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The external factors influencing VET

Cedefop project 'Changing nature and role of vocational education and training in Europe' – Working paper 3

DRAFT

The changing nature and role of VET in Europe

This working paper forms part of the Cedefop project 'The changing nature and role of vocational education and training (VET) in Europe'.

The purpose of the project is to improve our understanding of how VET is changing in the countries belonging to the European Union (as well as Iceland and Norway). The project will, over a 3-year period (2016-2018) analyse how vocationally oriented education and training has developed and changed in the last two decades (1995-2015) and on this basis point to the main challenges and opportunities facing the sector today and in the future. Work is divided into six separate but interlinked assignments:

1. The changing definition and conceptualisation of VET.
2. The external drivers influencing VET developments.
3. The role of traditional VET at upper secondary level.
4. VET from a lifelong learning perspective.
5. The role of VET at higher education levels.
6. Scenarios outlining alternative development paths for European VET in the 21st century.

The study takes as its starting point that vocationally oriented education and training is something more than the traditional VET delivered at upper secondary level (in the form of school based education or training, apprenticeships, or combinations of these). Due to the requirements of lifelong learning we can in many countries observe a diversification of VET where new institutions and stakeholders become involved. We furthermore observe an expansion of VET to higher education areas, partly through a reform of existing institutions, partly through the emergence of new institutions. Caused by factors internal to the education and training system as well as by external pressures linked to demographic, technological and economic changes.

The 'Changing role of VET in Europe project is coordinated by Jens Bjornavold and Hanne Christensen, Cedefop. Working paper 3 has been prepared by Alan Brown, Lynn Gambin, Terence Hogarth, Erika Kispeter and Nick Sofroniou.

This is a draft, not for quotation or citation.

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The external factors influencing VET

1. Introduction

1.1 The responsiveness of VET to the external environment

Skill is a derived demand. It derives from a number of inter-related factors including technical and organisational change, globalisation, demographic change and so forth. All countries, to a greater or lesser extent, face the same set of factors driving change in the demand for skills. The effectiveness with which countries respond to the drivers of change will, according to some, explain much about their economic performance. This is explicit in the European Commission's A New Skills Agenda for Europe where the opening paragraph says: "Skills are a pathway to employability and prosperity. With the right skills, people are equipped for good-quality jobs and can fulfil their potential as confident, active citizens. In a fast-changing global economy, skills will to a great extent determine competitiveness and the capacity to drive innovation. They are a pull factor for investment and a catalyst in the virtuous circle of job creation and growth. They are key to social cohesion." (p.1). In an age when countries have access to the same technologies, skills, however defined, may be the main driver of productivity and competitiveness.¹ If skill is a key differentiator of national competitiveness, then there is a need to understand the way in which effective skill formation takes place. In other words, how do national systems respond to the external economic and social environment to deliver the skills that will not only meet current and projected future business demand, but also confer some form of competitive advantage upon a country? In many respects it is not just about ensuring skill demands are met, but in ensuring that they are met in a way that will allow relatively high value segments of the global market to be captured. There is increasing interest in the role vocational education and training (VET) can play in this regard. Apparent across many countries is an increasing vocational element being introduced in to education at all levels,² and there is now much more policy interest in seeking to promote traditional forms of vocational education and training, such as apprenticeships,³ in bringing about a better match between the demand for, and the supply of, skills.

From a purely economic perspective the process of bringing about a VET system that is responsive to the external environment is largely dependent upon the interplay between the flow of information on the one hand, and funding on the other. In a perfectly competitive market – that assumes perfect information – VET systems will adapt to the changing environment in order to achieve a new equilibrium between supply and demand. Employers will be willing to pay for training that is non-transferable (i.e. it provides skills that are of value only to the organisation that delivers them), whilst individuals will be responsible for meeting the costs of training that is transferable (usually through receipt of wages that are lower than their marginal product whilst training).⁴ This is the standard human capital model. There are

¹ Jorgenson, D. W.; Fraumeni, B. M. (1992). 'Investment in Education and U.S. Economic Growth'. *Scandinavian Journal of Economics*, Vol. 94, Supplement, pp. 51–70.

² Gambin, L. et al. (2016) *Evaluating the Impact of Higher Education Providers' Employability Measures*. London: Quality Assurance Agency

³ European Commission (2016) A New Skills Agenda for Europe (2016) *Working together to strengthen human capital, employability and competitiveness* {SWD(2016) 195 final}

⁴ Becker, G. (1964) *Human Capital*. New York: Columbia University Press; Schultz, T.W (1963). *The*

variants, but the core model is more or less as set out above. Where public policy interventions are required is in relation to market failures of one kind or another. These usually concern:

- capital market problems and credit constraints such that individuals are unable to borrow to fund their investments in skills. This is usually addressed by the State providing funding for training young people;
- imperfect information, including asymmetric information such that individuals do not know which skills to invest in so as to obtain the required return on their investment, and employers do not always know which workers will be the productive ones capable of acquiring skills they need. Information failures can also arise where employers are unaware of the benefits they might derive from training; and
- externalities where others gain (or stand to gain) from the investments undertaken by a particular employer/employee. Other employers may poach trained workers from the training employer.

Given the above, it is apparent that market failures of one kind or another can be addressed by putting in place information systems that contain information about the returns to be obtained from investments in various forms of training, and the provision of funding to overcome capital constraints and the uncertainties attached to obtaining a return on any skills investment by the individual or the employer.⁵

Whilst the human capital model provides a tractable explanation of how the market for education and training can operate efficiently, there are alternative perspectives that recognise, amongst other things, that imperfect labour markets can have a relatively beneficial impact on the provision of VET (or any other kind of education for that matter). The example of Germany is particularly interesting in this regard because it demonstrates the way in which imperfectly competitive labour markets can have a positive impact upon investments in skills.⁶ In essence, the system of wage setting in Germany brings about wage compression such that it is more efficient to make unskilled workers skilled ones, and the system of wage setting makes it difficult for a non-training company to recruit a worker from one that trains (i.e. it will not be able to pay a wage sufficiently high to recruit the employee from the training company). This relates to a wider set of issues relating to the processes of social dialogue within a country and the accompanying systems of skills governance. The somewhat inchoate 'varieties of capitalism perspective' is germane here. This sees the process of skill formation within nation states as emerging from different forms of social contract that have been forged over time.⁷ Arguably, within the co-ordinated approach, as indicated in the example of Germany, there is the potential to ratchet-up the demand for, and supply of, skills. But even if this end is achieved, there is still the need to ensure that the skills produced are relevant to the external environment otherwise there is still potential to

Economic Value of Education. New York: Columbia University Press, 1963

⁵ Gambin, L. and T., Hogarth (2017, forthcoming) 'Who Pays for Skills? Differing perspectives on who should pay and why', in *Oxford Handbook of Skills and Training*, edited by J. Buchanan, D. Finegold, K. Mayhew, C. Warhurst, Oxford: Oxford University Press

⁶ Acemoglu, D. and Pischke, J-S. (1999) 'Beyond Becker: Training in Imperfect Labour Markets', *Economic Journal*, Vol. 109 (Feb.) pp. F112-F142.

⁷ Estévez-Abe, M.; Iversen, T.; Soskice, D. (2001). 'Social Protection and the Formation of Skills: A Reinterpretation of the Welfare State'. In: Hall, P./Soskice, D. (eds.). *Varieties of Capitalism: The Institutional Foundations of Comparative Advantage*. Oxford: Oxford University

increase, ultimately, the extent of skills mismatch in an economy. So there is still the need to develop systems that provide the information that will guide the skill investment decisions made by individuals and employers.

And even in countries that have adhered to a more market oriented approach, such as England, there are concerns that the point at which equilibrium is reached between the demand for, and supply of, skills may be sub-optimal in some way.⁸ So even if the skills system is working efficiently, it is producing a quantum of skills that might be considered less than desirable in a globally competitive market. The low-skills equilibrium hypothesis is interesting in this regard.⁹ At a given level of aggregate demand in an economy, there will be a concomitant demand for skills. Where the demand for skills is relatively low, the supply side responds accordingly with the impact of effectively dampening further employer demand for skills. In this way a vicious spiral is created of a kind observed in the UK over the 1970s and 1980s which required a range of institutional responses (an issue returned to later).

Ultimately one is looking at the information flows that guide employers' and individuals' investments in skills such that skills supply is adaptive to demands in external market. In Europe, one cannot understand this from a purely market-based, human capital model perspective. The way in which the VET system responds to the external environment is mediated through the variety of institutional approaches to VET provision and the underlying national policies that result in the VET system being configured in a given way.

1.2 The adaptiveness of VET systems to the external environment

Europe faces a number of medium- and long-term challenges. Recovery from the financial and sovereign debt crisis in 2007-9 has proved slow; output growth is gradually improving, but unemployment continues to be at historically high levels.¹⁰ Moreover, the economic situation is uneven across the EU. Meanwhile, long-term structural changes continue to take place in the global economy with technical change continuing apace affecting both the nature of skill demand and its location.¹¹ Consequently weak employment growth has intensified competition for jobs in Europe which, for some groups of jobseeker, is further heightened by global shifts in the centres of production and increased automation.¹² The challenges these changes potentially pose the various vocational education and training (VET) systems across the EU are formidable: weak employment growth tends to result in skill / labour surpluses; and rapid technical change, if VET systems are not sufficiently fleet afoot in responding to that change, results in skill shortages sometimes existing side-by-side with skill surpluses. To date, the evidence points to a potential matching problem. Over time there is some evidence that the Beveridge Curve – that captures the ratio between vacancy and

⁸ Green, F. and Ashton, D. (1992) 'Skill Shortage and Skill Deficiency: A Critique'. *Work Employment and Society*, Vol.6, No.2, pp.287-301

⁹ Finegold, D., and Soskice, D. (1988), 'The Failure of Training in Britain: Analysis and prescription.' *Oxford Review of Economic Policy*, Vol. 4, No. 3, pp, 21-53

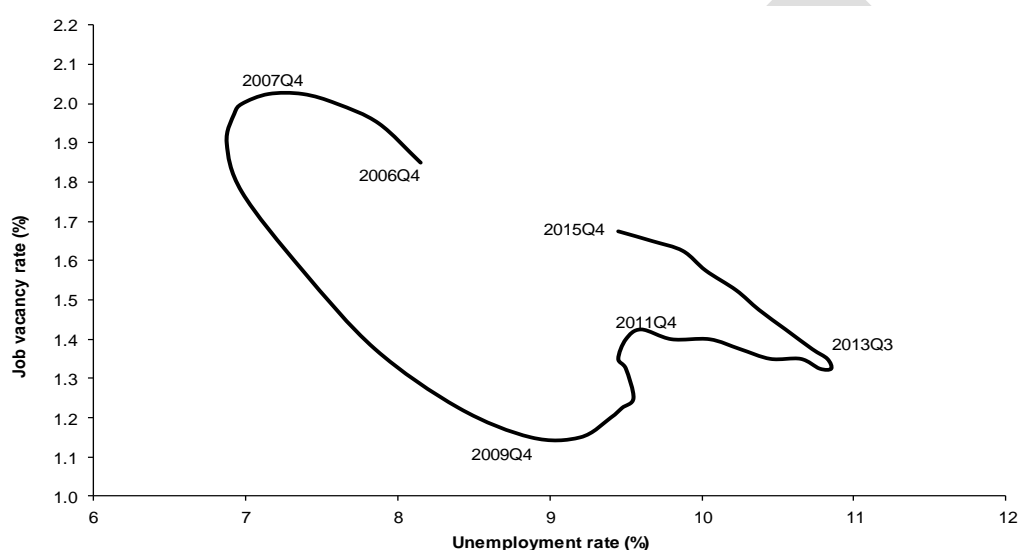
¹⁰ European Commission (2015) Annual Growth Survey 2016: Strengthening the recovery and fostering convergence. COM(2015) 690 final

¹¹ McIntosh, S. (2013) *Hollowing-out and the Future of the Labour Market*. BIS Research Paper No.134

¹² Brynjolfsson, E., and D. McAfee. (2012) *Race against the Machine: How the Digital Revolution is Accelerating Innovation, Driving Productivity, and Irreversibly Transforming Employment and the Economy*. Lexington: Digital Frontier Press

unemployment rates – is being pushed outwards (see Figure 1.1). The factors that underlie movements in the Beveridge Curve are multifarious and are typically explained with reference to the operation of passive and active labour market policies.¹³ VET systems in themselves are unlikely to be able to bring about significant movement in the Beveridge Curve but they will, at the margin, have a bearing on the extent and speed with which vacancies are filled. Evidence suggests mismatches between levels of qualification held and jobs undertaken have, over time, increased (see Figure 1.2). But at the same time there is evidence that skill shortages persist especially in key sectors such as ICT/digital. One is potentially looking at a situation where there is relatively weak skill demand but despite the increase in levels of educational attainment – which is a proxy measure of skill supply – skill shortages persist.¹⁴

Figure 1.1 Beveridge curve, 2006q4 to 2015q4 (four-quarter average rates)

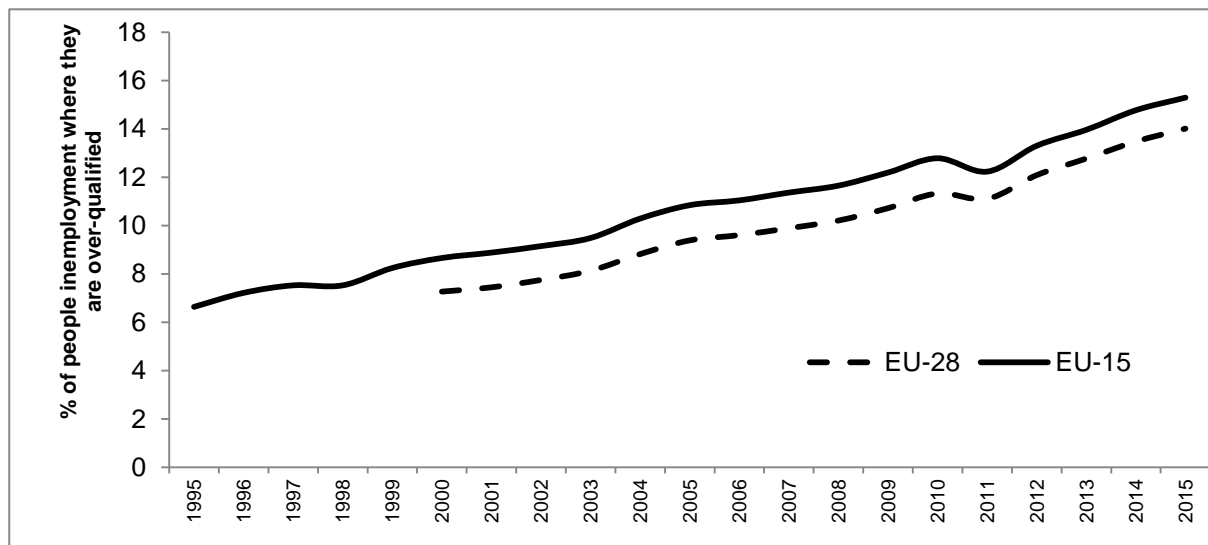


Source: Eurostat Unemployment Rates [lfsq_urgan] and Job vacancy statistics [jvs_q_nace2]. Figure from http://ec.europa.eu/eurostat/statistics-explained/index.php/Job_vacancy_and_unemployment_rates_-_Beveridge_curve

¹³ Elsby, M.W., Hobijn, B. and Sahin, S. (2011). *Unemployment dynamics in the OECD*, San Francisco Federal Reserve Bank Working Paper 2009-04

¹⁴ DG EMPL (2015) *Skill Mismatches and Labour Mobility*. <http://ec.europa.eu/europe2020/pdf/themes/2015/skills-for-the-labour-market.pdf>; Cedefop (2015) *Skills Mismatch: more than meets the eye*. Cedefop Briefing Note - [file:///C:/Users/Terence%20Hogarth/Downloads/9087_en%20\(1\).pdf](file:///C:/Users/Terence%20Hogarth/Downloads/9087_en%20(1).pdf)

Figure 1.2: Indication of over-qualification in the EU, 1995 – 2015



Source: Eurostat [lfsa_egised]

Even if the demand for labour and skill were to increase there is no guarantee that the matching problem would disappear; so it is not simply a cyclical issue. It is no surprise then that the New Skills Agenda places such an emphasis on better intelligence to inform choices about investments in skills. It also places an emphasis upon making ‘VET a first choice’ in looking for a better match between skills supply and skills demand.¹⁵ It will be the way in which countries are able to flex their VET systems to meet current skill demand and, at the same time, sufficiently anticipate future demand, which is the critical issue in this regard.¹⁶ But it is not only the way in which VET systems are designed to anticipate skill demand arising from a range of external factors that is of interest. It is also the way in which they are able – or are configured – to effectively respond to the occasional shocks to which the European economy is subject. This is important, if one considers for a moment, the manifold events with which Europe has had to contend over, say, the past 10 years. It is these issues which form the core of the current study.

If the ultimate aim is to ensure that the VET system is better able to meet the future and current needs of the labour market, there are a wide variety of means through which that might be realised, including policy initiatives that have addressed:

- i. the attractiveness of VET to employers and learners (including the way in which participants are incentivised to participate in VET such as financing systems, communications regarding returns, etc.);
- ii. the way in which the content of VET programmes are amended to meet the needs of the labour market;
- iii. the structure of VET provision (e.g. the recent emphasis on workplace based learning / apprenticeships);

¹⁵ European Commission (2016) *A New Skills Agenda for Europe: Working together to strengthen human capital, employability and competitiveness* [SWD(2016) 195 final].

¹⁶ Though the way organisations adapt their patterns of work organisation is also important.

- iv. the way in which skills are accredited (c.f. non-formal / informal learning, prior learning, etc.);
- v. qualification systems (e.g. the number of qualifications available, and the number of awarding bodies, etc.);
- vi. the provision of information and guidance relating to VET.

It is this then which forms the focus of the study: understanding the way in which VET systems are able to respond to the needs of the labour market. It is the way changes are mediated through national VET governance systems – as typified by Markowitsch and his colleagues¹⁷ - that is of interest. Those governance systems reflect the differing historical paths countries have taken to developing their VET systems and the national policy priorities that have been paramount at various junctures. This issue is returned to in more detail in Section 7 below.

1.3 Main objectives and research questions

Given the changing external environment, the specific questions of interest are set out below.

1. To what extent are demographic developments influencing the need for and provision of VET?

In the context of an ageing EU labour force there is a need to consider how Member States are addressing this issue, in particular the role of CVET in allowing people to re-skill in later years in order to avoid their skills becoming obsolete.¹⁸ On the other hand, migration into the EU and migration between Member States may reduce the scale of the problem facing certain countries.

2. To what extent are changes in the labour market, and notably occupational profiles, influencing VET?

There are manifold changes affecting the occupational structure of employment. Existing jobs are changing and new jobs are emerging, the skill content of which is only just becoming apparent. There are a number of differing perspectives on what is driving both changes in the occupational structure (e.g. task-based technological change) and the changing skill content of existing jobs (technical, organisational, and environmental change).¹⁹ Availability of more highly skilled labour could be influential here too. There are some data limitations at the EU-level in both measuring detailed occupational change and identifying how the VET system has responded – Eurostat and UOE data, for instance, are quite limited in this regard. Accordingly there will be a need to use national data – to be presented in the case studies -

¹⁷ CEDEFOP (2013) *Renewing VET provision Understanding feedback mechanisms between initial VET and the labour market*. CEDEFOP Research Paper No.37. Luxembourg: Publications Office of the European Union

¹⁸ Access to challenging is also very important for skill development while working across the life-course.

¹⁹ Ford, M. (2016), *Rise of the Robots: Technology and the Threat of a Jobless Future*. Oneworld Publications; Autor, D., F. Levy, and R. Murnane (2003), 'The skill content of recent technological change: an experimental exploration'. *Quarterly Journal of Economics*. 118(4) 1279-1333.; Goos, M, A. Manning, and A. Salomons (2011), *Explaining Job Polarization: the Roles of Technology, Offshoring and Institutions*. Center for Economic Studies Discussion Paper 11.34, University of Leuven.

alongside the EU data in order that the degree of detail required in the analysis is achievable. This report is limited to the use of EU data.

3. To what extent are changes in VET based on targeted labour market intelligence, for example on skills needs analysis at national/regional, sectoral or local level)?

The role of information advice and guidance / LMI is important in providing those in the labour market with data, including on the returns to taking various courses (IVET, CVET and non-VET). The extent to which LMI systems are up and running in the EU varies by Member State: while countries such as the Netherlands have, over time, developed sophisticated systems supported by data at a detailed level of disaggregation, other countries are still in the early stages of developing LMI systems. This provides a natural experiment of sorts to look at the way LMI can change VET provision and how institutional arrangements have developed over time to ensure that the supply of skills is better matched to their demand.

4. To what extent is the role and nature of VET influenced by changing policy priorities at national level?

Above, considerable emphasis has been given to understanding the institutional and policy context in which national debates about adapting the VET system – both CVET and IVET - to better meet the needs of the population and economy take place. This is seen as all important in being able to understand how VET responds – and how it could respond better – to the exigencies of the economy and labour market.

1.4 Structure of the interim report

The report is structured as follows. The next section provides an indication of the overall approach to understanding the impact of external factors on VET. This is followed in Section 3 by a description of the economic environment in which change has been taking place in VET systems. Sections 4 to 7 address, respectively, each of the questions outlined above. Finally Section 8 provides a conclusion.

2. Conceptual framework

2.1 The external environment and VET systems

There are a number of external factors that will have implications for any VET system.

- (a) demographic change (including migration);
- (b) the business cycle;
- (c) globalisation / offshoring;
- (d) technical change / digitisation / robotics;
- (e) organisational change within workplaces and within sectors (including sectoral restructuring, etc.);
- (f) seepage from other policy areas (e.g. systems of social protection that use VET as part of their efforts to combat social exclusion, macroeconomic policy, etc.).

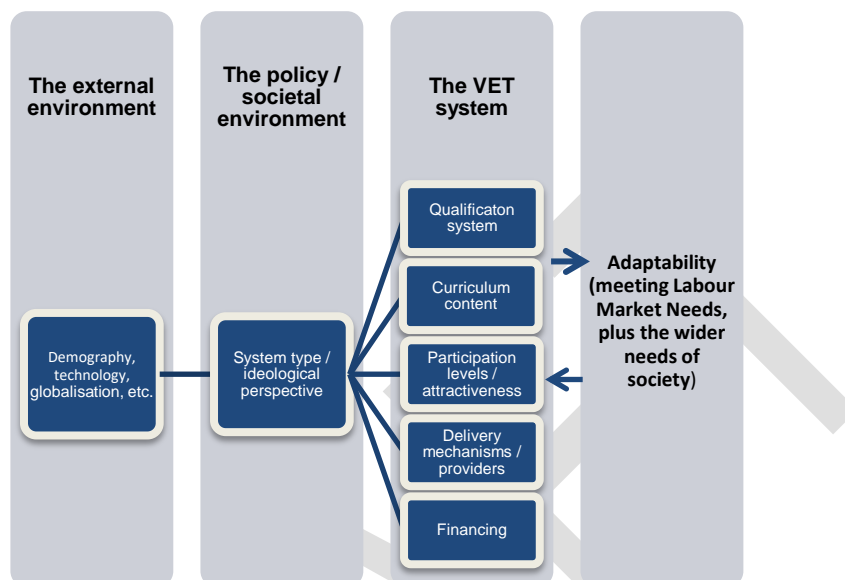
Figure 2.1 outlines how the process of understanding how the external environment potentially affects a VET system. Signals from the external environment will be mediated by the policy / societal norms extant within a country. There are a number of elements to consider here: the prevailing approaches to economic and social policy, the historical development of education and training systems, the value attached to VET, etc. For instance, in England there has been, and continues to be, a market based orientation to developing almost all public policy including the provision of VET. This has tended to allow a large number of players to enter the market – be that for the provision of training or the development of programmes or qualifications – because this increases competition. By turning students into consumers, and providing them with information about the value of investing in different types of VET, it is assumed that the system will be oriented towards developing economically valuable skills.²⁰ But the policy context or lens is not the only one of interest. There are societal norms to consider as well. Perhaps the most pertinent here is the relative esteem in which VET is held by employers, individuals, and policy makers as this might affect the policy priority actually attached to ensuring that the VET system is responsive to the external environment compared with, for example, other sectors of the education system. Funding levels can be an indication of the policy prioritisation within a country.

