			Change 2010-05		
	small	large	ratio	small	large	ratio	small	large	ratio
13. % of enterprises providing CVT courses for their employees by enterprise size class	44	84	1.9	52	89	1.7	8	5	-0.2
14. % of enterprises providing other forms of CVT by enterprise size class	43	80	1.9	49	81	1.7	6	1	-0.2
15. % of employees participating in CVT courses by enterprise size class	21	41	2.0	25	46	1.8	4	5	-0.1
16. % of employees participating in guided on-the-job training by enterprise size class	10	21	2.1	14	26	1.9	4	5	-0.2
17. Hours in employer-sponsored CVT courses (hours per employee) by enterprise size class	5	11	2.2	6	12	2.0	1	1	-0.2
18. Enterprises' direct monetary expenditure on CVT courses by enterprise size class (PPS per employee)	120	270	2.3	135	298	2.2	15	28	0.0
19. Enterprises' total monetary expenditure on CVT courses by enterprise size class (PPS per employee)	161	311	1.9	172	341	2.0	11	30	0.1

NB: Data refer to all enterprises surveyed, i.e. training and non-training.

Source: Eurostat, CVTS and dissemination database (accessed 18.5.2014); own calculation.

The EU average of indicators for large enterprises is also positive across the indicators compared. While relative gains are smaller than for small enterprises, in absolute terms large enterprises increased their performance most in three indicators (participation rates in GOTJ, direct expenditure and TME).

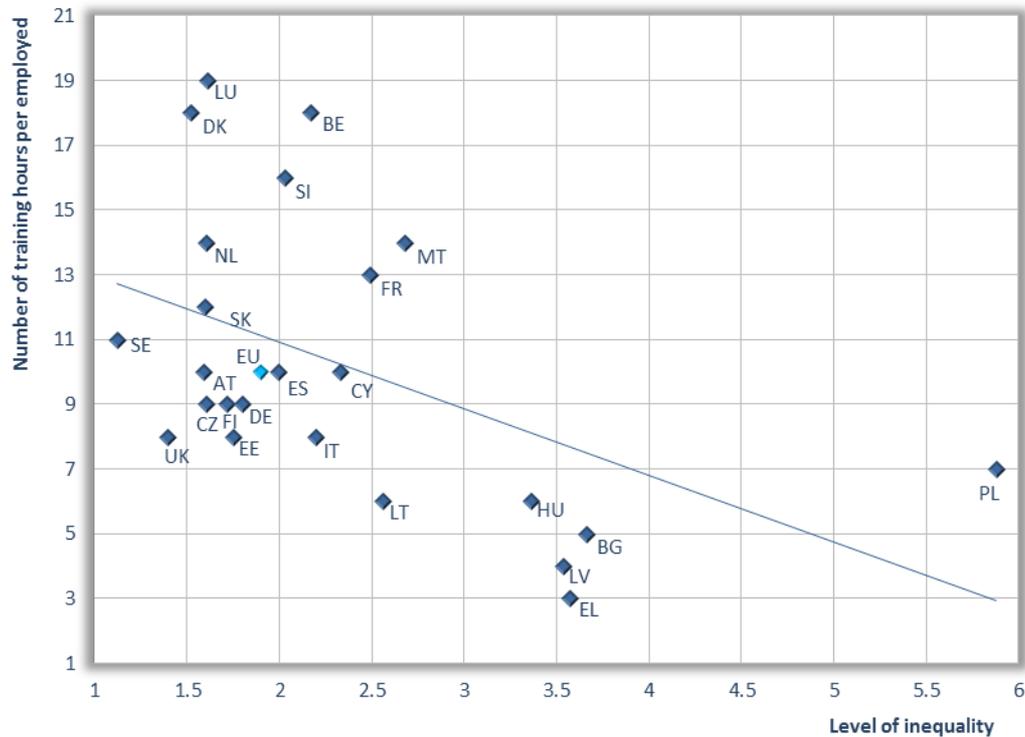
Inequality across size classes of enterprises could also be studied by ratios, comparing small enterprises to large ones. Between 2005 and 2010, in the EU average, inequality between small and large enterprises slightly decreased. For the seven indicators selected, ratios between small and large enterprises are between 1.7 and 2.2 in 2010 and thereby slightly lower for all but one indicator. The exception is the indicator TME, where the differences between small and

large enterprises have increased further, most likely due to the effects of payments received from collective funds or state subsidies directed towards small enterprises ⁽⁸⁷⁾. Changes are only moderate, at between 0.3 and -0.1 points of the ratio (Table 34). Overall, despite improvements among small enterprises differences in training performance between small and large enterprises remain substantial.