There is then a question of what actually constitutes the VET system within a country. In other words, what are the constituent parts of the system that are expected to respond in some way to the external environment? There are a number of elements to look at here – as indicated in Figure 2.1 – from the perspective of understanding how they are configured to respond to developments in the external environment and how have they actually behaved in practice. This will be strongly related to the policy context as described above as it is likely to have had an influence over the configuration of the system and the way in which actors behave within it. The policy context is also likely to determine which actors are influential within the system and the actions they take. From here, it is possible to gauge the extent to which the VET system responds in a way which brings about effective labour market outcomes; that is, the production of economically valuable skills that will serve individuals,

²⁰ Gambin, L. and Hogarth, T. (2016) *Conceptualisation of the external factors shaping vocational education and training: an example drawn from England*. Working Paper

employers, and the State as a whole, over the short- and long-run (i.e. providing employment, combatting skill mismatches, promoting career adaptability, stimulating productivity and competitiveness, etc.). Of particular importance is understanding the feedback mechanisms in place to ensure that the VET system is responsive to labour market needs.²¹

Figure 2.1 **Schematic outline of how the external environment affects the VET system**



2.2 Developing a general approach

Countries are, more or less, facing the same set of external factors placing pressure on their VET systems. This is perhaps less so with respect to demographic trends (i.e. with respect to ageing, levels of in-migration), but the other factors are relatively common across countries. Of particular interest to this study are:

1. demographic change (ageing, migrant flows, etc.);
2. globalisation / offshoring;
3. technical change / digitisation / robotics;
4. organisational change within workplaces and within sectors (including sectoral restructuring, etc.) that affects the structure of work; and
5. the outflow from other policy areas (e.g. systems of social protection that use VET as part of their efforts to combat social exclusion, macroeconomic policy, etc.) that affect the demands made of the VET system.

In many respects, the above can be considered to be long-term structural shifts in the economy that give rise to a number of demands on VET systems. It is expected that these factors will result in changes being made to various elements of the VET system, including:

²¹ CEDEFOP (2013) *Renewing VET provision Understanding feedback mechanisms between initial VET and the labour market*. Cedefop Research Paper No.37. www.cedefop.europa.eu/files/5537_en.pdf

- the means used to anticipate emerging skill needs;
- curriculum and course design;
- the means used to deliver skills (including both teaching / learning methodologies, and the emphasis placed on work based learning);
- funding levels and mechanisms;
- the use of markets to direct or nudge behaviour in relation to VET; and
- the means used to raise participation levels (especially in particular types of courses or field of study where demand is in danger of not being met; the role of labour market information systems and careers guidance, etc.).

Alongside the longer-term structural shifts there are shorter-term, frictional exigencies that affect VET provision and VET policy. The most obvious is the business cycle and the effect it has upon the demand for skills and labour. It is readily apparent that the sovereign debt crisis at the end of the 2000s continues to cast a shadow over the EU's economy, especially with respect to the relatively high levels of youth unemployment that still prevail in many countries. The impact the crisis had upon government finances resulted in there being constraints on public investment in VET. This is certainly evident in countries such as the UK where the budget available for publicly funded VET has been substantially reduced in real terms over the past five years.²² So whilst one may want to understand the impact of more structural external factors, it is difficult to disentangle this in practice from whatever political / economic needs prevail at any one point in time.

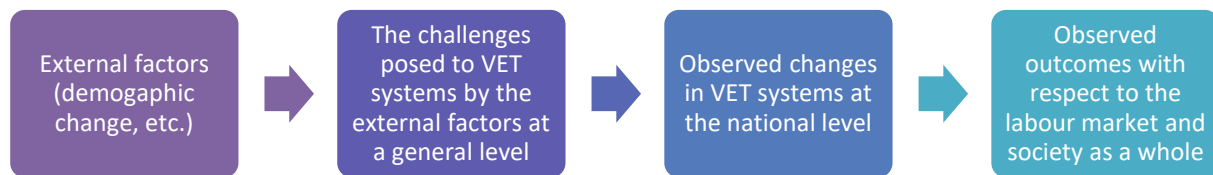
Both structural and frictional changes in the external environment will be mediated by a number of factors. These include:

- national policy priorities and the way in which these are enacted (e.g. the preference for the use of market mechanisms in some countries versus a more co-ordinated social partner based approaches); and
- path dependency in VET. Just as countries exhibit a particular approach to policy making in general - such as the preference for market based approaches in the UK and Ireland and some eastern European countries – there is also the historical development of the VET system to consider. The way in which they react to structural changes will be in part determined by the way in which they are currently institutionally structured and the behaviours that have developed within those structures.

Schematically, it is possible to outline how external factors affect events as shown below (see Figure 2.2).

²² Wolf, A. (2015) *Heading for the precipice: Can further and higher education funding policies be sustained?* London: University of London King's College <http://www.kcl.ac.uk/sspp/policy-institute/publications/Issuesandideas-alison-wolf-digital.pdf>

Figure 2.2 Schematic outline of approach to the study



One can broadly set out the general challenges posed to VET systems by each of the external factors of interest. Where the variation exists is with respect to country approaches (the third box from the left in Figure 2.2). It is here that one can begin to understand how different types of VET system accommodate external factors and the implications of this for meeting the demand for skills in the labour market (both now and in the future) and, more generally, in providing skills to the population as a whole that contributes to fulfilment outside of work (e.g. with respect to social inclusion). In general, the approach is one of moving from the general to the specific to look in detail at how countries have responded, differently, to a common set of external factors and based on this analysis obtain an indication of the resulting outcomes. The differences are likely to emerge with respect to the way in which national policies – and the historical development of the VET system – determine responses to common issues. How Germany responds to, for example, ensuring that technical change is reflected in the content of training delivered in the dual system is likely to be very different to that in, for instance, England that has a very different type of apprenticeship system and approach to VET provision or, for example, Latvia that has relatively low participation in IVET an industrial structure that differs markedly from that of either Germany or England.

2.3 Conclusion

Outlined above is the general approach that is being adopted to analysing the way in which external factors influence the VET system in countries. The above has set out a general approach to analysing how the external environment will affect the structure and provision of VET. As Section 1.3 points out, there are specific issues that are of interest to the study on which this report is based which necessarily means reining in the scope of the analysis so that it is targeted on those aspects most relevant to the study.

It will be the country case studies that will provide the detailed information about the way in which external factors have been accommodated or not, given that it is at this level that it is possible to observe the process of policy making and the factors that influence it in practice. There is a question about which countries to include as case studies so that it is possible to generate as much insight as possible into the range of activity taking place across the EU and thereby provide the basis for producing a synthesis that is relevant at the EU-28 (+2) level. The next section provides a summary based on quantitative indicators of the relationship between external factors and various features of the VET systems found across Europe.

3. External factors influencing vocationally oriented education and training at EU and national level

3.1 Introduction

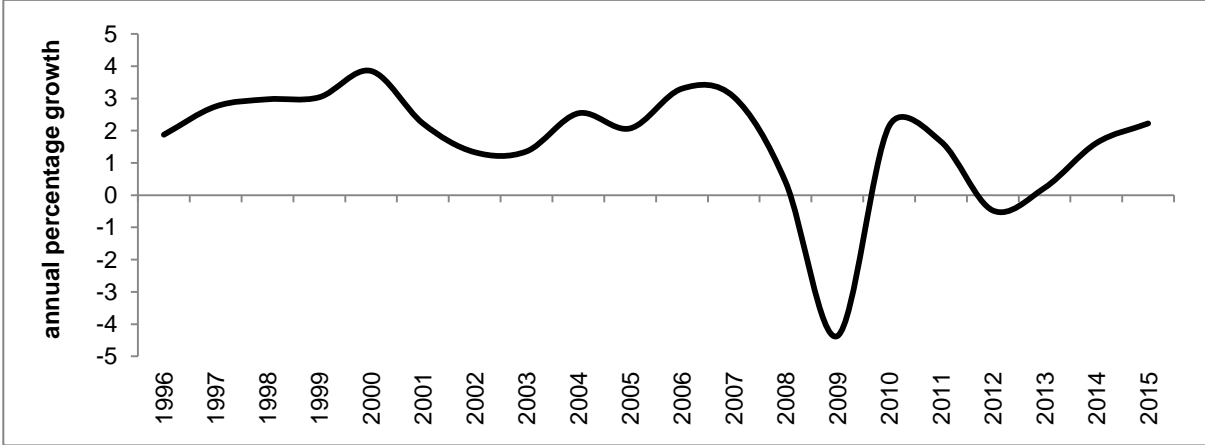
This chapter explores the external factors and drivers that form the economic, educational and societal context characterising countries and which are likely to influence the forms and funding of vocational training and education (VET). In a study looking at how the nature of VET systems is changing, it is useful to try and look at the direction of trends, rather than merely giving a historical description up to the recent past which is characterised by the latest release of data. The presentation here considers a variety of statistical indicators in relation to the external factors affecting the provision of VET in the EU. Important here is the Europe 2020 strategy in the EU agenda for growth and jobs for the present decade adopted by the European Council on 17 June 1990.²³ It highlights smart, sustainable and inclusive growth as a means to overcome structural economic weaknesses, improving Europe's competitiveness and productivity in a market economy that is sustainable. VET systems will need to accommodate this but much else besides in adapting to a changing socio-economic environment. By way of context, this section looks at how the economy and employment have developed in Europe over the past 20 years. This is the broad external environment within which VET systems have had to operate and adapt.

3.2 The Business Cycle

At an aggregate level the business cycle will determine the overall level of labour demand and thereby skill. It is readily apparent from Figure 3.1 below that the EU economy has been on something of a rollercoaster ride over recent decades. As will be noted below, because of its impact on employment levels, especially youth unemployment, it can place acute pressures on VET systems to respond.

²³ European Council conclusions, 17 June 2010, EUCO 13/10, Brussels, 2010.

Figure 3.1 Year on year growth in real GDP in the EU-28, 1995 -2005



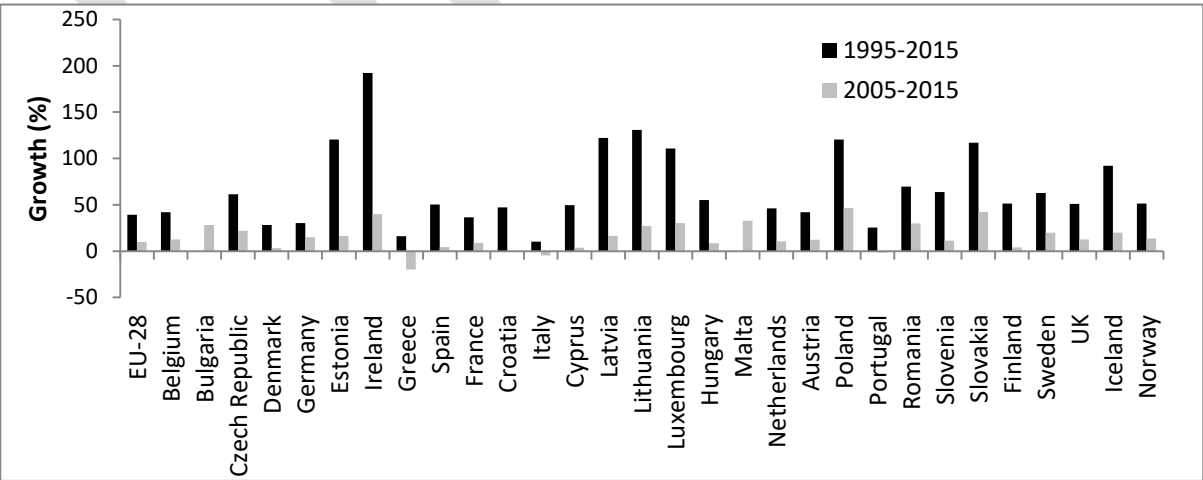
Source: Eurostat GDP and main components (output, expenditure and income) [nama_10_gdp]

The variation in growth rates across the EU is marked. This can be discerned from looking at long-term growth rates by country (see Figure 3.2) and, equally, from the sharpness of the cycle judging by movements in real GDP growth rates over the period of the financial crisis (see Figure 3.3). The principal mechanism through which these changes affect VET will be via employment demand. But there are a related set of issues that need to be considered too:

- there is often a short- to medium-term sectoral impact typically on the manufacturing and construction sectors during recessionary and recovery periods;
- skills anticipation becomes increasingly complex where the external environment makes skills forecasting especially difficult; and
- the resources for VET can become reduced as part of governments’ overall strategies to reduce public spending.

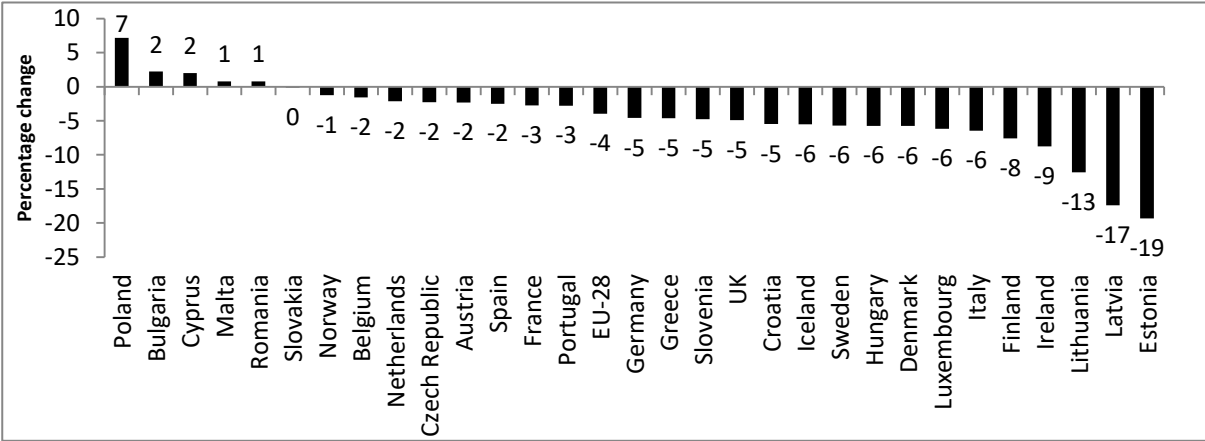
The above, though short-term in some respects, do have a cumulative bearing on VET systems’ need and capacity to respond to the external environment.

Figure 3.2 Long-term percentage change in real GDP, 1995 - 2015



Source: Eurostat GDP and main components (output, expenditure and income) [nama_10_gdp]

Figure 3.3 Percentage change in real GDP, 2007-2009

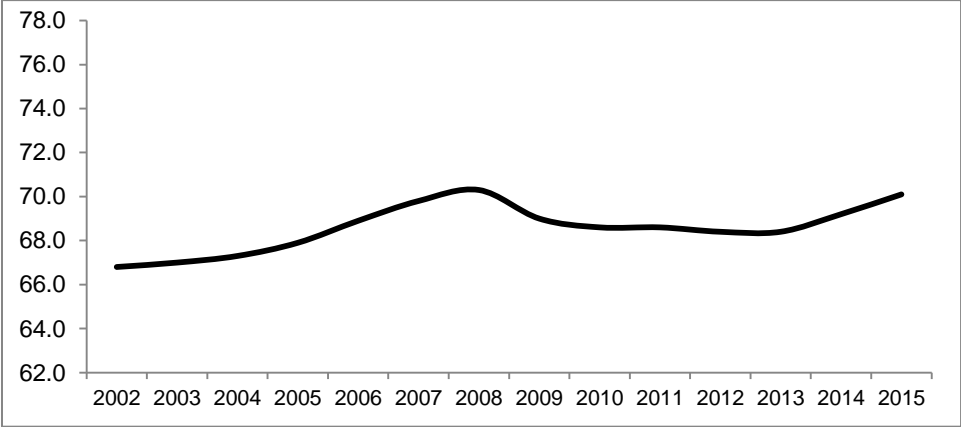


Source: Eurostat GDP and main components (output, expenditure and income) [nama_10_gdp]

3.3 Employment

After a steady increase over many years, the employment rate in the European Union for citizens aged 20 to 64 years reached a peak in 2008 of 70.3 per cent (see Figure 3.4). In the years following, employment rates declined, reflecting the impact of the economic crisis on the labour market. In 2013, the employment rate fell to 68.4 per cent, before increasing in 2014 and in 2015 was 70.1 per cent which is almost at its 2008 level. In relation to its EU28 employment target of 75 per cent the gap reduced in magnitude by 4.9 percentage points.

Figure 3.4 Employment rate (%) age-group 20 to 64, EU-28, 2002-2015



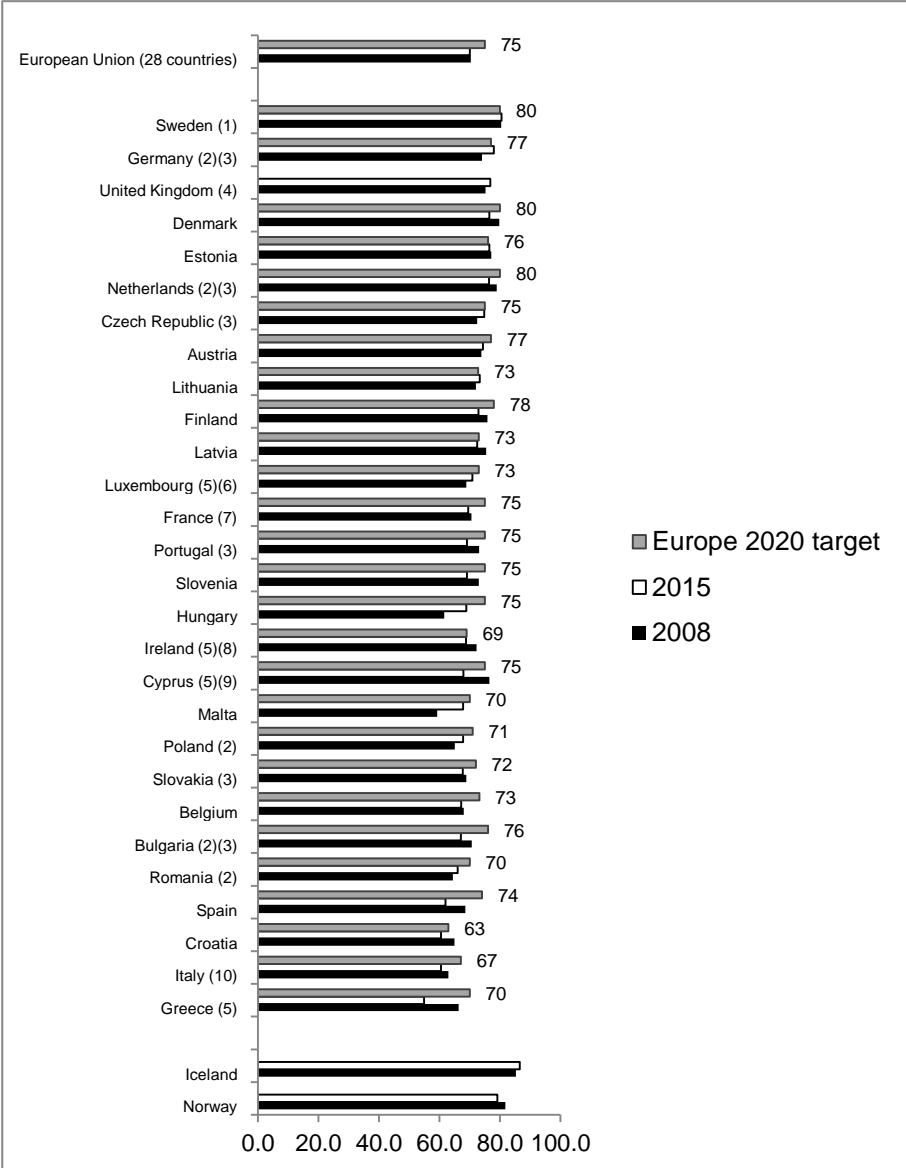
Note: 2020 target is for 75% of the population aged 20 to 64 to be employed by 2020.
 Source: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=ifsi_emp_a&lang=en

The decline in employment rates from 2009 to 2013 largely affected young people, citizens with low levels of educational attainment, and non-EU nationals (see Figures 3.5 to 3.7). Older people (55 to 64 years old) in the workforce were also at risk as the employment rate for their group grew but remained lower than that for younger people. Gender differences in employment became smaller in the years since 2002 with the largest gap of 14 percentage points occurring for those in age group 30 to 34 years. These age-related gender gaps may be considered to be a combination of a cohort effect for women who did not participate in the workforce moving up the age distribution, or a lack of care facilities for grand children or dependant older adults. The EU employment package 'Towards a job-rich recovery' makes

investment in skills a priority, including improvements to the monitoring of skill needs and enhanced cooperation between the workplace and educational providers. Specific measures targeting young people include support for the transition to work through youth guarantees, quality traineeships and activation measures for youth mobility. One effect of these measures is to extend the period young people are held in transition to permanent employment, especially in countries with high levels of youth unemployment.

The employment rates across the 28 Member States typically show a north-south divide (ranging from 54.9 per cent to 80.5 per cent, see Figure 3.5) both at a country level and at the level of regions with many of the highest performing countries also showing high regional employment rates (e.g., Germany, Sweden, the UK, Netherlands and Austria). Countries with employment rates under 65 per cent included Spain, Croatia, Italy and Greece. The employment rates for the EFTA countries were high with Iceland's exceeding the EU Member States.

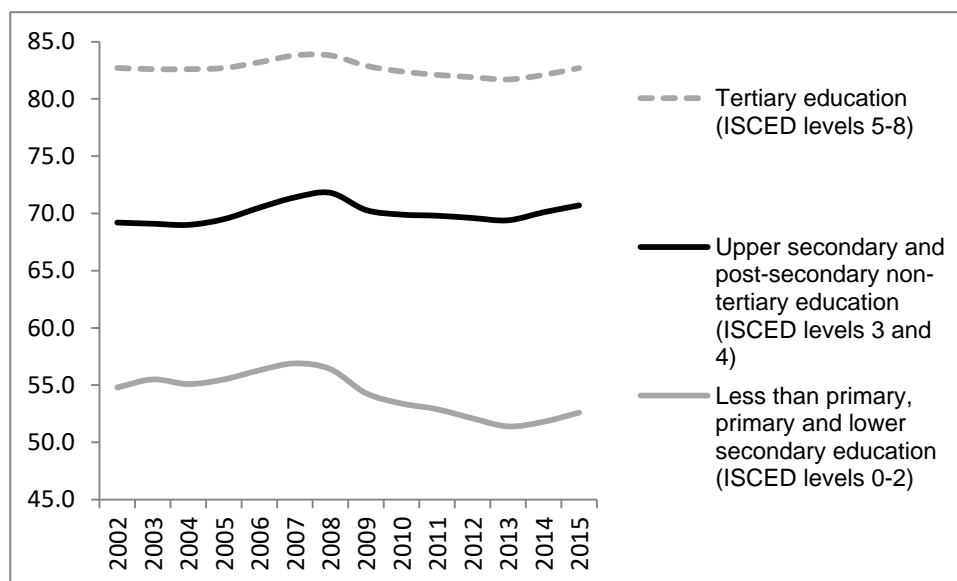
Figure 3.5 Employment rate (%) age-group 20 to 64, by country, EU-28, 2008 and 2015



Source: Eurostat (online data code: t2020_10)

Differences in levels of educational attainment contribute to the variation in employment rates. In general, more highly educated people have higher employment rates, 82.7 per cent for tertiary graduates compared with 52.6 per cent for people with at most lower secondary education in 2015. The latter group showed the largest impact of the crisis with a steeper decline in employment rates till 2013 than the other more educated groups (see Figure 3.6).

Figure 3.6 **Employment rate (%) age-group 20 to 64, by educational attainment level, EU-28, 2002-2015**



Note: Breaks in time series in 2005 and 2014 (switch from ISCED 1997 to ISCED 2011).

Source: <http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&plugin=1&pcode=tsdec430&language=en>

Changes in the demographic structure of the EU population in the long-term emphasise the necessity of increasing employment rates. Low fertility rates and increasing life expectancy, against a back-drop of a growing population suggest a shrinking EU labour force with a large proportion of economically inactive citizens. Increased employment rates, in particular for women, older workers and younger persons, will be needed to compensate for an expected decline of the working-age population (20 to 64 years old) by 2020 of 4.3 million people. For the majority of Member States (19 countries) including Italy, Spain, Ireland and the Netherlands, an increase in the employment rate for older people in the years 2006 to 2015 corresponded to a decrease in the employment rate for younger people. Therefore, to raise the overall employment rate, policies which are aimed at increasing the employment rate for older people must not be offset by similar or larger increases in youth unemployment.²⁴ With youth unemployment remaining close to historical high-levels it is essential to implement policies which allow young people to enter the labour market, by improvements in the relevance of education, enabling secure transitions from education to work. VET has an important role to play in this context. The major driver, however, for skill development for people entering the labour market is access to challenging work. If work-relevant VET is not followed by challenging work the skills developed in VET may not only not be consolidated, they may actually decay through lack of use.

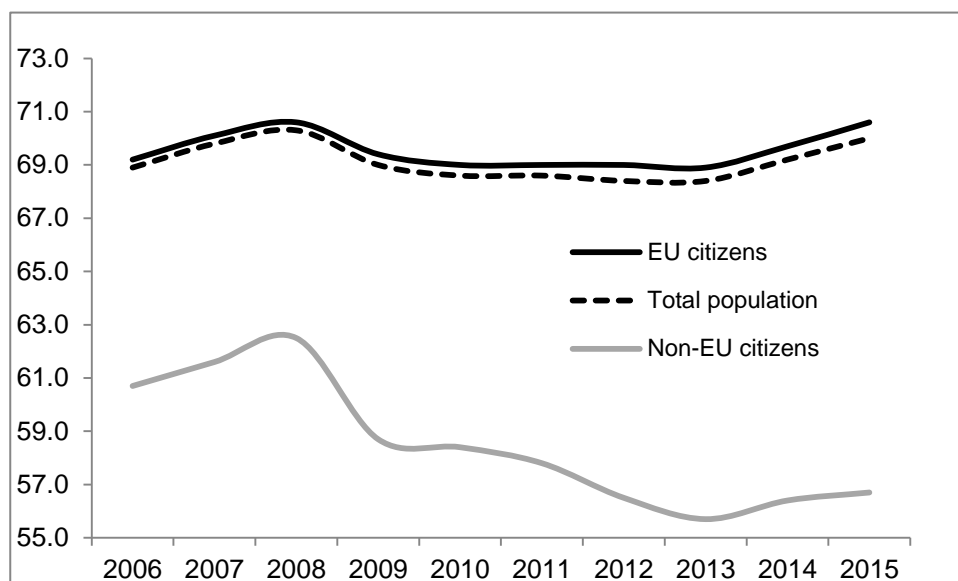
Economic migration will become increasingly important to addressing Europe's shrinking labour force and shortages in skills. The European Commission estimates that in the absence of net migration the working age population can be expected decrease by 12 per cent in 2030 and by 33 per cent in 2030.²⁵ Workers from countries outside the EU show considerably lower employment rates than EU citizens (see Figure 3.7) and they tend to

²⁴ Eurostat (2016) Smarter, greener, more, inclusive? Indicators to support the Europe 2020 strategy, (2016 edition), Publications Office of the European Union, Luxembourg.

²⁵ European Commission (2010). *An Agenda for new skills and jobs: A European contribution towards full employment*, COM(2010) 682 final, 2010 (p. 9).

move towards jobs which are often precarious: low-skilled, insecure, temporary, etc. They also tend to be the first to lose their jobs during the economic crisis.

Figure 3.7 **Employment rate (%) age-group 20 to 64, by citizenship, EU-28, 2006-2015**



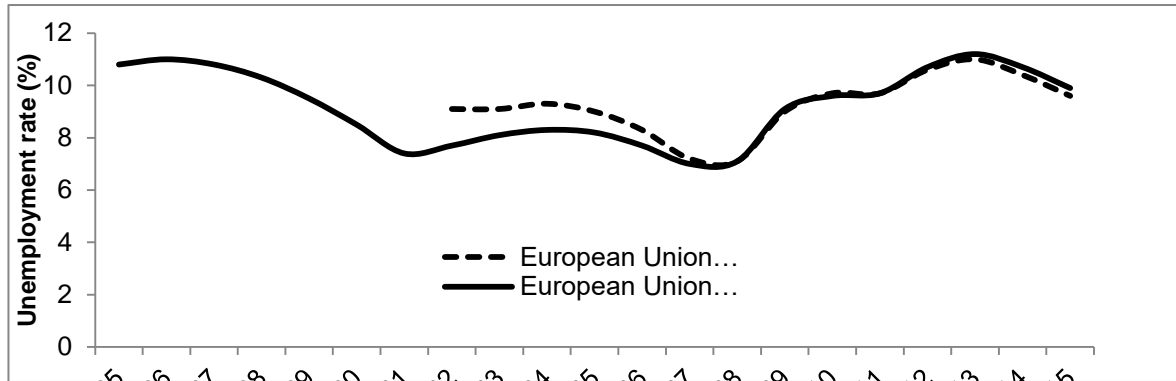
Source: http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=lfsa_ergan&lang=en

The EU employment package 'Towards a job-rich recovery' highlights the importance of migration for addressing expected skill shortages to address deficits in qualified job-specific skills. The flagship initiative 'An Agenda for new skills and jobs' proposes a range of measures to anticipate and match labour market and skill needs including labour market observatories to bring labour market actors together with education and training providers, as well as enhancements to geographical mobility across the EU, and better integration of migrants, crucially including better recognition of their existing skills and qualifications.

3.4 Unemployment and Labour Demand

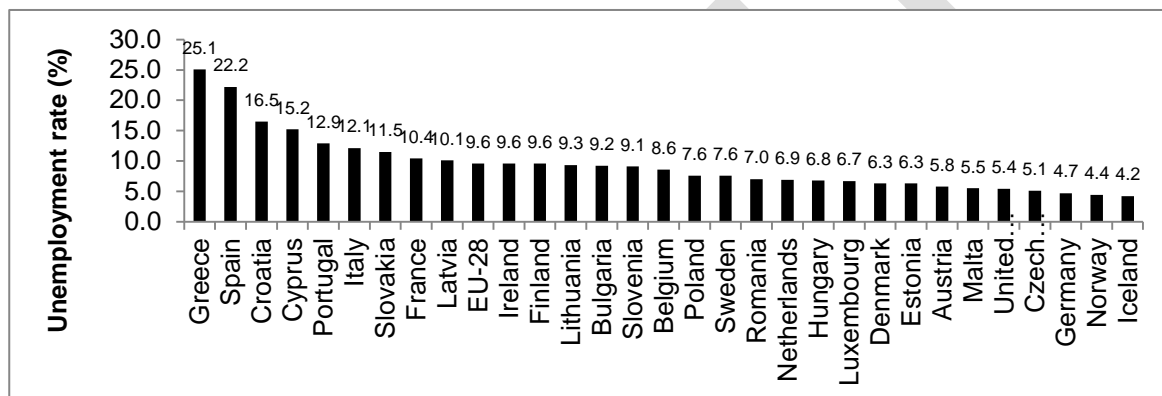
Figure 3.8 shows the unemployment rate across the EU in the period since 1995. The EU economy has had a prolonged period of growth over the latter half of the 1990s and the early part of the 2000s which was reflected in a fall in the rate of unemployment (see Figure 3.8). What is perhaps notable about the trend in unemployment is that given the depth of the recession in 2007-2009, unemployment rates did not rise as high as previous recessions would have suggested. This may well reflect effective policy responses and a tendency for employers to hoard skills that they might have been concerned about recruiting when the economy recovered. Of course, not every country escaped as lightly as the data in Figure 3.8 might suggest; variations by country are large as shown in Figure 3.9.

Figure 3.8 Unemployment rate in Europe, 1995 to 2015



Source: Eurostat Unemployment rates by sex, age and nationality (%) [lfsa_urgan]

Figure 3.9 Unemployment rate by country, 2015



Source: Eurostat Unemployment rates by sex, age and nationality (%) [lfsa_urgan]

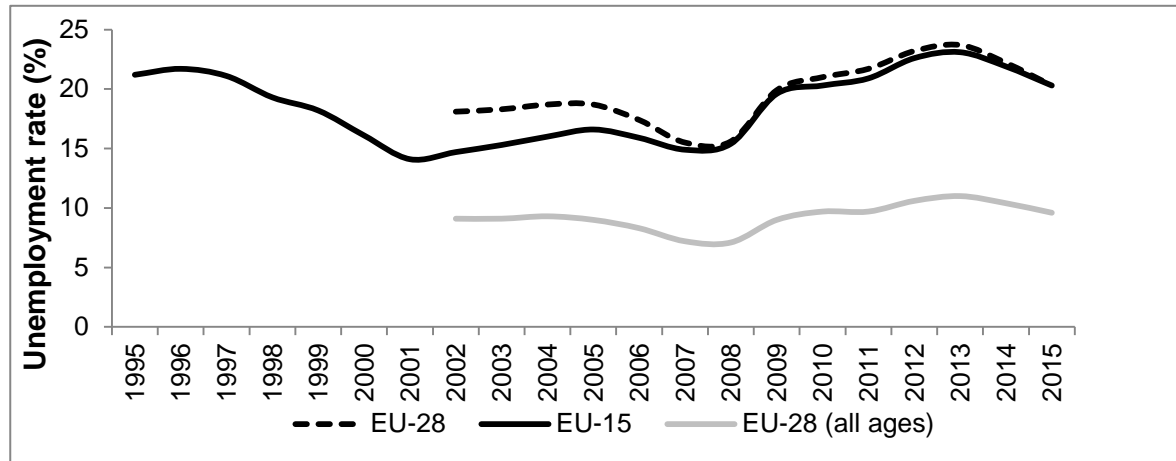
It is known that downturns in the economy adversely affect young people in the labour market. A process of ‘bumping down’ typically occurs: people looking for work will be prepared to take jobs for which they are over-qualified and while those who would normally have taken those jobs are squeezed out.²⁶ It also poses problems for young people as they are in comparison with experienced workers looking for employment, less well placed simply because they lack experience. Figure 3.10 shows the youth unemployment rate over time. It is around twice that of the labour force overall and showed a marked rise following the recession in 2007- 2009. Across the EU as a whole it has risen to levels in the post-recession period similar to those observed over the mid-1990s.

Again the variation between countries is substantial as shown in Figure 3.11. Around half of all youths in Greece were unemployed in 2015 compared with 7.2 per cent in Germany and 8.8 per cent in Iceland. In some respects the danger facing young people in some countries is that they will be unable to find the jobs and forms of career progression that their counterparts ten or twenty years previously enjoyed. In this way their long-term economic prospects are affected. Something similar was observed in the early 1990s in Japan when that country’s economy was stagnating. The generation of young people who graduated in

²⁶ Reder, M. (1955). ‘The Theory of Occupational Wage Differentials’. *American Economic Review*. Vol. 45, no. 5, 833-852.

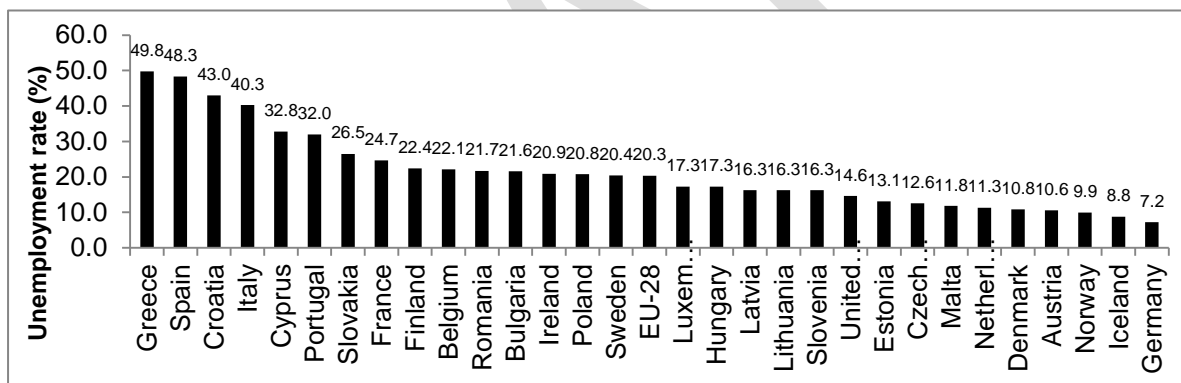
the early 1990s did less well than those who graduated before and after.²⁷ The implications of this for VET systems is a little uncertain; over-time if people are unable to obtain a return from various forms of VET it can send a powerful signal to the next cohort of would-be VET students.

Figure 3.10 Youth unemployment rates, 1995 – 2015



Source: Unemployment rates by sex, age and nationality (%) [Ifsa_urgan]

Figure 3.11 Youth unemployment rates in Europe, 2015



Source: Unemployment rates by sex, age and nationality (%) [Ifsa_urgan]

The impact of weak economic conditions on VET systems is a complex one. Employers' decisions to continue hiring trainees / apprentices will be determined in part by their views of about the future flow of benefits that are likely to follow from making an investment in these forms of IVET.²⁸ Arguably the depth of the recession at the end of the 2000s and the sluggish growth that followed is a disincentive for employers to train new workers, unless a system can be found that minimises the employers' financial exposure to the risks of training or acts to share the costs of training between all employers (e.g. training levies) and the State. There is evidence that continuing training might also be affected in recessionary

²⁷ Reiko, K., (2006). 'Youth Employment in Japan's Economic Recovery: 'Freeters' and 'NEETs', in *Japan Focus*. Available at: <http://www.japanfocus.org/-Kosugi-Reiko/2022>

²⁸ Brunello, G. (2009) 'The effect of economic downturns on apprenticeships and initial workplace training: a review of the evidence', paper prepared for the Education and Training Policy Division, OECD.

periods both quantitatively and qualitatively: i.e. it tends to be essential, basic skills training that employers are willing to continue funding.²⁹ Individuals, however, might be more prepared to invest in VET – or any kind of education for that matter – in order to improve their chances in a labour market where there is an excess supply of labour. In such instances, the challenge for the skills system is to identify those courses / programmes that will provide the best return to the individual making the investment. Hence the emphasis now placed on skills anticipation processes that incorporate a forward looking aspect.

3.5 Conclusion

Over the past two decades the EU economy has faced some fairly sharp movements with respect to output and employment. It has also been a period, as will be explored in greater detail in the following sections, in which demographic and technical change have continued apace as has the process of globalisation, all of which have implications for the skill structure of employment and the demands made of the VET system. Peradventure a situation has been arrived at where the demand for labour (and skill) is relatively weak but where more is being asked of the VET system in being able to remedy this situation. If only the VET system – and the education system more generally – could better meet the emerging demands of the labour market, then this would provide a much needed fillip to the economy and employment. But, as will be revealed, this is asking a great deal of any VET system. The VET system can try to anticipate emerging demand but it has relatively little, if any, influence over the nature of that demand. Some countries have much more established systems than others (especially in the north of Europe) and this may provide them with more effective means of responding to the external market compared with, for example, countries where the VET system is still a relatively small part of the overall education system. Again this is something for further investigation in the case studies.³⁰

²⁹ Mason, G. and Bishop, K. (2010) *Adult Training, Skills Updating and Recession in the UK: The Implications for Competitiveness and Social Inclusion*. Centre for Learning and Life Chances in Knowledge Economies and Societies at: <http://www.llakes.org.uk>.

³⁰ See also Section 5 of this report.

4. To what extent are demographic developments influencing the need for and provision of VET?

4.1 Demographic change in Europe

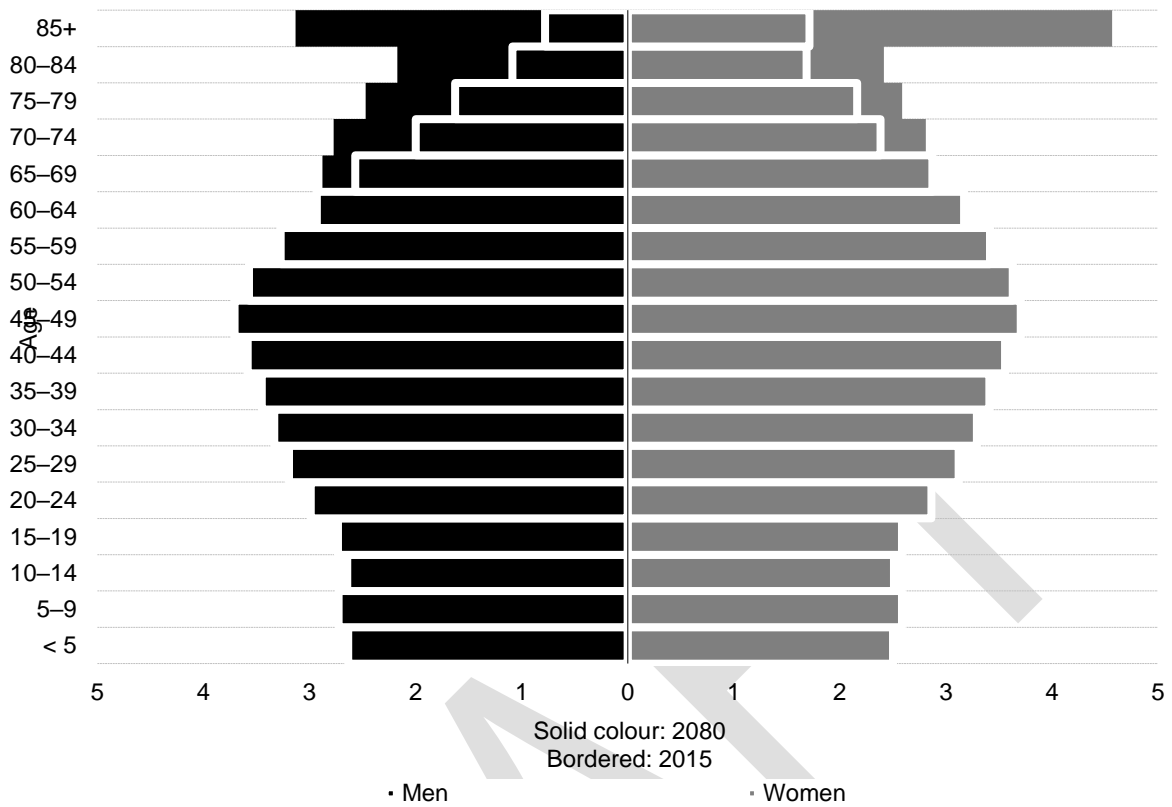
Demographic trends pose a variety of challenges to VET systems across Europe, something that has already been alluded to in the section on employment. In particular there are a number of elements that have implications for VET systems:³¹

- increased longevity – and the pressures on pension schemes – will require people to work longer;
- with an ageing population there is likely to be an increase in demand for people to work in jobs that are related to ageing (i.e. health and social care) and also in the production of goods that an ageing population will require (e.g. ambulatory aides, etc.); and
- given changes in the dependency ratio, unless it proves possible to find new sources of labour supply (e.g. via migration) or a means to substitute technology for labour, that there will be labour / skill shortages.

Figure 4.1 shows how the age structure of the population is changing across the EU. In particular, the relatively large percentage change in people aged over 70 years of age by 2080 is notable. Figure 4.2 shows the extent of variation across Europe with respect to changing age structures on a country by country basis. Clearly some countries are ageing faster than others, though it is common phenomenon across the EU.

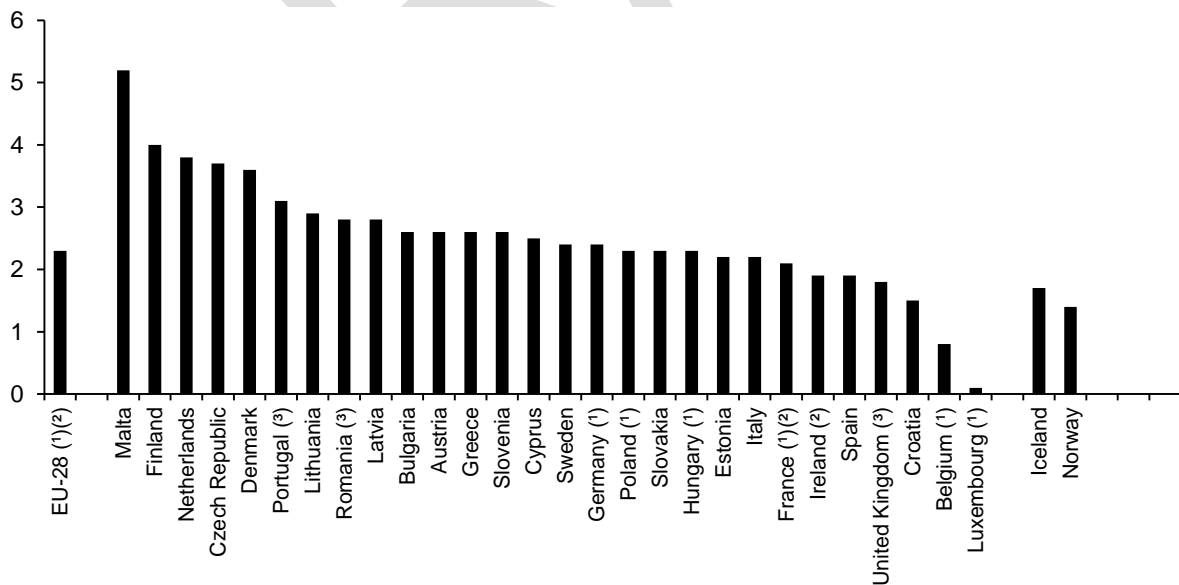
³¹ BIS Skills Foresight (2012) What are the supply (workforce) and demand (product) implications of an ageing society?. London: Department for Business Innovation and Skills. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/283896/ep22-ageing-society-implications-manufacturing.pdf

Figure 4.1 Increase in the share of the population aged 65 years or over between 2005 and 2015 (percentage point change)



Source: Eurostat (online data code: demo_pjanind)

Figure 4.2 Increase in the share of the population aged 65 years or over between 2005 and 2015 (percentage point change)



Source: Eurostat (online data code: demo_pjanind)

As noted above the demographic trends outlined above will have a number of implications for VET, not least of which is the need for lifelong learning. If people are to spend longer-

periods in the labour market then it is unlikely that the skills they obtained in their initial VET will carry them through potentially 50 or more years in the labour market. Hence the need for lifelong learning to prevent skills obsolescence occurring. It is likely that specific skill needs will arise as a result of an ageing society including an increased demand for health and social care services, but there could also be an increased demand for goods that provide assistance to older people (e.g. a range of medical technology devices) that could increase demand for people to work in manufacturing (if the goods are produced in Europe).