Inequality between small and large enterprises tends to be smaller when a country has high average level of training activity in a country. To provide an overview, a composite indicator is calculated by adding up the ratios between small and large enterprises for the seven indicators (indicators in Table 34 calculated at country level) and dividing them by the number of indicators used. This results in a composite indicator to summarise at country level inequality in the distribution of training activities between small and large enterprises. The composite indicator does not pretend to be a reference measure; a more complex methodology would be required to derive this. Rather, it has been calculated with the sole aim of deriving a possible explanatory variable for the volume of training in enterprises. Figure 49 plots the composite indicator of inequality between small and large enterprises against the most common indicator of training volume in enterprises: the number of hours spent on employer-sponsored CVT courses per person employed, measured across all enterprises, i.e. training and non-training enterprises). This indicator effectively captures cross-country differences in training incidence, participation and intensity (for a discussion see Hefler and Markowitsch, 2008a). (No reliable data are available for Portugal or Romania.)

⁽⁸⁷⁾ In the EU average, the balance (in all cases, contributions in addition to direct costs) of payments and receipts has changed by -32% (-18 PPS) for small enterprises, by -16% (8 PPS) for medium enterprises and has increased by 33% (11 PPS) for large enterprises. For more background information see Chapter 5.

Figure 44. **Hours in CVT per employee (all enterprises) according to the level of inequality between small and large enterprises (composite indicator)**



NB: The trend line represents the linear regression (OLS)

Source: Eurostat, dissemination database (accessed 18.5.2014); own calculation.

Taking the EU average as a point of reference ⁽⁸⁸⁾, the following groups emerge.

There are six countries with an above-average training volume (i.e. hours of training per persons employed) and a below-average level of inequality (small versus large enterprises): Denmark, Luxembourg, the Netherlands, Austria, Slovakia and Sweden. Ratios for the seven indicators are mainly between 1.0 and 2.0 (for single indicators, small enterprises show even higher values than large ones). Equality is mainly improving with a few notable exceptions, including higher inequalities in participation rates in OJT for three countries (the Netherlands, Luxembourg and Slovakia) and the markedly increased inequality in Denmark for direct expenditure

There are six countries with an above-average training volume and above-average level of inequality (small versus large enterprises): Belgium, Spain, France, Cyprus, Malta and Slovenia. Aggregate level of inequalities are above

⁽⁸⁸⁾ Where indicators are equal to the EU average, the country is grouped among the group 'higher than'.

the EU average, but are not the highest ones. The ratios for the indicators compared vary greatly within and across countries, showing values between 1.0 and up to 5.8 (for single indicators, small enterprises show even higher values than large ones). Malta stands out for its high and heterogeneous ratios across the seven indicators. The trends in equality are mostly increasing across countries with the exception of Slovenia, with declining equality according to four out of seven indicators. For six indicators, the values for equality are mainly improving, with the exception of the ratio for hours in training per employee, which is pointing towards less equality for four out of six countries (France, Cyprus, Malta and Slovenia).

There are five countries with below-average training volumes and below-average levels of inequality (small versus large enterprises): the Czech Republic, Germany, Estonia, Finland and the UK. Ratios are mainly low and between 1.1 and 2.2 (with one exception). In the UK, the indicators of spending on training are even lower for small than for large enterprises. Trends are mainly mixed and changes are mostly moderate (± 0.2). Exceptionally strong changes towards less equality include the hours/employee for Estonia and the two funding indicators for Finland. Equality increased markedly for OJT in Estonia. Indicators of funding also increased for the Czech Republic.

There are seven countries with below-average training volumes and above-average levels of inequality (small versus large enterprises): Bulgaria, Greece, Italy, Lithuania, Latvia, Hungary and Poland, with very large differences for Poland. The group is very heterogeneous with respect to the ratios for the various indicators and the trends over time. The ratios are between 1.8 and 6.1. In Italy, equality is increasing, often significantly, according to all indicators. In Bulgaria and Poland, equality between small and large enterprises is strongly decreasing. In the other countries, developments are more mixed across the seven indicators studied.

Table A39 in Annex 1 provides more detailed information on these ratios and their development over time at country level.

7.5. Outlook: development in job-related LLL in the aftermath of the economic crisis

The period covered by the data analysed in this report – from 2005 to 2011– was a unique one. In 2008, European economies were hit by an economic and fiscal crisis, which has been labelled the ‘great recession’ (Antonucci et al., 2014). The crisis hit all EU Member States. However, the timing and severity of the crisis differed across countries. By 2011, some countries had already recovered to pre-

crisis levels of economic activity, while others still suffer from considerable losses. To assess the impact of the economic crisis on job-related learning, countries have been grouped according to their economic development between 2005 and 2011. Development has been measured by changes in gross domestic product (GDP) per capita.

To assess the impact of the crisis, a composite indicator has been constructed from 21 individual indicators considered in this chapter of participation in job-related adult learning (levels and equality).