Given changes in the old-age dependency ratio there is a question about the extent to which labour shortages could arise given population projections. These can be offset to some extent by people working longer. It is also apparent that migration has proved to be one means of increasing labour supply (both intra-EU migration and that from outside). This creates its own set of demands on the VET system not least with respect to recognition of qualifications and competences, and for language proficiency. It can also create inter-country imbalances within the EU if a particular age-cohort and / or particular skill groups are more likely to leave to work in another country.

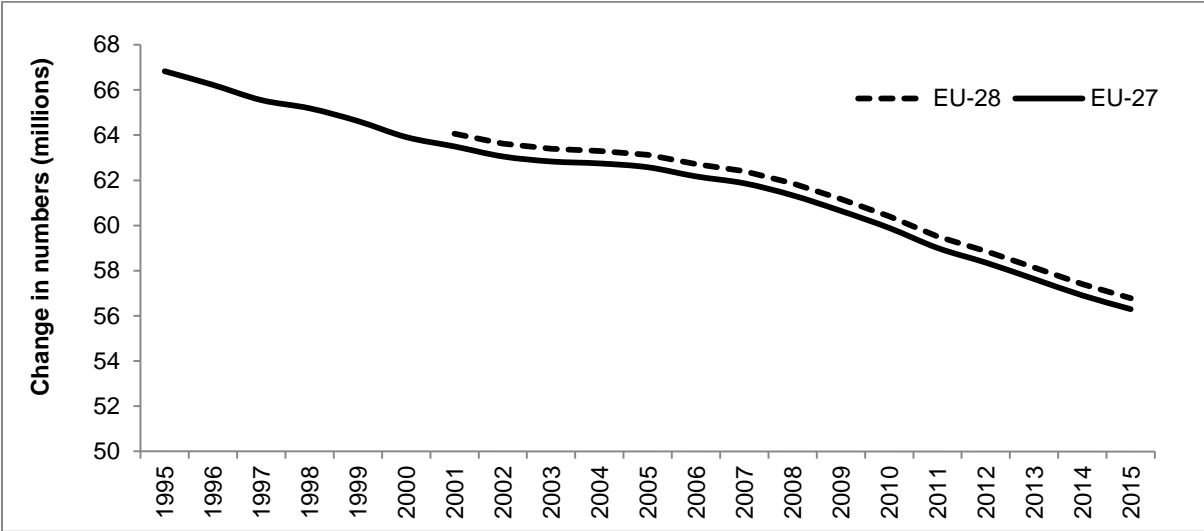
4.2 The shrinking supply of young people available to take part in IVET

Perhaps one of the more obvious implications of demographic change for VET is with regard to the number of young people who are available to take part in VET. Projections produced by Cedefop suggested that in the EU-27 the number of students participating in pre-vocational and vocational courses at ISCED levels 2-5 was expected to fall from 14.2 million in 2005 to 11.9 million in 2030. At ISCED level 3 – which is typically associated with the level at which IVET takes place – the projected decline was especially marked.³²³³ In part, participation in VET is determined by changes in population. Figure 4.3 shows the fall in the number of people aged between 15 and 24 years over the period 1995 to 2015. In other words the population from which many IVET participants will be drawn. In the EU-27 this population group shrank by 10.5 million people (a change of 16 per cent).

³² Cedefop / NIDI (2009) *Implications of demographic change for vocational education and training in the EU*. Luxembourg: Publications Office of the European Union

³³ These projections are relatively old. On the other hand participation levels in VET have been relatively stable since the projections were produced so they may still have some credence. The projections are provided to illustrate the way in which participation in VET is sensitive, amongst other things, to demographic change.

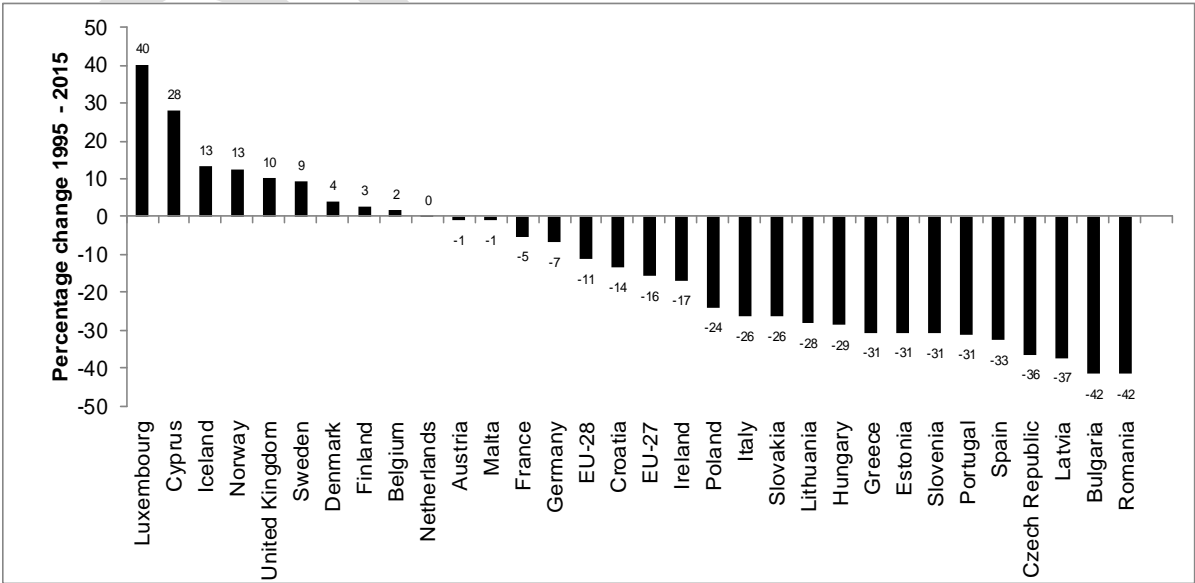
Figure 4.3 Change in the total population of 15 – 24 year olds in the EU 1995 to 2015



Source: Eurostat population statistics

The decline in the EU's youth population, as shown in Figure 4.3, was not evenly spread out across member states. The projections produced by Cedefop indicated that it was in Germany and newer Member States that the number of VET students at ISCED 2-5 was likely to decrease most by 2030 (in total by 1.7 million). In absolute numbers Germany and Poland were expected to have the largest decrease by 478 000 and 500 000 respectively. As Figure 4.4 demonstrates, the change in the number of population of the group from whom IVET participants is most likely to be drawn varies substantially. The eastern and southern member states experienced relatively high falls in the number of young people, whilst the northern member states showed growth (in part as a result of in-migration from elsewhere in the EU).

Figure 4.4 Change in the population of people aged 15 to 24 years in the EU 1995 to 2015



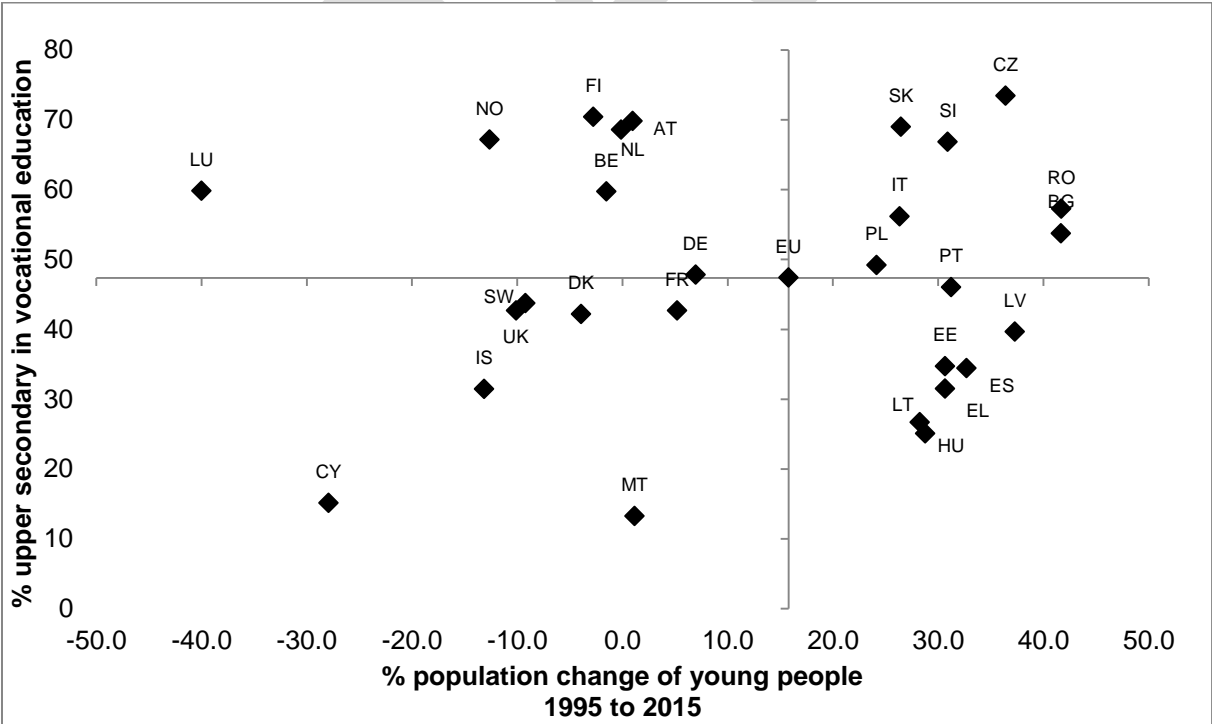
Source: Eurostat population statistics

Of interest is the observed differences in the relative attractiveness of VET set against the context of demographic change. In Figure 4.5 countries are plotted according to the percentage change in the number of young people (aged 15 to 24 years) between 1995 and 2015 and the percentage of upper secondary students participating in the vocational pathway. It shows the extent of the demographic challenge facing IVET systems. It is possible to distinguish between:

- A: where there are relatively low levels of VET participation and a declining population of young people – e.g. CY, MT, IS and the UK;
- B: where there are relatively high levels of VET participation and a declining population of young people – e.g. LU, NO, FI, BE, NL, and AT;
- C: where there are relatively low levels of VET participation and an increasing population of young people – e.g. LT, EE, HU, EL, ES, and LV; and
- D: where there are relatively high levels of VET participation and an increasing population of young people – e.g. SK, SI, CZ, IT.

Arguably the challenges facing the systems in the cases of A and B above are most challenging though for different reasons. In the case of A, the challenge of persuading young people to participate in VET may be intensified. And in the case of B, there may be a challenge of persuading a declining cohort of young people to continue taking the VET option (especially if the change in cohort size places pressures on VET resources).

Figure 4.5 **Demographic change and VET participation in Europe: percentage change in number of people aged 15 to 24 years 1995 to 2015 and participation in vocational upper secondary education in 2014/2015**



Source: Population on 1 January [demo_pjangroup] and pupils enrolled in upper secondary education by programme orientation, sex, type of institution and intensity of participation [educ_uoe_enrs04]

4.3 Skill needs for an ageing population

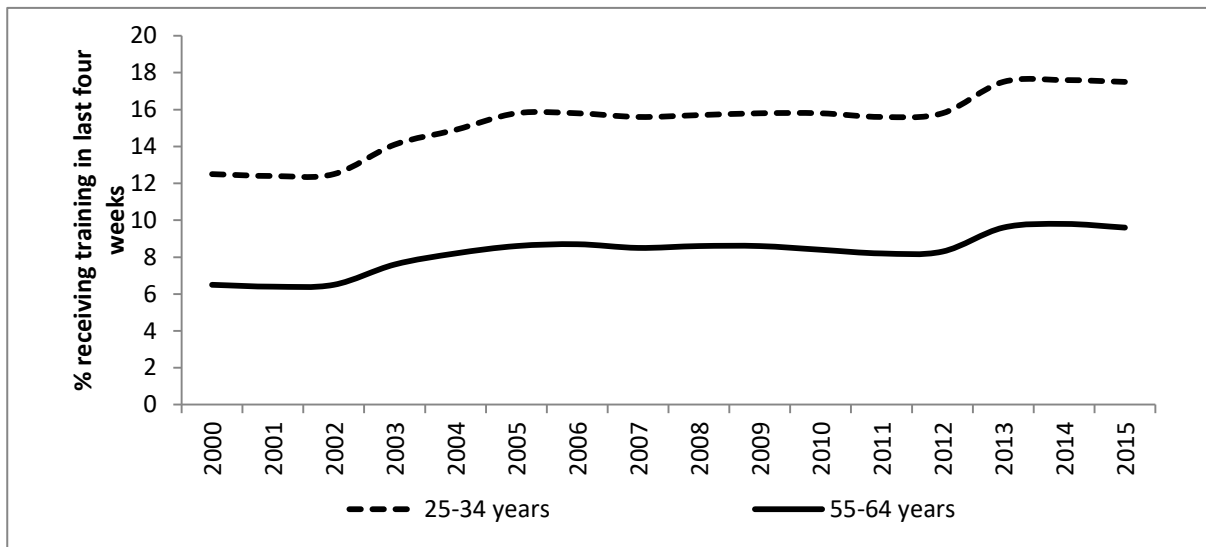
The influence of demographic change is seen not just with respect to the size of the youth cohort and the decisions they make regarding their educational choices. There is also a need to consider the skills needs associated with an ageing population. There are two inter-related elements to consider here. First, is access to lifelong learning, and the second is the potential for skill shortages to emerge as a consequence of high levels of replacement demand resulting from retirements. Much has been written about skills obsolescence that arises from organisational and technical change.³⁴ It is anticipated that given increased life-expectancy and the pressures this places upon the financing of pension systems that people will be increasingly expected to spend longer in the labour market. This requires the state, individuals, and companies to invest in lifelong learning. Typically the state picks up the cost of lifelong learning through active labour market policies that assist people re-entering employment (c.f. the flexicurity debate).³⁵ In some countries, for example, apprenticeships have been introduced for adults.³⁶ There are, however, a range of documented barriers to older people taking part in vocational training relating to, amongst other things, a reluctance of older people to participate in training sometimes reflecting their anxieties about their capacity to learn, and a reluctance by employers to invest in the training of workers where there the return on that investment may be lower compared with younger people given the expected number of years over which that training might be obtained. To some extent age discrimination legislation tackles the issue of giving older people access to training, but it is apparent that there are large differences between the participation of older and younger people in lifelong learning (see Figure 4.6). The gap between their participation rates would appear to be constant over time even though participation levels have steadily risen over the past 15 years or so.

³⁴ De Grip, A. and van Loo, J (2002) ,The Economics of Skills Obsolescence: A review'. *Research in Labor Economics – A Research Annual*. Vol.20, No. 21, pp.1-26

³⁵ Madsen, P.K. (2006) 'How can it possibly fly? The paradox of a dynamic labour market in a Scandinavian welfare state' in J.L. Campbell, J.A. Hall, O.K. Pedersen (Eds.) *National Identity and a variety of Capitalism: The Case of Denmark*, McGill University Press: Montreal.

³⁶ Fuller, A. et al.(2015) *Does Apprenticeship Work for Adults: The experiences of adult apprentices in England*. London: Institute for Education.

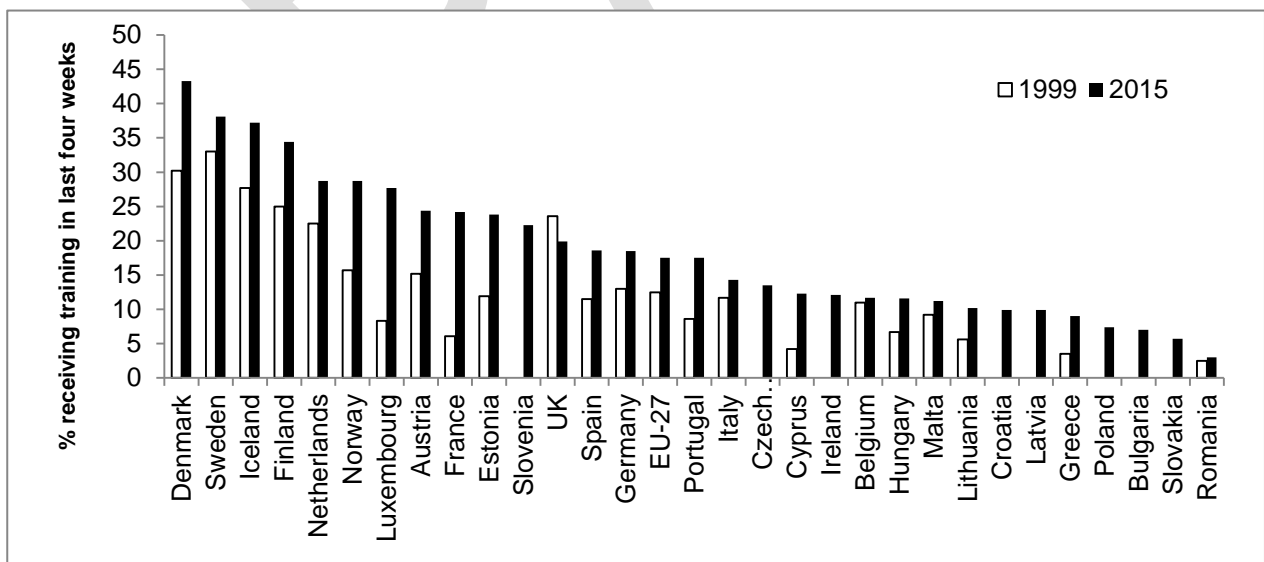
Figure 4.6 **Percentage of each group in receipt of training in the last four weeks in the EU-27**



Source: Eurostat Labour Force Survey data

The extent to which individuals in Europe participate in lifelong learning varies substantially between countries: from slightly fewer than 45 per cent in Denmark to just below 5 per cent in Romania. The degree of change over time shows some variation; it is not just simply a case of those countries that invest relatively heavily in lifelong learning continuing to invest even heavier over time. Countries such as Luxembourg, France, Portugal, and Cyprus have increased their participation in lifelong learning more than other countries over time (see Figure 4.7).

Figure 4.7 **Participation in Lifelong Learning in Europe, 1999 and 2015**

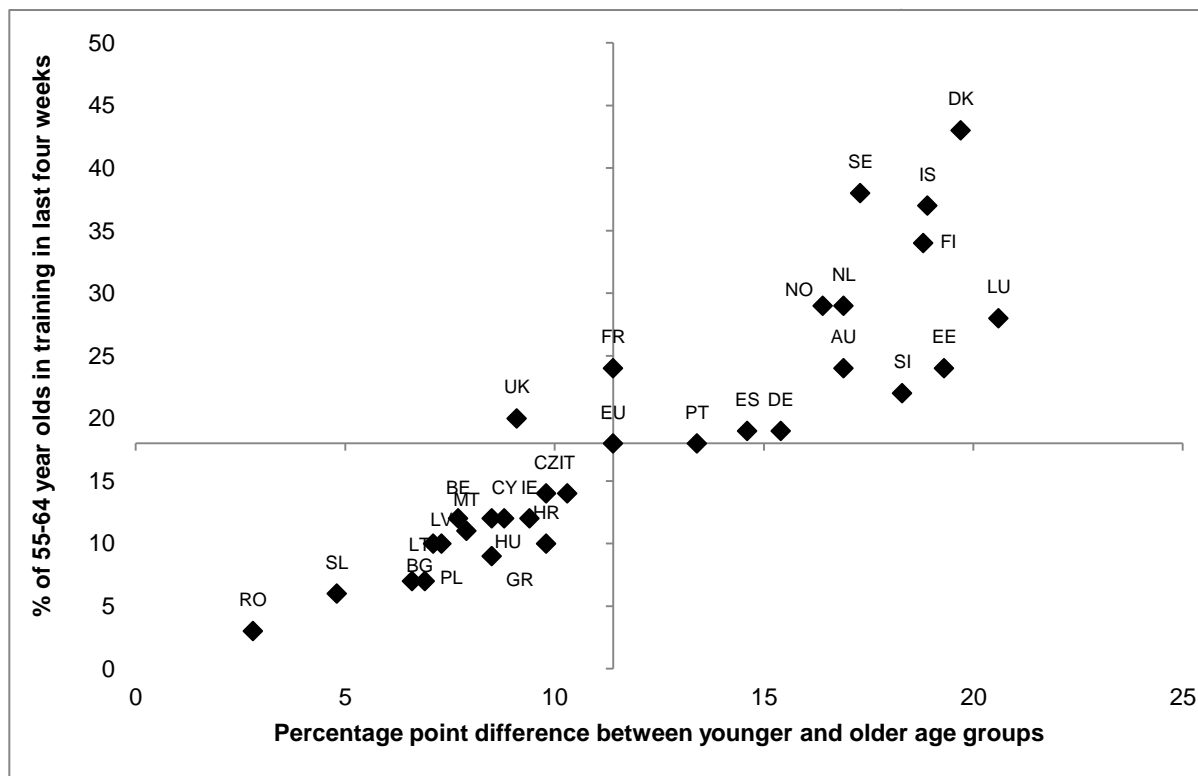


Source: Eurostat Labour Force Survey data

Figure 4.8 plots the percentage point difference in the participation rate in lifelong learning for 55 to 64 year olds and 25-34 year olds against the percentage point growth in lifelong learning between 1999 and 2015. It reveals a more or less linear relationship between participation rates and the difference in age participation. So, the countries with the highest

levels of participation rates are the ones with the highest differences between age groups. This is, in effect, just another way of saying that difference between age groups is more or less proportionately constant in most countries). If the gap is more or less proportionately constant this may reflect a degree of equality of provision. If older workers require less training – because they have accumulated skills over their working lives – then the fact that most countries reveal the relationship as set out in Figure 4.8, suggests that older workers' participation in training is due more to the overall provision of training rather than differential provision to people in different age categories.

Figure 4.8 **Participation of older workers in lifelong learning and the difference in age participation rates in Europe, 2015**



Source: Eurostat Labour Force Survey data

4.4 Engaging older people in VET

A seven country European Learning Partnership (EuBiA) examined the challenges of getting older people involved in learning.³⁷ Lack of engagement is partly 'because of fewer opportunities in the labour market, in community life and in decision-making processes' (p.10), as 'traditionally the evidence suggests that people over 50 are more likely to be discriminated against in employment, training and access to education' (p.11). Although it is also worth noting that there is huge variety of individuals, communities and cultures across Europe, as well as considerable variation in the types and forms of provision and learning opportunities available. Nevertheless, it is possible to identify different types of obstacles and barriers to older people's participation in learning: some of these are as a result of an

³⁷ Benyon, J. et al. (2010) Getting Older People Involved in Learning, Leicester: University of Leicester. www.associationforeducationandageing.org/ufiles/EuBiaGuide.pdf

individual's personal circumstances or experiences, whereas others are the result of policy decisions and choices by public or private bodies.

Barriers as a result of personal circumstances include family and caring responsibilities; health and disability issues; costs (some older people have limited incomes and cannot afford the costs of courses or of travelling to them); fears about personal safety (when travelling to take part in courses). Barriers as a result of personal experiences include previous negative experiences with education when they were younger; low self-confidence about learning; the type of learning on offer does not appeal (e.g. accredited courses) or the style of teaching (e.g. discussions) may not be that with which the older person feels comfortable; attitudes towards learning – some older people think that learning is for younger people. Barriers as a result of policy decisions by public or private bodies include: practices of employers (e.g. not supporting older workers' attendance on courses); level of fees (due to recent fee increases); lack of availability of courses in their locality (due to cuts in public funding); lack of information, advice and guidance (about what courses are available and whether they are suitable for them).

Hyde and Phillipson³⁸ undertook an evidence review of how, with an ageing population, lifelong learning, including continuous training within the labour market, might be enabled. They identified three main types of barriers that might prevent someone from undertaking lifelong learning: attitudinal, situational and institutional. The evidence presented in the report from the 2014 wave of the UK's Understanding Society programme show that these often operate in concert: 'older respondents reported that they were less likely to want work-related training but that they were also less likely to expect to be offered it. Situational barriers such as financial and time constraints have been consistently shown to be the most important reasons why people do not participate in learning and/or training later in life' pp. 4-5). Again there was evidence of socio-economic inequalities in rates of participation: 'those with higher levels of education, those with higher incomes and those in full-time work were more likely to participate in learning and training activities than those in more disadvantaged positions. Institutional factors, such as the availability of workplace training, also present important barriers' (p. 5). The need for lifelong learning and continual development has been made even more pressing by moves to reverse early labour market exit and to extend working life towards the late 60s and potentially beyond. Participation in learning also has a 'positive impact on life satisfaction,³⁹ and optimism and subjective well-being.⁴⁰

4.5 Migration and the Brain Drain

An important dimension to creating a single European market is that of the free movement of labour. At a micro-level the free movement of labour has allowed many high skilled individuals to move to parts of Europe where they are able to increase / maximise their wage

³⁸ Hyde, M. and Phillipson, C. (2014). *Future of an ageing population: evidence review. Foresight, Government Office for Science: How can lifelong learning, including continuous training within the labour market, be enabled and who will pay for this? Looking forward to 2025 and 2040 how might this evolve?* London: Government Office for Science

³⁹ Feinstein, L., Budge, D., Vorhaus, J. and Duckworth, K. (2008). *The Social and Personal Benefits of Learning: A Summary of Key Research Findings*. Centre for Research on the Wider Benefits of Learning, Institute of Education: London.

⁴⁰ Moody, H. R. (2004) 'Structure and agency in late-life learning'. In: Tulle, E. (ed.), *Old Age and Agency*. Nova Science Publishers: New York, pp. 29–44.

levels. In many instances, the evidence points towards the most highly educated being the most mobile. At a macro-level it has posed problems to certain countries, especially in eastern and southern Europe where they have lost a substantial number of highly skilled individuals. What is the relevance of this to VET? Often it is those young people highly qualified at an academic level in the fields of medicine, science and R&D, and ICT who have been most mobile.⁴¹ Other evidence points out that those with a medium level of qualification increasingly make up the largest group of people who moved between countries in the EU.⁴² This suggests that many of those with a medium level of education may well have completed vocational education and training. This potentially provides a net inflow of skilled and qualified people to the main recipient countries. It also raises a key question about the impact of this on VET supply and demand in those countries that have a net inflow of skilled people:

- does it complement the existing supply of VET or does it substitute for it (i.e. providing a country or employers within it with an alternative source of skills supply thereby reducing the demand for VET)?

And within those countries that have a net outflow of skilled workers, the key question relates to:

- how are VET systems – and the wider labour market – able to compensate for a net outflow of those people it trains? And these systems increasingly training for the export of skills?

There are relatively few insights into these issues but they are issues that the national case studies might address.

4.6 Demographic change and replacement demand

The Skills Agenda draws attention to the skills shortages that may result from the combination of an ageing society and the exit of people from the labour market whose skills are difficult to replace. The Cedefop forecasts of future skill demand provide an estimate of expansion demand (the overall change in employment levels), replacement demand (the number of people who will be required to replace those who leave employment mainly due to retirement), and the total net requirement (the sum of expansion and replacement demand).⁴³ The data is provided on an occupational basis. The results show that even where employment is projected to decline in total, there are often high replacement demands due to the age profile of an occupation (or sector). This means that there are often many job openings in areas of the economy where the overall headline finding is that employment is, and will continue, to fall (see Figure 4.9). This can create problems of persuading people – especially young people – to invest in the skills required in those areas of the economy associated with decline.

⁴¹ Ionescu, L. (2014). *Emigration from Eastern Europe with a Focus on Brain Drain.*, Aarhus University; Business and Social Sciences.
http://pure.au.dk/portal/files/75142686/Luiza_Ionescu_Emigration_from_Eastern_Europe_with_a_focus_on_Brain_Drain.pdf.

⁴² European Commission (2015) *2015 Annual Report on Labour Mobility: Final report.* Brussels: Directorate-General for Employment, Social Affairs and Inclusion

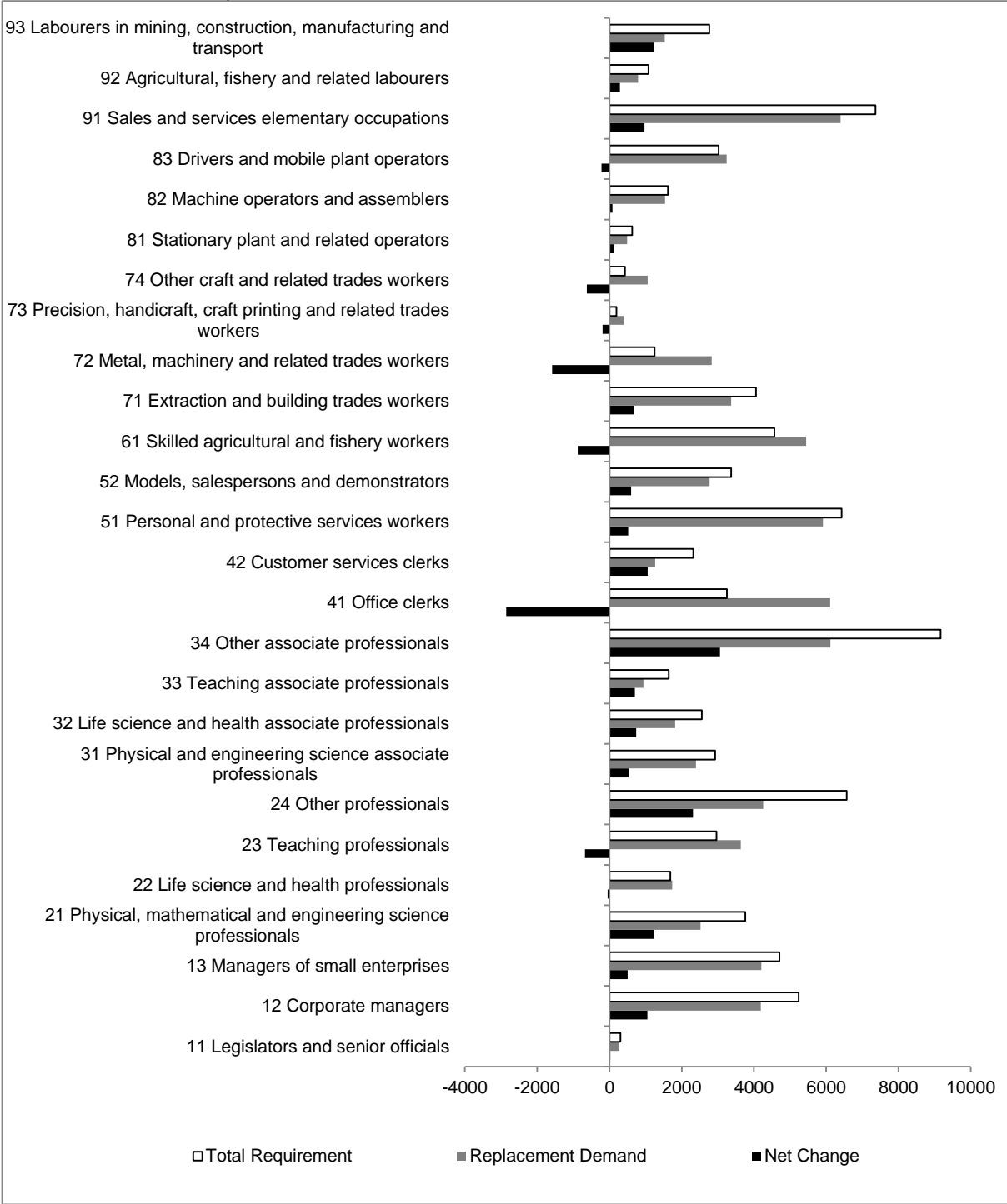
⁴³ See: <http://www.cedefop.europa.eu/en/events-and-projects/projects/forecasting-skill-demand-and-supply/publications>

4.7 Conclusion

This section has provided a tour d'horizon of the challenges that demographic change poses to VET provision. The evidence points to a decline in the youth cohort which has implications for the future supply of skills, whilst older workers (who increasingly comprise a large share of the workforce) experience barriers to participating in training that will prevent their stock of skills becoming obsolescent. When older workers exit from the workforce this sometimes poses a particular set of problems of how to persuade younger people to train to work in occupations that older people are leaving. These are often jobs that are expected to show a fall in employment over the medium-term but which exhibit high replacement demands.

DRAFT

Figure 4.9 Skill demand in the future – expansion and replacement demands to 2020, EU-30



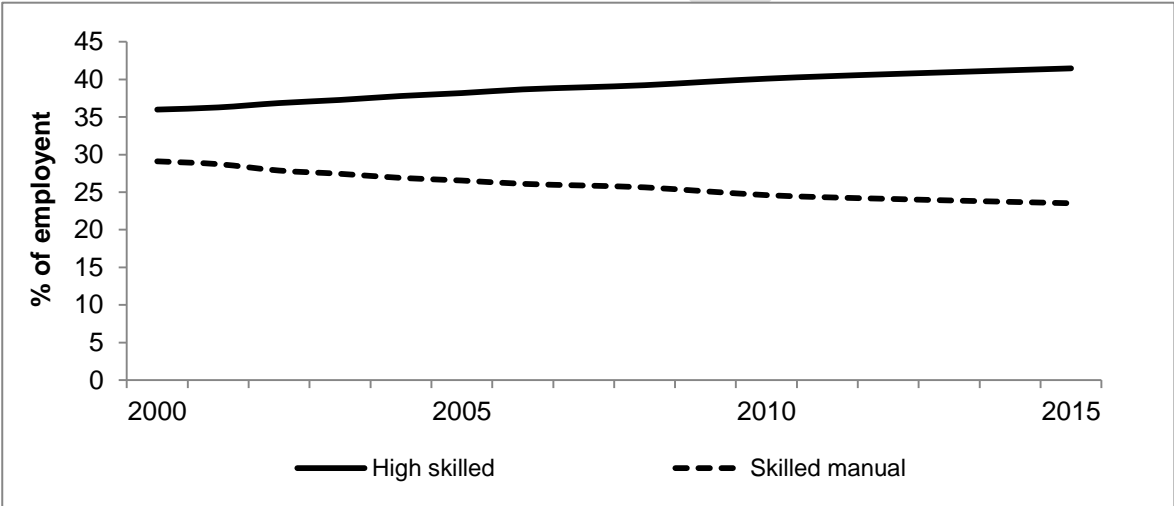
Source: Cedefop skill forecasts

5. To what extent are changes in the labour market, and notably occupational profiles, influencing VET?

5.1 Introduction

Even before the financial crisis, the EU economy faced a number of challenges.⁴⁴ With competition from low cost producers in other parts of the world, the European economy has had to increasingly concentrate its production in high value segments of the economy typically associated with the knowledge economy. Associated with this has been a shift towards an increasing share of people being employed in high skilled occupations (manages, professionals and associate professionals) with a declining share in the percentage employed in skilled manual jobs (skilled trades and machine operators and assemblers) as shown in Figure 5.1. Associated with the change in the occupational structure summarised in Figure 5.1 there also been a change in the skills content of particular jobs that has accrued, as a result of, technical change (especially the use of ICTs) and the organisational changes this gives rise to with firms, amongst other things. Before going on to look at the implications of this for VET further consideration is given to the drivers of occupational change.

Figure 5.1 Occupational change, 2000 to 2015 in EU30



Source: Cedefop skills forecast database

⁴⁴ Hogarth, T. and R.A. Wilson (2015) ,The outlook for skills demand and supply in Europe'. In. Dolphin T (ed) (2015) *Technology, globalisation and the future of work in Europe: Essays on employment in a digitised economy*, IPPR. <http://www.ippr.org/publications/technology-globalisation-and-the-future-of-work-in-europe>

5.2 The drivers of occupational skill demand

There are two main schools of thought when analysing how technological advances affect the demand for skills:⁴⁵

- upgrading or skills-biased technological changes (SBTC) that suggests that employment growth is, and will be highest, in high skilled jobs and the weakest growth is, and will continue to be, in low-skilled jobs; and
- polarising or task-based technological change (TBTC), which indicates that employment growth is weakest in the middle of the skills structure and strongest at both ends of the occupational / skills distribution thereby leading to a hollowing out of the occupational structure.

The explanation, which has received the most attention, is the theory of task-based technological change (TBTC).⁴⁶ Technological change is seen to have most impact on routine jobs, which do not require their incumbents to respond to outside stimuli.⁴⁷ Accordingly their jobs can be replaced by technology, which automates the tasks they once carried out. It has been observed that routine jobs, susceptible to being replaced by automation, are typically found in the middle of the occupational structure: administrative jobs and skilled production jobs.⁴⁸ Higher level skilled jobs which require their incumbents to utilise cognitive skills, cannot be readily substituted by automation and lower skilled jobs, such as those found in hospitality, require their incumbents to interact with customers such that they too are not readily substituted by automation. The hollowing out of the labour market is also seen to stem from the process of globalisation, whereby many jobs have been transferred to countries with lower labour costs.⁴⁹ This has been observed in manufacturing where many skilled manual production jobs have been transferred to low labour cost countries outside the EU, whereas the people employed in managerial and professional jobs, making strategic decisions about developing new products and markets, have been retained in the EU. Rising levels of income inequality may also have created a demand from well-off people for a range of personal services (for example, cleaning), and a strong supply of much

⁴⁵ Eurofound (2016) *What do Europeans do at work? A task-based analysis: European Jobs Monitor 2016*. Publications Office of the European Union, Luxembourg. Available online: http://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef1617en.pdf; McIntosh, S. (2013). *Hollowing out and the future of the labour market*. BIS Research Paper 134. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/250206/bis-13-1213-hollowing-out-and-future-of-the-labour-market.pdf

⁴⁶ Autor, D., Levy, F. and Murnane, R. (2003). 'The skill content of recent technological change: an experimental exploration'. *Quarterly Journal of Economics*. 118(4), 1279-1333; Autor, D. H. (2015), 'Why are there still so many jobs? The history and future of workplace automation', *Journal of Economic Perspectives*, Vol. 29, No. 3, pp.3–30

⁴⁷ Autor looked at the change in the amount of workers who used computers in their jobs in each industry between 1984 and 1997. He found that technical change is strongly positively and significant related to the increased use of non-routine cognitive tasks from the 1980s onwards. Whilst on the other hand, routine tasks (both cognitive and manual) are strongly negatively and statistically related to technical change after 1980. In the middle of this is non-routine manual tasks which appear unrelated to technical change until the 1990s where there is a positive and significant relationship between them.

⁴⁸ Goos, M. and Manning, A. (2007). "Lousy and lovely jobs. The rising polarization of work in Britain". *The Review of Economics and Statistics*, 89(1), 118-133.

⁴⁹ Goos, M, Manning, A. and Salomons, A. (2011). *Explaining Job Polarization: the Roles of Technology, Offshoring and Institutions*. Center for Economic Studies Discussion Paper 11.34, University of Leuven

less well-off people willing to provide these services.⁵⁰ This has been observed in relation to work-life balance, where some large corporations provide a range of ‘concierge services’ to their senior executives so that they are able to spend more time at work. The impact of this is to stimulate job growth at the lower end of the occupational distribution.

The ‘hollowing out’ hypothesis, however, has been challenged. Eurofound’s analysis indicated that across Europe the process of SBTC is more in evidence. In other words, there has been a gradual ratcheting-up of skill levels (as reflected in changes in the wage distribution).⁵¹ The explanation for this lies, in part, in the capacity of technical change to raise productivity levels, but part of the explanation is also related to institutional settings within countries. It is those countries with more of a social partnership model that SBTC is more prominent, whilst in the market oriented countries such as Ireland and the UK that the hollowing out of the occupational structure is more pronounced as explained by TBTC. So the evidence points to the impact of technical change on skill structures being determined by policy choices as well as a direct consequence of technical change.

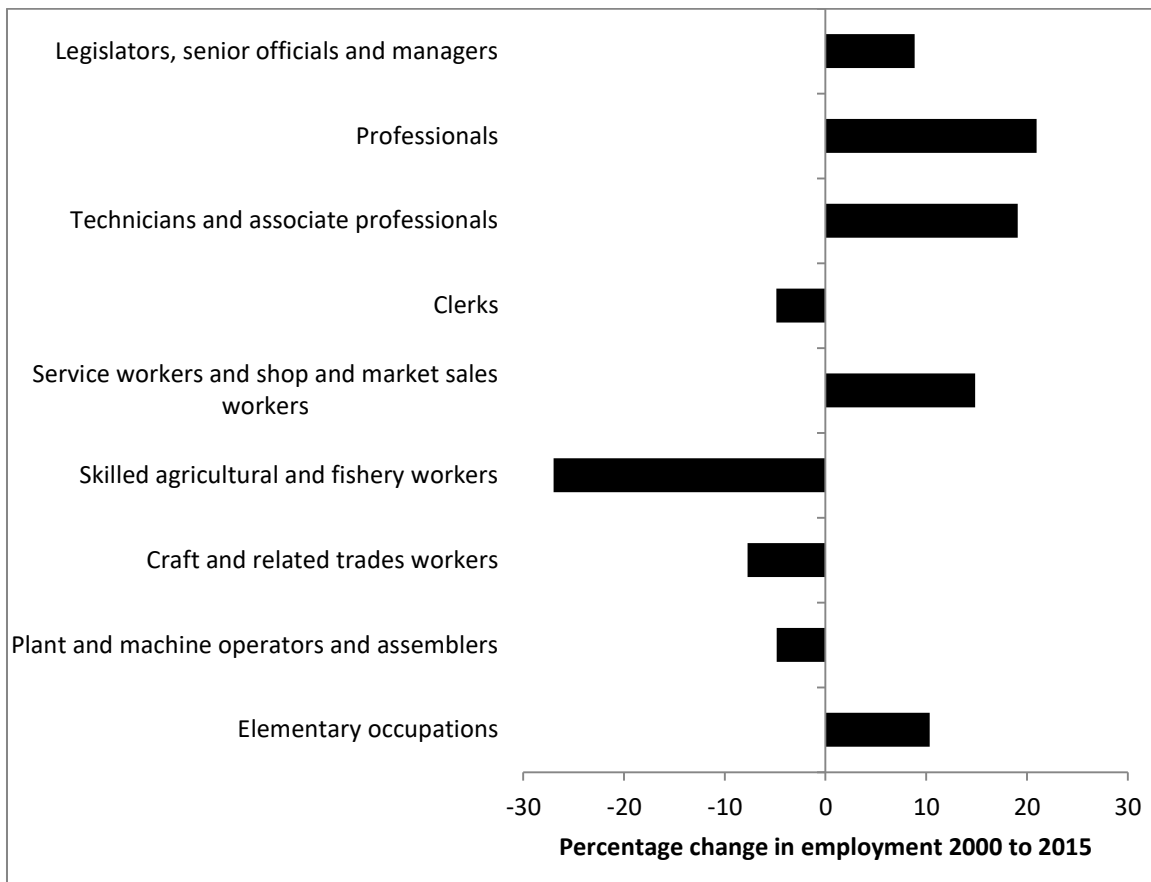
5.3 Observed changes in the occupational structure

Figure 5.2 shows change in the occupational distribution in the period 2000 to 2015. It shows the percentage change in employment over a fifteen year period and shows, overall for Europe, that there has been a hollowing out at a broad level with the strongest growth in employment being at the top (managers, professionals, and associate professionals) and at the bottom (elementary occupations) of the occupational distribution.