The composite indicator has been calculated with the sole aim of deriving a more comprehensive, yet synthetic, measure of trends in adult education and training to be analysed in combination with economic and financial developments over time. It does not pretend to be a reference measure for trends. The 21 indicators considered for the purpose of deriving the composite indicator are the following: all six indicators from Table 31, six indicators from Table 32 (those for which trends are available), two of the four indicators from Table 33 (only direct and TME) and all seven indicators from Table 34. The composite indicator has three levels: (a) mainly positive: at least nine of the indicators point in a positive direction; (b) stable or mixed development: positive developments are mixed with negative ones and/or indicators represent a mainly stable development over time; (c) mainly negative developments: at least nine indicators point in a negative direction. A total of 18 countries have been included in the analysis.

More information on this analysis can be found in Annex 1 (Tables A40 and A41 provide more information on methodological aspects and results at country level).

Overall, the results confirm previous findings (Felstead et al., 2013; Dieckhoff, 2013) that no straightforward relation exists between an economic crisis and the development of job-related adult learning. In general terms, most of the countries included in the analysis do not have an overall negative development in job-related, further education and training (based on the selected 21 indicators). Actual decreases in certain indicators are often counterbalanced at least to some degree by gains in other indicators.

Abbreviations

List of abbreviations

A12	new question introduced by the CVTS4: In your enterprise, which skills/competences (def. 24) are generally considered as important for the development of the enterprise in the next few years?
AES	adult education survey
AES-2007	adult education survey: the first pilot exercise carried out between 2005 and 2008 (depending on the country) with questions related to learning occurred in the 12 months prior to the interview
AES-2011	adult education survey carried out between July 2011 and June 2012 (depending on the country) with questions related to learning occurred in the 12 months prior to the interview
BIBB	Bundesinstitut für Berufsbildung [Federal Institute for Vocational Education and Training]
CLA	classification of learning activities
CVET	continuing vocational education and training
CVT	continuing vocational training
CVTS	continuing vocational training survey
CVTS2	continuing vocational training survey, carried out in 2000 with questions on learning occurred in calendar year 1999 as the reference period
CVTS3	continuing vocational training survey carried out in 2006 with questions on learning occurred in calendar year 2005 as the reference period
CVTS4	continuing vocational training survey carried out in 2011 with questions on learning occurred in calendar year 2010 as the reference period
ET 2020	Education and training 2020 (strategy)
EU	European Union
EU-28	the European Union from 1 July 2013 until today with its 28 Member States
EU-27	the European Union from 1 January 2007 until 1 July 2013 with its 27 Member States
FED	formal education and training (adult)
GDP	gross domestic product
GOJT	guided on-the-job training
ISCED	international standard classification of education
ISCED-97	international standard classification of education, approved in 1997
ISCO	international standard classification of occupations
ISCO-08	international standard classification of occupations: third version adopted in December 2007
ISCO-88	international standard classification of occupations: updated adopted in 1997
IT	information and technology
IVET	initial vocational education and training
IVT	initial vocational training
LFS	labour force survey
LLL	lifelong learning
NACE	statistical classification of economic activities in the European Community - [Nomenclature statistique des activités économiques dans la Communauté européenne]
NFE	non-formal education and training (adult)
NUTS	nomenclature of territorial units for statistics

NUTS1	nomenclature of territorial units for statistics: major socioeconomic regions
NUTS2	nomenclature of territorial units for statistics: basic regions of the application of regional policies
PPP	purchasing power parity
PPS	purchasing power standard
SME	small and medium-sized enterprise
TME	total monetary expenditure
UOE	Unesco, OECD and Eurostat: the joint, register-based database on participation in formal education
VET	vocational education and training

List of country abbreviations

EU	European Union
BE	Belgium
BG	Bulgaria
CZ	Czech Republic
DK	Denmark
DE	Germany
EE	Estonia
IE	Ireland
EL	Greece
ES	Spain
FR	France
HR	Croatia
IT	Italy
CY	Cyprus
LV	Latvia
LT	Lithuania
LU	Luxembourg
HU	Hungary
MT	Malta
NL	Netherlands
AT	Austria
PL	Poland
PT	Portugal
RO	Romania
SI	Slovenia
SK	Slovakia
FI	Finland
SE	Sweden
UK	United Kingdom
NO	Norway

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Job-related adult learning and continuing vocational training in Europe

A statistical picture

Increasing adult participation in education and training, decreasing inequalities and ensuring labour market relevance are all important objectives of EU policies. This report provides a statistical picture of job-related adult learning and continuing vocational training in the EU. It selects, presents and analyses internationally comparable data from the adult education survey and the continuing vocational training survey. These are essential resources to complement and understand better the labour force survey indicator of participation in adult learning. The report provides further insights, in particular with regard to the job-related and employer-sponsored components of learning and training. Types, forms, purposes, content, employer support and financing of adult learning as well as obstacles and barriers are analysed. Results at EU and country levels, as well as key trends and breakdowns are presented. By contributing to better understanding of patterns and trends in adult learning and continuing vocational training, the report is a valuable tool for evidence-informed lifelong learning policies at EU and country level.

5548 EN - TL-BC-15-003-EN-N - 10.2801/392276



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