⁵⁰ Goos, M, Manning, A. and Salomons, A. (2009). “Job polarization in Europe”. *American Economic Review: Papers and Proceedings*, 99(2), 58-63

⁵¹ Eurofound (2016) *op cit*

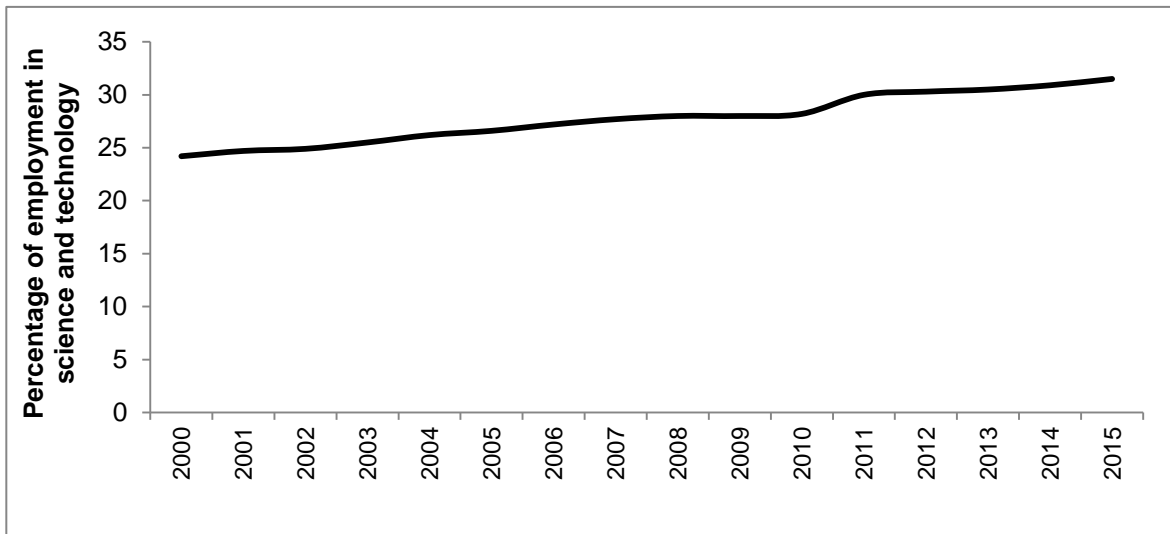
Figure 5.2 Changing occupational distribution of employment, 2000 to 2015



Source: Cedefop skills forecast database

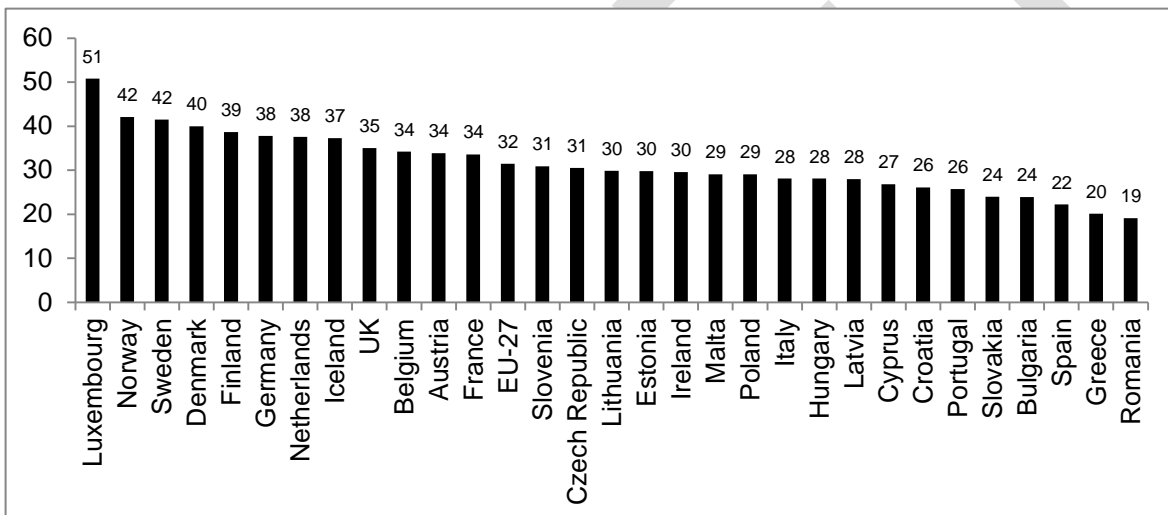
Alongside the change in the occupational structure, an increase in the percentage of employment in knowledge based, and science and technology based employment was observed. Figure 5.3, for example, shows the change in the percentage of people employed in science and technology over the period 2000 to 2015, and Figure 5.4 shows the distribution by country in 2015. The general trend is for an increasing share of employment to be science and technology related but the variation between countries is substantial.

Figure 5.3 Percentage of employment in science and technology, EU-27



Source: Eurostat HRST [hrst_st_ncat]

Figure 5.4 Percentage of employment in science and technology by country in 2015

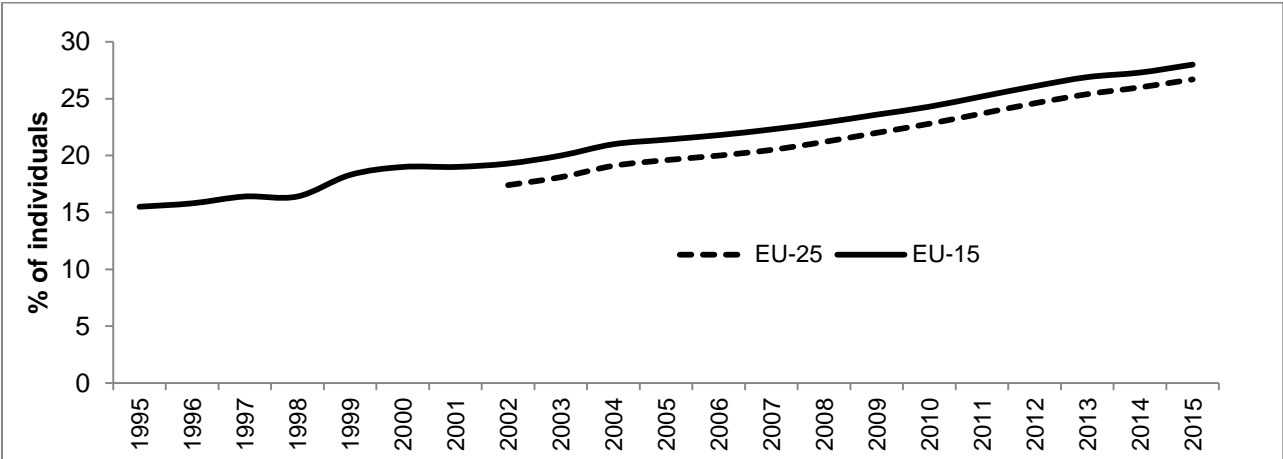


Source: Eurostat HRST [hrst_st_ncat]

5.4 The response of education and training systems to occupational and skill change

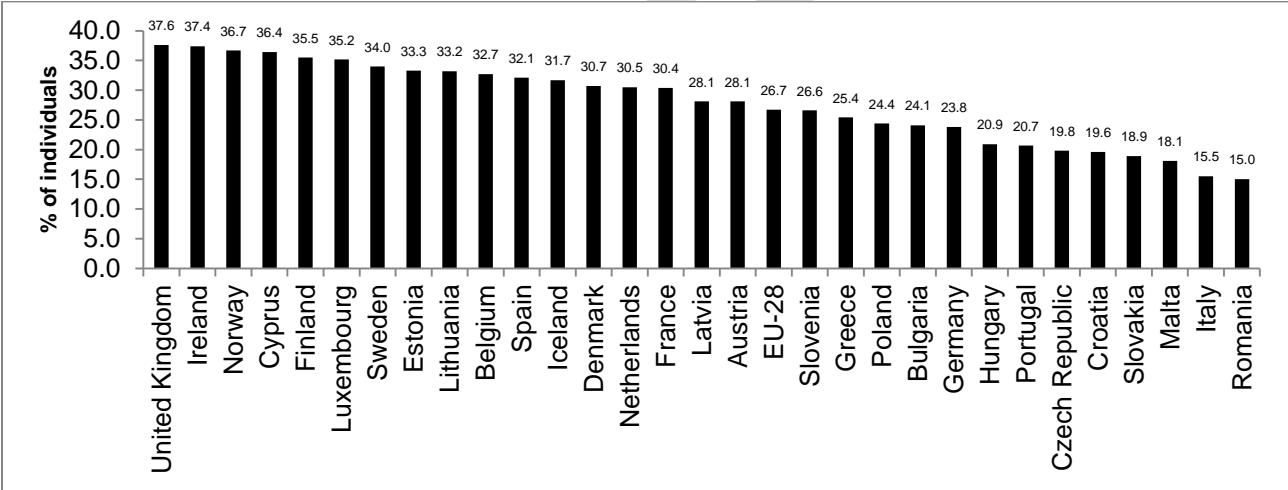
The most dramatic change that has taken place, alongside the occupational change described above, is the increase in the educational attainment. The increase in skill demands has gone hand-in-hand with an increase in educational attainment. At the level of attained tertiary education for 30 to 34 year olds the share across the EU-28 showed a steady increase from 2008 to 2015 rising from 31.1 per cent to 38.7 per cent. This trend suggests that the EU is on track to meet its target of increasing the proportion of the population in this age group to at least 40 per cent by 2020. Figure 5.5 shows the trend over time with an increasing share of the population achieving tertiary level attainment. Figure 5.6 presents the country-level comparisons for 2015 to reveal wide variation: from 40 per cent in the UK to 15 per cent in Romania.

Figure 5.5: Tertiary educational attainment (% of the population aged 30–34 with completed tertiary education)



Source: Eurostat t2020_41

Figure 5.6: Tertiary educational attainment (% of the population aged 30–34 with completed tertiary education), by country



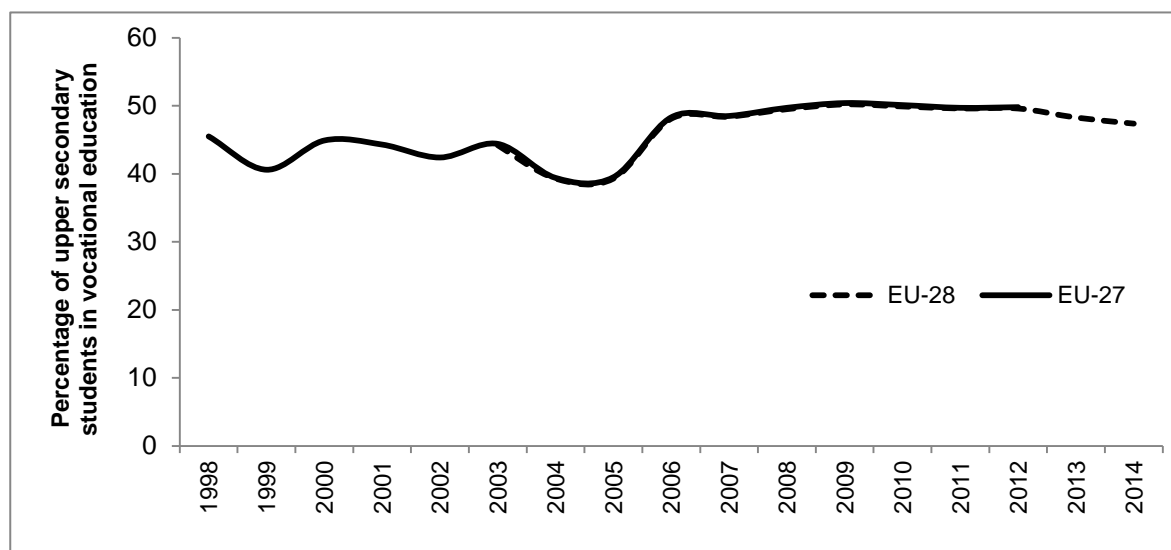
Source: Eurostat t2020_41

The observed trends reflect increased investment in higher education, but also a shift to shorter degree programmes after implementation of the Bologna process in certain Member States. The national targets varied from 26 per cent for Italy to 66 per cent for Luxembourg. Several variations in the units of measurement of the targets complicates matters (Germany’s target includes post-secondary, non-tertiary attainment; in France it refers to the age group of 17 to 33 year olds for Finland the target excludes former tertiary VET). In 2015 the level of attainment of tertiary education varied by a factor of 2.3, highest in Northern and Central Europe. 18 countries managed to exceed the overall EU target of 40 per cent. There was a gender gap of more than 10 percentage points for 21 countries in 2015 while in Estonia, Latvia, Lithuania and Slovenia the differences were over 20 percentage points.

The implications of the above trend in relation to tertiary education is the extent to which young people still find the VET pathway attractive and the extent to which the VET pathway grants access to tertiary education. The evidence shows that participation in VET at the upper secondary level has proved resilient – the percentage of those in upper secondary

level education taking the VET pathway has been more or less stable over recent years (see Figure 5.7).

Figure 5.7 **Percentage of students taking VET pathway through upper secondary education**



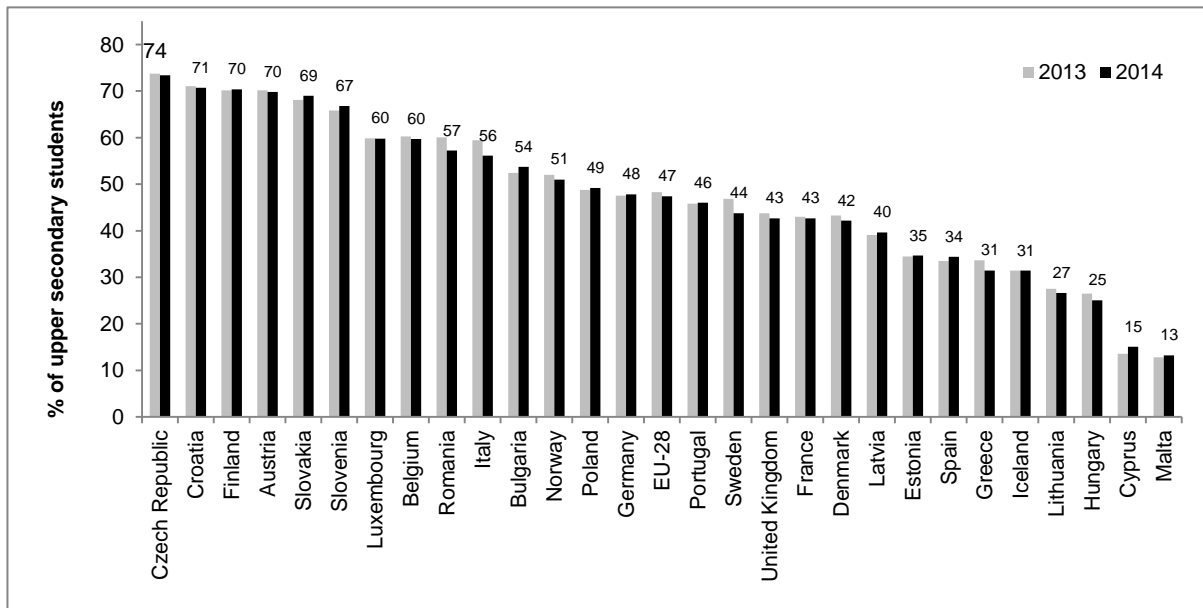
Source: Pupils enrolled in upper secondary education by programme orientation, sex, type of institution and intensity of participation [educ_uoe_enrs04]

The overall trend disguises substantial differences between member states as shown in Figure 5.8a. It is clear that the VET track through upper secondary education is a more attractive proposition to young people in some member states than others. And even if countries such as Germany or Austria, with their established dual systems, continue to have a relatively high share of young people taking the VET track, this is not to say they do not experience problems in maintaining the attractiveness of VET for young people.⁵² Demographic trends are an important factor here – i.e. the declining number of young people – but there are other factors too such as policies that encourage young people to enter higher education (HE) where the VET system does not provide easy access to HE. This is manifestly the case in the UK, for example, where VET (in the form of apprenticeships) is increasingly presented as an alternative to HE, mainly because there are few opportunities to take the VET pathway into HE.⁵³ There are also mixed messages regarding the relative merits of a university education versus that of an advanced apprenticeship. Figure 5.8b – which is based on a different time-series compared with Table 5.8a – shows change in participation over the longer-term. It shows that some countries have seen falls in the share of students in upper secondary school (e.g. DE, PL, UK) and some have seen increases (e.g. Austria, Belgium, and Finland). There are, however, some sharp breaks in the series which means the longer-term trend needs to be treated with a degree of caution.

⁵² Vogler-Ludwig, K., Stock, L., Giernalczyk, H., and Hogarth, T. (2011) *International Approaches to the Development of Intermediate Level Skills and Apprenticeships: Synthesis Report*. UK Commission for Employment and Skills, Wath-upon-Deerne; European Commission (2012). *Apprenticeship supply in the Member States of the European Union*. Luxembourg: Publications Office of the European Union

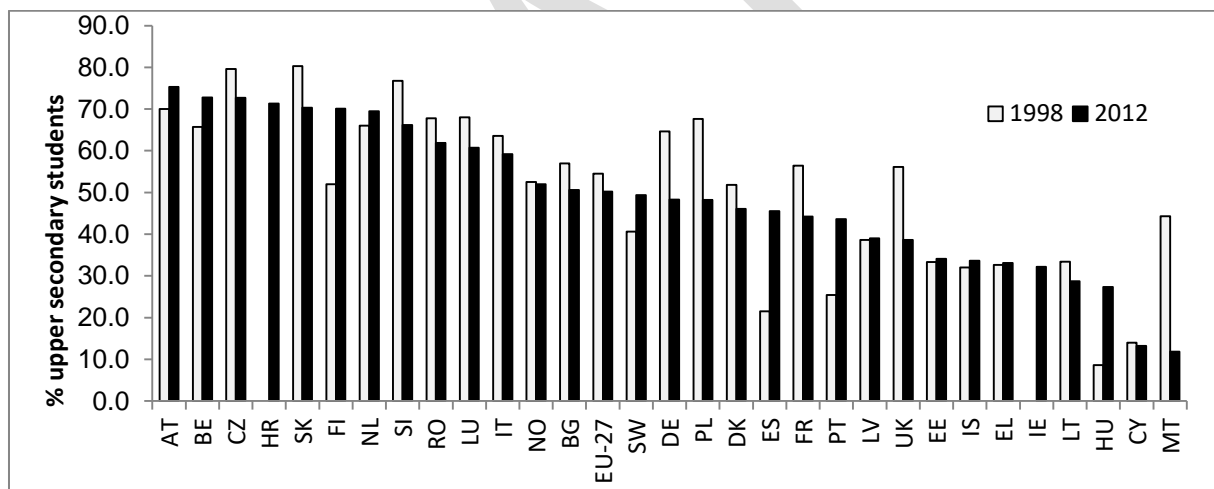
⁵³ Department for Business, Innovation & Skills (2014) *Progression of apprenticeships to higher education: cohort update*. <https://www.gov.uk/government/news/more-apprentices-progress-into-higher-education>

Figure 5.8a Percentage of students taking the vocational pathway through upper secondary education, 2014



Source: Eurostat education and training statistics

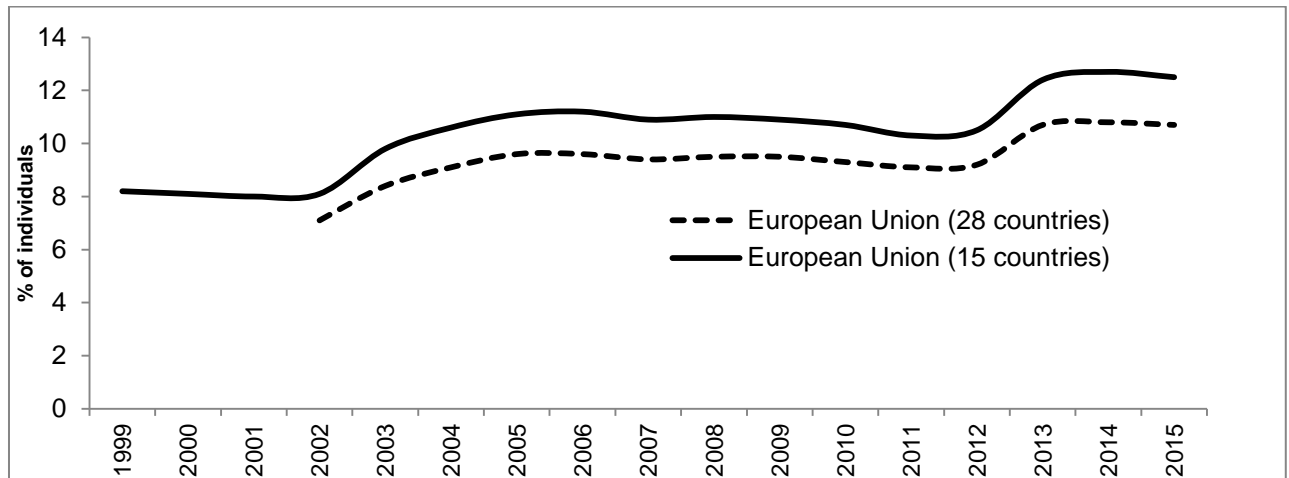
Figure 5.8b Percentage of students taking the vocational pathway through upper secondary education, 1998 to 2012



Source: Eurostat participation/ Enrolment in education by sex [educ_ipart_s]

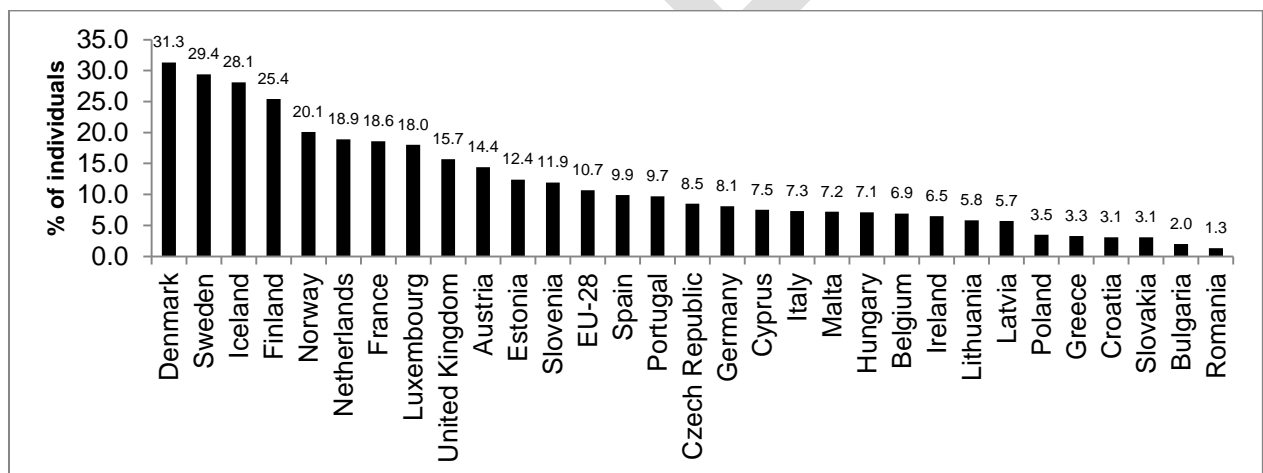
It is not just in relation to initial training – either in secondary or tertiary education – that changing occupational structures and profiles impact upon the demand for, and supply of, VET. As noted in the section on demographic change there is an expectation that people will spend longer in the labour market than their counterparts in the previous generation. This will consequently give rise to a requirement for increased levels of lifelong learning to ensure that individuals' skills do not become obsolete. Figure 5.9 shows the trend in participation in lifelong learning (people who have received training over the last four weeks who are aged over 25 years of age). It generally shows that there has been a step change in the percentage of people engaging in lifelong learning: in the early 2000s; and again around 2013. The variation by country is substantial: from 31 per cent in Denmark to a negligible 1 per cent in Romania in 2015 (see Figure 5.10).

Figure 5.9 Percentage of people over 25 years of age participating in lifelong learning, 1999-2015



Source: Population by educational attainment level, sex and age (%) - main indicators [edat_lfse_03]

Figure 5.10: Percentage of people over 25 years of age participating in lifelong learning by country in 2015



Source: Population by educational attainment level, sex and age (%) - main indicators [edat_lfse_03]

A degree of caution is required in looking at training statistics such as those presented in Figures 4.5 and 4.6 since information is not available on the level, quality or duration of training. Studies have demonstrated that training volumes have been maintained, despite the vagaries of the economic cycle, because of the amount of mandatory training employers have to provide to their employees (e.g. health and safety, induction, etc.).⁵⁴ This may mean that over time comparisons of training activity may not be comparing like with like.

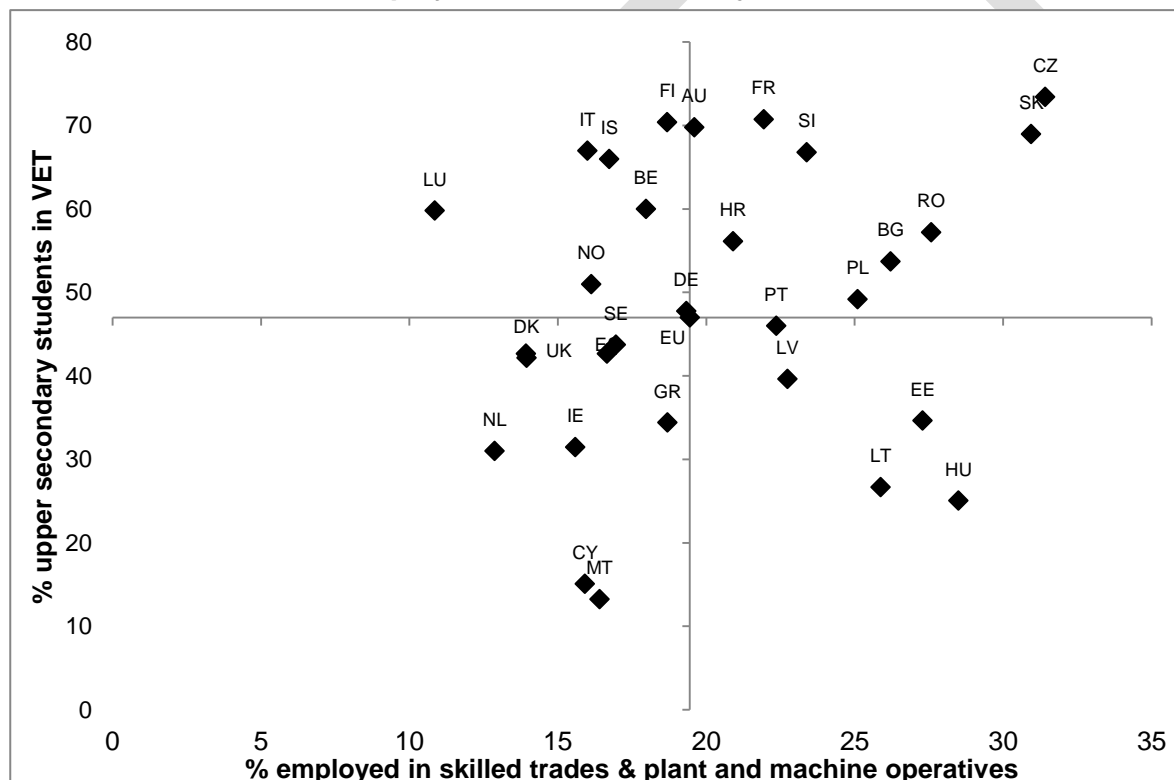
⁵⁴ Felstead, A., Green, F., and Jewson, N. (2011) *The Impact of the 2008-9 Recession on the Extent, Form and Patterns of Training at Work*. Centre for Learning and Life Chances in Knowledge Economies and Societies at: <http://www.llakes.org>; Felstead, A., and Jewson, N. (2014) "Training floors' and 'training ceilings': metonyms for understanding training trends' *Journal of Vocational Education and Training*

5.5 Occupational change and participation in VET

To illustrate how occupational change is associated with participation in VET, Figure 5.11 shows the percentage of people employed in occupations traditionally associated with VET training at the upper secondary level: manual skilled trades and machine operatives – and participation levels in VET. There are some distinct features to the distribution of countries:

- where employment in the traditional occupations is relatively high and participation in upper secondary VET is also relatively high, is typically limited to east European countries;
- relatively high levels of people employed in the traditional occupations but with relatively low levels of participation in VET is found in some Baltic states and Hungary; and
- relatively high levels of participation in VET but relatively low percentages in the traditional occupations is found in some Nordic countries and Benelux countries, plus Italy.

Figure 5.11: **Participation in VET at upper secondary level and percentage of the workforce employed in skilled manual jobs**

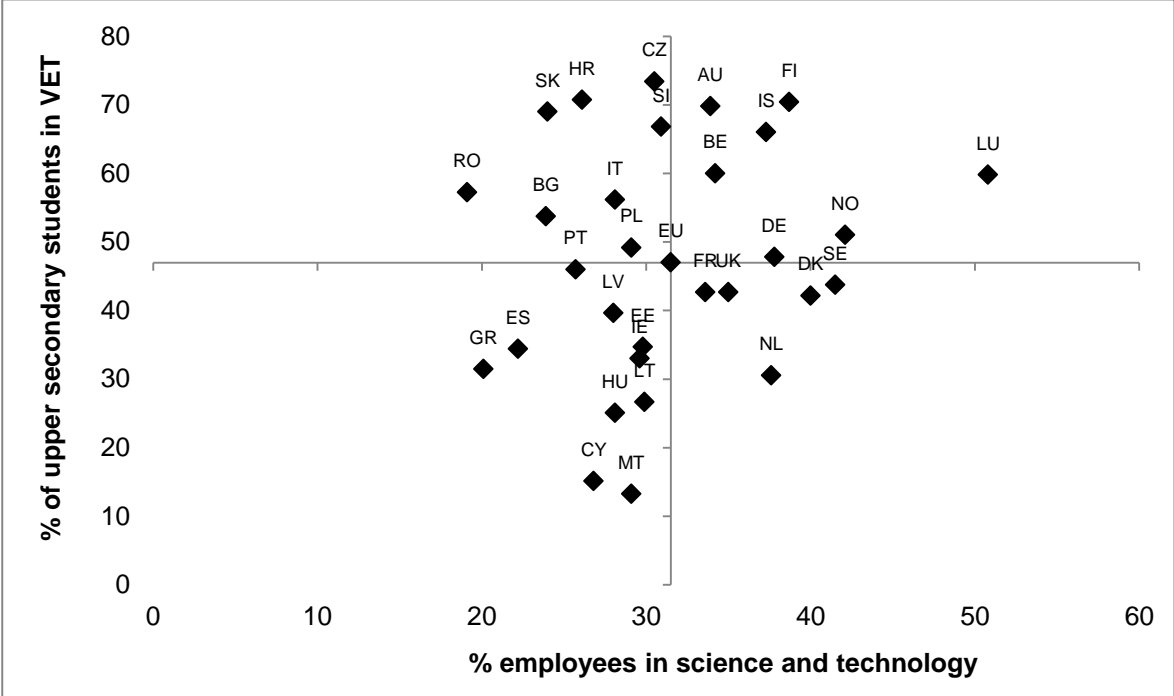


Source: Eurostat / UOE

It may well be that VET systems in some countries have continued to serve a specific set of occupations (often the ones that in some countries have been traditionally served by apprenticeships), whereas in others, VET has developed to serve a wider set of occupations. Figure 5.12 explores this a little further and shows the percentage of people employed in science and technology – as a proxy for more skill intensive employment – and the percentage of upper secondary students enrolled in VET. The most distinctive feature of the country distribution is the concentration of Nordic and Benelux countries where there is a relatively high percentage employed in science and technology and participating in upper

secondary VET. It may be here that the VET system has been able to respond to the skill intensification of work. It could, of course, be a statistical artefact without additional data to explain the observed distribution.

Figure 5.12 Participation in VET at upper secondary level and percentage of the workforce employed in science and technology



Source: Eurostat / UOE

5.6 Conclusion

The evidence demonstrates that there has been significant occupational change over the recent past. And it is likely that within occupations there has been significant change too, with amongst other things, the increasing digitisation of many tasks. Similarly, any concomitant organisational changes that take place within the workplace as a result of technical change will have an impact on the skill content of jobs and occupations. Against this backdrop the evidence shows that the provision of VET at the upper secondary level has held up given that participation levels at the upper secondary level have been more or less stable. This suggests that IVET has been able to continue to serve the skill needs of economies and adapted to technical and organisational changes affecting the content of jobs.

6. To what extent are changes in VET based on targeted labour market intelligence?

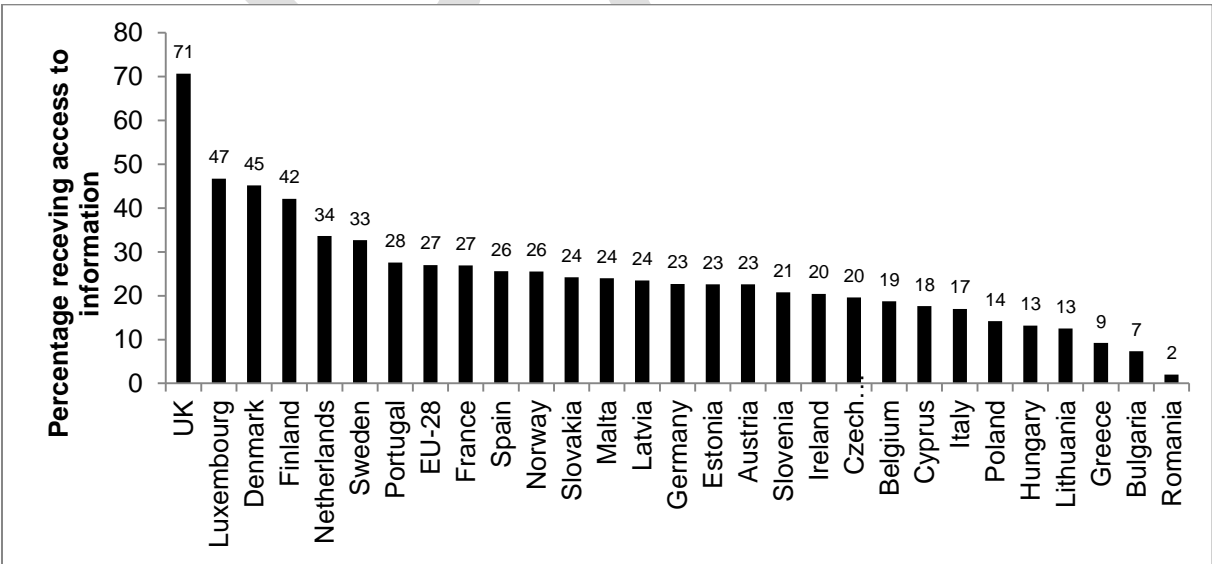
6.1 Introduction

As noted in the introduction, the provision of information is seen as an important element in ensuring that the supply of skills is matched to demand in the labour market. In this chapter, the aim is to reveal the extent to which LMI systems are developed and used in various countries, while the following chapter considers the institutional and policy context with respect to who uses LMI and who is able to influence VET policy and provision.

One of the many factors underlying the emergence of skill mismatches is the inadequate supply or communication of labour market information on the returns to studying various courses. The role of information advice and guidance / LMI is important in providing those in the labour market with data, including on the returns to taking various courses. The extent to which LMI systems are up and running in Europe varies: while countries such as the Netherlands have developed, over time, sophisticated systems supported by data at a detailed level of disaggregation, other countries are still in the early stages of developing LMI systems. The adaptation of VET to changes in the labour market has always been at the heart of VET policies. Traditionally VET systems and providers tend to be supply-driven, which may result in obsolescent qualifications and greater skills gaps – which is why member states are striving to modernise VET according to a more demand-driven model.

If one takes access to information for learning as a proxy indicator of the extent to which people use LMI or have access to it, then one can see the extent of variation in its provision across Europe (see Figure 6.1).

Figure 6.1 Percentage of Access to information on learning possibilities

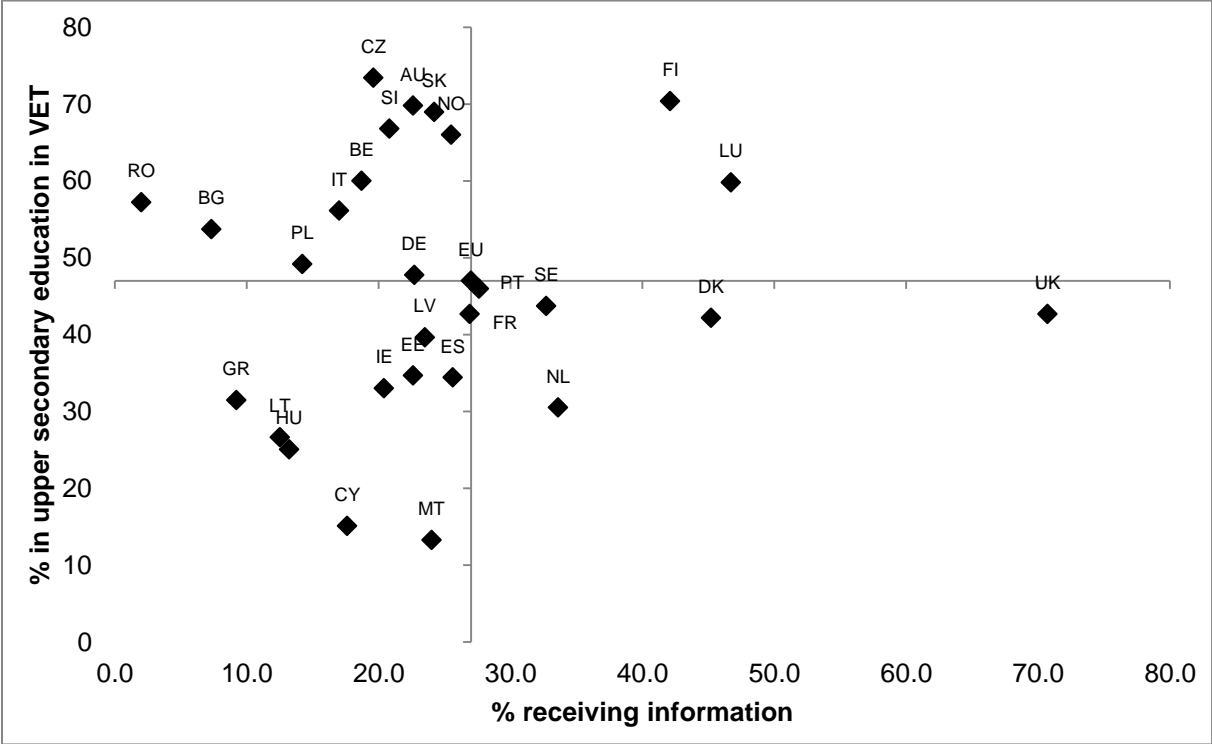


Source: Eurostat / UOE [trng_aes_182]

The provision of access to information about learning opportunities is associated with the extent to which people participate in VET at upper secondary level (see Figure 6.2). It is apparent that there are relatively few countries that have relatively high percentage of people receiving information about training and participating in VET. And the UK, which has the

highest percentage of people having access to information about training, tends to have a below average percentage of people engaged in VET at upper secondary level. The results provided here may well be a statistical artefact or are confounded by other factors, but the finding that access to information is almost inversely related to participation in VET at upper secondary level may be an issue that warrants further investigation.

Figure 6.2 **Access to information on training and participation in VET at the upper secondary level**



Source: Eurostat / UOE [trng_aes_182]

6.2 Skills intelligence systems

The first issue to consider is what systems member states use to collect labour market information,⁵⁵ and to anticipate future skills needs. Since the beginning of the Copenhagen Process (2002), European member states have increased their involvement in skills anticipation initiatives, in accordance with the recommendations.⁵⁶ One of the recommendations focuses on improved skills information systems. Comparative studies on member states' skills assessment and anticipation (SAA) activities have been carried out by Cedefop, the European Commission and the OECD. According to Cedefop, skills anticipation systems of EU member states can be divided into four groups.⁵⁷

⁵⁵ General labour market information systems (LMI) monitor the labour market by periodically following labour force participation, employment rates by sector and occupation, hours of work, wages and compensation costs and type of employment relationship, among other key statistics (OECD, 2016).

⁵⁶ OECD (2016), *Getting Skills Right: Assessing and Anticipating Changing Skill Needs*, OECD Publishing, Paris. <http://dx.doi.org/10.1787/9789264252073-en>.

⁵⁷ Cedefop (2008) *Systems for anticipation of skill needs in the EU Member States*, Cedefop Working Paper 1, Thessaloniki, Cedefop.

1. **Decentralised systems** (Denmark, Greece, Spain, Latvia, Lithuania, Hungary, Portugal, Slovenia, and Slovakia). The system is developed mostly at trade, sector or local levels, and anticipation of skill needs at national level is not pronounced. Skill needs analysis is performed in the framework of development of occupational standards, sectoral and regional analyses.
2. **Coordinated non-holistic system** (Ireland, Cyprus, and Finland). The system is well-developed around quantitative forecasting which is a major building block of the system, though some qualitative elements are incorporated into the forecast and qualitative surveys are conducted in parallel.
3. **Building a coordinated holistic system** (the Czech Republic, Estonia, Italy, and Poland). The system is mostly based on medium-term macro-level quantitative forecasting which incorporates some qualitative elements of sectoral and/or other trend projections. Several efforts at national, regional and sector levels aim at a more systematic, complementary and holistic approach. These countries attempt permanent skill needs monitoring with eventual dissemination through an online information platform.
4. **Coordinated holistic system** (Germany, France, the Netherlands, Austria, Sweden, and the UK). Countries with well-developed and long-established systems based on medium and/or short-term macro level forecasts, system of sectoral studies, regular questionnaire skills surveys among employers, regular regional surveys on employment, and with an efficient system of dissemination and application of findings to policy and practice.

The typology summarised above does not include eight countries (member states: Belgium, Bulgaria, Croatia, Luxembourg, Malta and Romania; Norway and Iceland) and it has not been comprehensively updated since 2008. The summary below is based on a report by the European Commission,⁵⁸ which includes up-to date information on how skills intelligence is produced and used in member states. The countries which are not included in the Cedefop typology are **highlighted**.

Mature forecasting and intelligence: these countries have one or more key forecasting and intelligence tools in place which have been used for at least a decade. These tools appear to be meeting the needs of the stakeholders commissioning and receiving/using the outputs. They may co-exist alongside more ad hoc efforts taken at sectoral level. Examples: Denmark, Lithuania and Sweden.

In development: these countries are in the process of designing a new infrastructure, or have recently implemented a new tool or system. The new infrastructure may be emerging alongside other activities which may take place on an ad hoc or irregular basis, but the planned or recently introduced infrastructure is intended to become an important source of intelligence for the country. Examples include **Bulgaria**, Greece, Poland, **Romania**, **Croatia**, Portugal (with regard to VET), Hungary and Estonia.

Fragmented approach: forecasts / intelligence are likely to be produced by different actors but these are not brought together to form a coherent national system. In these countries, the actors planning the forecasting may differ from those planning the skills offer. The examples include Italy, **Malta** and Slovakia, Estonia and **Romania**.

The **collaborative or joined-up approach** involves stakeholders in the process of producing skills intelligence, either by asking stakeholders to 'validate' the forecasts produced, or by

⁵⁸ European Commission (2015) Skills Governance in the EU Member States: Synthesis Report for the EEPO, Brussels, European Commission.

involving stakeholders in producing intelligence. Examples include Denmark, **Bulgaria**, France, **Belgium**, Portugal and **Luxembourg**. (Note that in Luxembourg the number of available studies and the number of monitoring or anticipation instruments is limited).

It is also worth mentioning that some countries which were included in the 2008 typology have not made significant progress since then. In the Czech Republic there is no reliable systematic effort to forecast skill needs, as the plans to build a stable national system have not materialised. Slovakia does not have a functional system of labour market and skills anticipation to date, even though these have been on the policy agenda for a long time.⁵⁹ The relevant ministries of Austria, Hungary, Ireland, the Slovak Republic and Sweden signal that there are currently no plans to further develop skills assessment and anticipation exercises.⁶⁰

Iceland and Norway have not been included in the latest typology developed by the European Commission.⁶¹ On the basis of other literature, the following information is available: **Iceland** lacks a national system for labour market data collection and analysis⁶² and declined participation in the OECD study on skills assessment and anticipation. **Norway** on the other hand appears active in this area: the country's skills forecasting system has been jointly developed by the employment and education authorities and Statistics Norway, which ensures that policy makers understand and use the outputs. Norway has a tradition of producing long-term forecasts, including 20-year general occupational forecasts. A national system for analysing future skills needs is still in development - it will combine available data, identify knowledge gaps and commission new studies, including foresight exercises.⁶³

6.3 The use of labour market intelligence in renewing VET

The second issue to consider is how labour market intelligence is used. Turning to the use of labour market intelligence to inform changes of national VET systems, it is necessary to consider feedback mechanisms. They are defined as purposefully implemented institutional procedures that allow VET (sub-) systems to adapt to emerging labour market needs.⁶⁴ The Bruges communique⁶⁵ highlights the importance of regularly monitoring employability and labour market transitions of VET graduates – as part of the feedback mechanisms.

Figure 6.3 shows what countries have been doing to ensure that VET subsystems get adequate feedback on VET graduates' employability. It is clear that while a growing number of member states carry out monitoring, in many countries the information is not used to inform VET provision. In particular, programmes, standards and/or curricula take account of

⁵⁹ European Commission (2015) *op cit*

⁶⁰ OECD (2016) *op cit*

⁶¹ European Commission (2015) *op cit*

⁶² Cedefop (2016). Labour market information and guidance. Luxembourg: Publications Office. Cedefop research paper; No 55. <http://dx.doi.org/10.2801/72440>

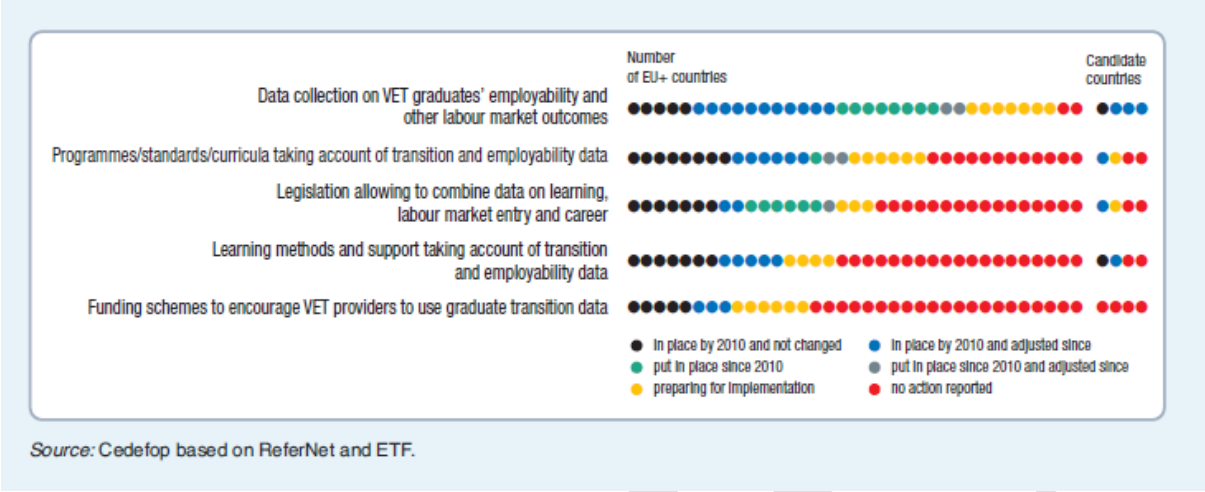
⁶³ OECD (2016) *op cit*

⁶⁴ Cedefop (2013) Renewing VET provision: Understanding feedback mechanisms between initial VET and the labour market, Luxembourg, Publications Office of the European Union.

⁶⁵ The Bruges communique set the agenda for VET in Europe and encourages action in line with aims of the Europe 2020 and the education and training 2020 strategies.

transition and employability data only in half of the EU+ countries. “Some of the Nordic countries and the Netherlands have systems with strong feedback loops. In many countries where feedback loops are weak, this is linked to legal restrictions that make it difficult to combine data on learning, labour market entry and career” (Ireland, Belgium).⁶⁶

Figure 6.3 Feedback on employability of VET graduates for VET institutions⁶⁷



6.4 Conclusion

As noted in the introduction, labour market information is required if skills supply is to effectively meet skills demand. As can be seen from the summary provided above, the degree to which individuals have access to LMI and the relative sophistication of the systems in place to provide that information varies substantially across Europe. This is important because in the absence of any information at all, or the absence of information that provides a realistic picture of labour market prospects, individuals will make decisions that might well be based on societal norms of what is considered to be educationally prestigious. Given that VET is generally regarded as being of secondary importance to the general pathway - because the latter more readily grants access to higher education – the implications for VET are obvious.

⁶⁶ European Commission (2015) *op cit*

⁶⁷ This figure is cut and pasted from Stronger VET for better lives: Cedefop's monitoring report on vocational education and training policies 2010-14, Cedefop 2015 (Figure 8, p.43).

7. To what extent is the role and nature of VET influenced by changing policy priorities at national level?

7.1 Introduction

From a demand side perspective the interest is often in skill mismatches. In other words the extent to which the demand for, and supply of, skills is out of sync. Where extensive skill mismatches exist, then there is evidence that the education system is unresponsive to the needs of the labour market with, concomitantly, demands from many quarters for measures to be taken to ensure that supply better matches demand. This is sometimes articulated with respect to a failure of vocational education – rather than the education system per se - to respond to changes in the demand for skills. In practice there are a number of direct measures that policy makers have taken to ensure a better matching of supply to demand in VET systems:

- improving labour market information about current and future skills demand;
- improving the attractiveness of VET (often through increasing the workplace based component observed through, in many instances, promoting apprenticeships);
- simplifying the VET system (such as paring down the number of qualifications on offer);
- increasing the employer voice in determining the determination of occupational / skill standards;
- amending the structure of VET so that it is possible to progress, potentially, to tertiary level via the vocational route; and
- incentivising employers and individuals to engage in certain types of training (e.g. training levies).

The above are in essence direct measures. As noted elsewhere in this paper the way in which VET responds to external factors is mediated through labour market structures. This has been most evident in situations where there are labour market imperfections of one kind or another than can have an impact on not only the way in which demand meets supply, but at equilibrium level at which demand is met. This has been most evident in those countries with relatively inflexible labour markets. This essentially allows employers to invest in skills and bear a net cost at the end of the training period. They are able to bear the net cost because they are able to pay former trainees or apprentices a wage less than their productive contribution post-training because other employers are unable to recruit them by paying a wage equal to their productive contribution because of the structures of collective bargaining on wage setting. In a similar way, wage compression resulting from collective bargaining can also incentivise employers to train. So it may be that indirect measures to stimulate VET supply can be as, if not more effective, than direct measures alone. Whilst these may be effective the trend is towards more flexibility in the labour market. To some extent the flexicurity model solves this problem given the emphasis it places on the acquisition of skills in order to assist people out of work or secure employment. This, however, is more of an active labour market policy than a VET one.

All countries, to a greater or lesser degree, are engaged in the same endgame: to bring about a better match between the demand for, and the supply of skills, given a dynamic

external environment. But as the preceding chapters demonstrate, on most VET indicators there is substantial variation across Europe. To some extent this will be shaped by the historical development of individual VET systems and the differing economic positions of countries. What is not clear is the extent to which countries are responding in the same way to the external environment but with differing outcomes given their differing starting positions; or whether they are responding to a common set of external pressures in different ways. For comparative purposes there needs to be some way of grouping policy types at the national level. To a large extent one is looking at skills governance regimes of which there are several varieties in Europe. Markowitsch and his colleagues⁶⁸ have developed a typology of governance systems as set out below (see Table 7.1).

Table 7.1 **Types of skill governance systems**

Type	Characteristics
Liberal	A low degree of coordination where feedback between VET providers and the labour market is mainly regulated through the market
Statist	A strong state regulation of education and weak links between education and the labour market in terms of formal communication
Participatory	Allows for the participation of social partners in the processes, but mainly in a consultative role
Co-ordinated	Social partners are the drivers of renewal processes and play an active role in its implementation.

Source: CEDEFOP 2013

It is through system types that effects of external changes in the economy and labour market on VET systems will be mediated. It is the capacity of systems to encompass feedback mechanisms, in other words, the capacity to read signals from the economy and labour and translate them into effective VET responses that is of interest. There are various responses that one might observe depending upon the effectiveness with which economic and labour market signals are responded to, including, but not limited to: policy synchronisation versus policy fragmentation; policy proliferation⁶⁹ versus policy parsimony; or the type of regulation used to govern aspects of the VET system. These are all likely to have some impact on the way in which systems respond to exogenous change.

Before considering the above in more detail, it is perhaps worth considering how member states have sought to address various external challenges. Arguably, in education systems as a whole, there is now more emphasis on the supply-side being able to respond or anticipate the demand side. The role of VET is important here, especially the place of apprenticeships. There is increasingly a view that VET systems that have programmes that have a substantial workplace based learning element are particularly effective in meeting skills demand. There is a view that where training is linked to employers it will be meeting a particular business need and, consequently, is demand-side oriented. In this way,

⁶⁸ CEDEFOP (2013) *Renewing VET provision Understanding feedback mechanisms between initial VET and the labour market*. CEDEFOP Research Paper No.37. Luxembourg: Publications Office of the European Union

⁶⁹ Even market based liberal systems can contain a large amount of policy production.

potentially, the supply-side will be better able to serve the demand side. How countries have gone about developing dual-systems / apprenticeship models of training shows substantial variation across countries.⁷⁰

7.2 Improving the efficiency with which VET responds to the external labour market

In the introduction, attention was drawn to the centrality of skill mismatches in assessing the responsiveness of VET systems to external conditions in the labour market and economy. This is not the sole focus of a study which is first and foremost concerned with the type of policy responses observable in national VET systems to a range of external exigencies and how these are inter-related with the varying institutional arrangements in place to manage VET provision. But skill mismatches – and their persistence - provides a summary indication of the extent to which VET systems have been able to effectively and efficiently read signals from the labour market about the current and future need for skills. Though media headlines across Europe are often concerned with labour or skill shortages, in recent years there have been growing worries about the potential for skill surpluses and the implications of this type of mismatch on individuals and the economy. There is concern that investments being made by governments and individuals are not seeing these investors achieve sufficient returns in the labour market as the skills acquired through higher education and other forms of training leading to higher level qualifications are not meeting employer demand. Cedefop has particularly drawn attention to the problem of over-education / over-qualification, suggesting that skill surpluses rather than shortages, is the main problem facing the EU labour market.⁷¹

Skill surpluses can have negative implications for individuals, employers and economies. For individuals, being in a position for which one is overqualified can lead to dissatisfaction over time and overqualified employees have been found to not be able to recoup the expected returns over their adequately skilled co-workers even after spending time in the job or labour market. Very much related to this, employers' may see lower productivity and greater labour turnover where overqualified employees are dissatisfied and demotivated. There is the possibility too that employers may be able to benefit from the presence of over-qualified employees where they pass on skills / knowledge to other workers or where the over-qualified are able to perform several different roles and can shift around the workplace as needed. In aggregate though, over-education represents sub-optimal returns being achieved from public expenditure on education and training and also constrains productivity in the economy. With the vast expansion of participation in higher education across many European countries over the past few decades, skills surpluses or over-education represents a major policy issue for governments.

Measuring skill mismatches, especially skill surpluses or over-education, proves to be challenging and the available data that indicates the presence and degree of mismatches are limited and sometimes open to different interpretations. The 2014 European Skills and Jobs Survey found that nearly 40 per cent of all adult employees in the EU felt that their skills were under-utilised in their current jobs. The share of employees reporting that the skills they

⁷⁰ European Commission (2013), Key features of Apprenticeship & Traineeship schemes: ec.europa.eu/social/BlobServlet?docId=10392&langId=en

⁷¹ Cedefop (2010) The skill matching challenge: analysing skill mismatch and policy implications. Luxembourg: Publications Office

possessed were higher than those need to fulfil their current roles was highest in elementary occupations (47 per cent of adult employees) and plant and machine operators and assemblers (45 per cent). Unsurprisingly perhaps the incidence of this type of over-qualification was higher for those with a high level of education (43 per cent compared with 39 per cent for those with medium level education and 31 per cent with low level of education). Austria and the United Kingdom exhibited the highest rates of skills under-utilisation (54 per cent and 51 per cent, respectively) in 2014.

What was apparent from the evidence relating to the way in which VET systems were looking to adapt to the challenges posed by the labour market was to increase work experience in IVET, often in the form of apprenticeship training which was considered to be a particularly effective means of matching skills to supply, given the role of the employer is writ large in the design and provision of training (see Table 7.2 below). Whilst much of this is at the upper-secondary level, the intention in many countries is to increase provision at higher levels. It is by making education more vocational that appears to be the preference of policy makers in many countries in tackling matching problems.

Table 7.2 provides a synopsis of recent VET changes for each EU country plus Iceland and Norway (EU28+2). A dominant theme in the synopsis provided below is the combined challenge of making the VET option more attractive – to employers and individuals - by making it more relevant to the needs of the labour market, which is to be achieved through reform of curricula and, in many instances, increasing the work experience element in VET. A preference for promoting apprenticeships is also evident. It is by bringing about improvements in the provision of careers guidance – and improved labour market intelligence in general – is the means through which individuals and employers will be connected to the VET system. There is sometimes an interest in qualifications systems / frameworks in selected countries – e.g. in Estonia and Croatia – in order to improve the recognition of skills.

Table 7.2 Information for an initial classification of IVET systems

Country	Scale	Organisation of VET system		Responsiveness of VET system	
	Participation levels (2011) ⁷²	Degree of centralisation / co-ordination	Stakeholders involved in the design and / or governance of VET	Challenges	Responses
Austria	75%	Coordinated by Federal, Lander, and social partners (co-ordinated)	All social partners involved	Achieving parity of esteem for VET	Improving quality of training content / provision
Bulgaria	51%	Divided between several ministries and local authorities (statist)	No	System slow to respond to change; multiple policy reforms; relatively high drop out from VET	Improved monitoring systems for gauging quality of provision
Belgium	73%	Though divided between three communities, considered to be co-ordinated (co-ordinated)	Yes	Drop-out from courses remains a problem despite high levels of participation	Making VET more workplace based (alternance) so that relevant to labour market needs
Croatia	71%	Centralised (Statist)	Yes	Curricula seen to be not suited to needs of labour market; work-based training relatively low	Improvements to curricula via more sectoral focus; emphasis on increasing work-based learning.
Cyprus	13%	Centralised (Statist)	Yes	Difficulty making curriculum relevant in the context of on-going economic crisis	Making the VET curriculum competence based; promoting apprenticeships; and more VET at an intermediate level
Czech Republic	73%	Centralised (Statist)	Employers mainly	Making VET more responsive to labour market needs to make it more attractive to young people and companies	Increasing apprenticeships and employer engagement in VET. Reforming VET qualifications
Denmark	54%	Centralised and co-ordinated (co-ordinated)	Yes, also including VET colleges / providers	Being able to provide sufficient training places in companies. Increasing quality of provision	Measures taken to increase employer participation.
Estonia	34%	Centralised / supported by national legislation (statist / liberal)	Yes	Making courses relevant to labour market needs / increasing participation levels	VET curricula are being reformed / improving skills of VET teachers
Finland	70%	Participatory but with strong central planning (participatory)	Yes	Making VET relevant to labour market needs / improving basic skills of young people at risk of exclusion	Modularisation of VET system took place some time ago / Youth Guarantee programme

⁷² The percentage of upper secondary students in the VET stream (2011)

Country	Scale	Organisation of VET system		Responsiveness of VET system	
	Participation levels (2011) ⁷³	Degree of centralisation / co-ordination	Stakeholders involved in the design and / or governance of VET	Challenges	Responses
France	44%	Decentralised – national and regional councils involved (participatory)	Yes, strong role	Making VET more relevant to labour market needs and more attractive to young people and employers	Increasing role of regional councils to promote VET / emphasis in careers guidance on VET and apprenticeships
Germany	48%	Decentralised – Lander have responsibility for school based element of dual system (co-ordinated)	Social partnership is at core of dual system	Increasing participation of young people in dual system	Improved careers guidance / improving access for disadvantaged youth to dual system
Greece	34%	Multiple agencies involved in regulation of IVET (participatory)	No	Increasing participation and the relevance of VET to the needs of employers / labour market	Reforms introduced to increase apprenticeships, improve careers guidance, and establish school-to-work programmes
Hungary	26%	Centralised since 2013 (statist)	Employers	A lack of relevance of VET courses to needs o the labour market / low attractiveness of VET	More emphasis on skills anticipation / increasing co-operation between training providers and industry / tackling drop-out
Ireland	32%	Centralised but with market based approach (liberal)	Yes	Making apprenticeships and VET more attractive to young people	Long had a system for aligning VET to labour market needs. Using apprenticeships as a means to make VET more attractive.
Italy	59%	Decentralised – regions have responsibility for VET but with some increased co-ordination of late (participatory)	Yes – advisory role	Many reforms designed to make VET more relevant to labour market. Youth unemployment is the biggest challenge at present.	Increased emphasis on apprenticeships, and continued efforts to reduce youth unemployment
Latvia	39%	Centralised (statist / liberal)	No	Improving VET quality / relevance to needs of labour market / increasing attractiveness of VET	Modernising the VET infrastructure (equipment and programmes) and involving social partners in course design.

⁷³ The percentage of upper secondary students in the VET stream (2011)

Country	Scale	Organisation of VET system		Responsiveness of VET system	
	Participation levels (2011) ⁷⁴	Degree of centralisation / co-ordination	Stakeholders involved in the design and / or governance of VET	Challenges	Responses
Lithuania	29%	Centralised (statist)	Only via representation on selected professional committees	Increasing attractiveness of IVET and increasing quality in apprenticeships	Increasing labour market relevance of courses, improved career advice, introducing quality standards in apprenticeships
Luxembourg	61%	Centralised	Yes	Tackle youth unemployment	Strengthening a variety of training measures. Recent reforms have included making VET modular and competence based.
Malta	39%	Centralised	Yes	Tackle youth unemployment, reduce early drop-out, and improve basic skills	Increasing apprenticeship provision via financial incentives to employers and individuals, including literacy as a priority in the Youth Guarantee
Netherlands	69%	Decentralised (many pathways and training provider relatively autonomous) (co-ordinated)	Yes	Simplification of the system / increasing the quality and effectiveness of VET	Reducing number of qualifications / stricter basic skills requirements in courses
Poland	49%	Decentralised (training providers have autonomy)	No	Increasing employer involvement in skills anticipation and their engagement with the VET system / developing guidance and counselling services	Government initiatives to engage employers / introduction of dual training system
Portugal	44%	Centralised (statist)	Yes (wide range of stakeholders)	Modernising provision by using new training methodologies and increasing range of courses / increasing attainment levels	Improving careers guidance and improving the apprenticeship offer
Romania	63%	Centralised (statist)	No	Ensuring that skills supply meets demands of economy /	Developing an improved vocational offer including a vocational baccalaureate

⁷⁴ The percentage of upper secondary students in the VET stream (2011)

Country	Scale	Organisation of VET system		Responsiveness of VET system	
	Participation levels (2011) ⁷⁵	Degree of centralisation / co-ordination	Stakeholders involved in the design and / or governance of VET	Challenges	Responses
Slovakia	71%	Decentralised (multiple organisations involved at sectoral and regional levels) (participatory)	No	Increasing attractiveness of VET	Supporting work-based learning, and partial introduction of dual training, is being prepared
Slovenia	65%	Centralised (co-ordinated)	Yes	Increasing the attractiveness of VET by making qualifications relevant to labour market needs	Apprenticeships being expanded
Spain	45%	Decentralised (regional autonomy) (participatory)	Yes	Tackling youth unemployment, increasing attractiveness of VET, developing national qualifications framework	Further promotion of apprenticeships (first introduced in 2012), developing flexible pathways through IVET
Sweden	49%	Decentralised (balance between national and municipalities) (participatory)	Yes	Bringing about a better match between skills and needs of the labour market	Increased investments in careers counselling for young people; development of apprenticeships
United Kingdom	36%	Decentralised over recent years to a degree. (liberal)	No (employers to some extent)	Improving attractiveness of VET (especially to employers), bringing about better matching	Funding changes to incentivise employers to invest in apprenticeships / investments in careers guidance and labour market information
Iceland	34%	Centralised	Yes	A shortage of people with technical qualifications	Providing people with the means to study a course that suits them – e.g. people from countryside taking courses in Reykjavik
Norway	53%	Decentralised (national and regional co-operation) (participatory)	Yes	Encouraging young people to enter VET and complete VET	Some emphasis on apprenticeships as completion is more likely with this form of training, but apprenticeship places in short supply.

Source: Cedefop / ReferNet Spotlight on VET reports; own assessment (in parentheses an attempt has been made to classify countries according to the classification provided in Table 7.1).

⁷⁵ The percentage of upper secondary students in the VET stream (2011)

If there is a degree of commonality across countries – though by no means all – there is also a need to recognise that there are challenges which affect some countries more than others (such as an ageing society in countries such as Germany) and relatively high and persistent levels of youth unemployment that affect countries such as Greece and Spain. It is also apparent that if the challenges – and responses – show a degree of commonality, they are being mediated through VET systems that differ with respect to their:

- governance structures (e.g. with respect to who is represented in the design of the system, the mechanisms for introducing reforms, and taking a view about future needs);
- the historical development (for some countries, the development of the VET pathway as a credible alternative to the general one is a relatively recent one, especially so with respect to apprenticeships); and
- relative importance to a country (as indicated by levels of participation in vocational education at the upper secondary level).

7.3 The national policy context and path dependency

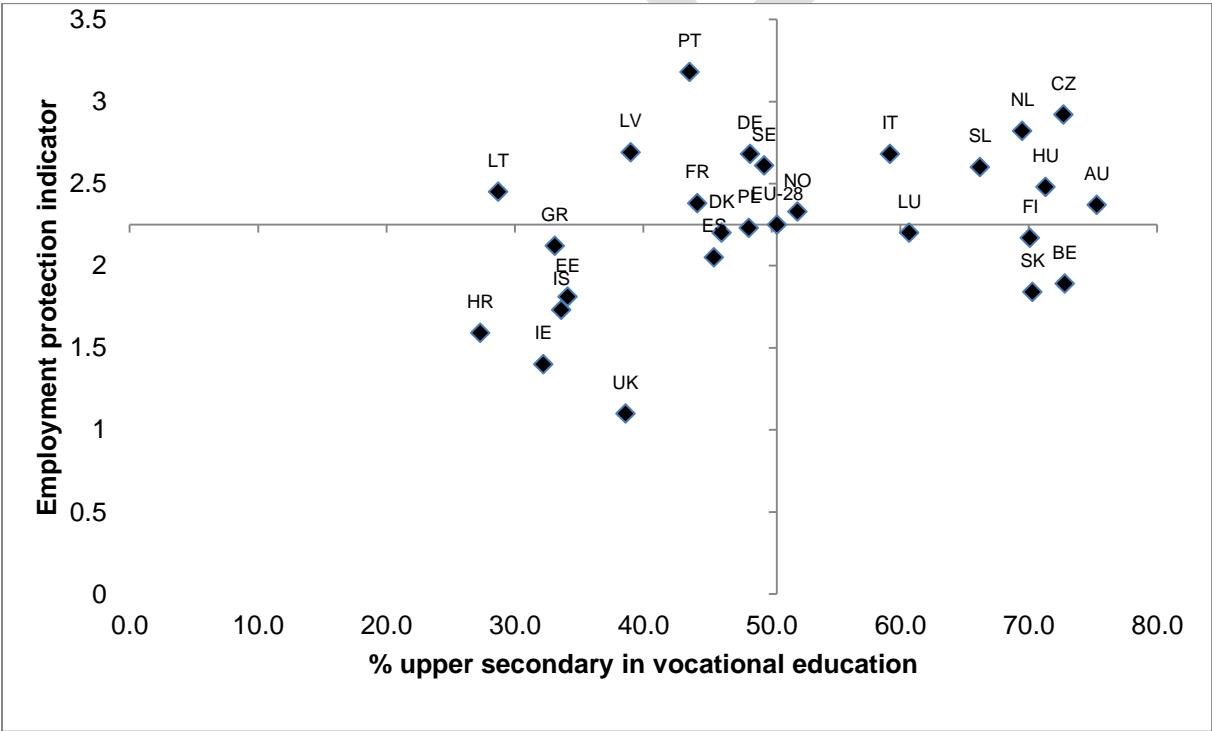
In many respects one of the primary goals of any VET system is to provide skills that are economically valuable to individuals, employers and, in aggregate, the economy as a whole. Economically valuable might be defined with reference to the extent to which skills are able to produce a return over the medium- to long-term (for example, with reference to providing access to employment, contributing to productivity / efficiency growth within the workplace, etc.). If one focuses on the post-1995 period it is clear that most EU VET systems have had to accommodate a substantial amount of change taking place in the external environment (for instance, globalisation, technical change, the economic crisis, demographic change, etc.).

In order to provide an analysis of how VET systems have responded to, and been shaped by, the external environment there is a need to control for a range of starting points. Whilst member states' VET systems have had to respond to a largely common set of external stimuli (for instance, technical change and globalisation) they have done so from very different positions. If one looks back to, say, 1995, the extent to which economies engaged in trade varied considerably by member state as it did levels of productivity per hour worked or levels of investment in fixed capital formation. Similarly, VET systems differed – and continue to differ – with respect to levels of participation, structure, governance, and funding. Accordingly, one might expect the ways in which VET systems respond to changing external circumstances to differ too especially when one looks at the detail of what is being carried out. Even if the policy response at first glance appears to be common across countries, its implementation in practice might be very different because it is likely to reflect the national context.

To return to the typology in Table 7.1 there is an implicit market versus centrally or regionally co-ordinated system. This is difficult to quantitatively gauge. But it uses the OECD's employment protection against dismissal index as a proxy measure of the degree of flexibility in a labour market (and thereby reflecting a key feature of a policy regime), then one can begin to see the extent to which countries in Europe are more or less market / liberal oriented ones versus those that take a more interventionist approach. Figure 7.1 plots the OECD

protection against dismissal index against participation levels in VET. The data show that there are distinct groups of country: (i) those with relatively low levels of both participation in VET and employment protection compared with the EU average (UK, IE, HR); (ii) those with relatively high levels of participation in VET and relatively high levels of employment protection (CZ, NL, AU); and (iii) relatively low levels of participation in VET and high levels of employment protection (LV, LT, PT). The quadrant with low levels of employment regulation and high levels of participation in VET is more or less empty. Arguably in more regulated labour markets there is more certainty regarding investments in VET. Where occupational licensing, either actual or de facto, is in place there is a reasonably high degree of certainty regarding the destination associated with a particular course. And employers, where they are engaged in apprenticeship-like training, are more certain of obtaining a return on their investment in this form of training in a labour market characterised as less flexible.⁷⁶ In contrast, where there is a high degree of labour market flexibility there is less certainty about what a course might lead to, and more risk attached to the employer making investments in programmes such as apprenticeship.⁷⁷

Figure 7.1 **Labour market regulation and training (Protection against dismissal and percentage of students taking the vocational pathway through upper secondary education)**



⁷⁶ Acemoglu, D. and Pischke, J-S. (1999) 'Beyond Becker: Training in Imperfect Labour Markets', *Economic Journal*, Vol. 109 (Feb.) pp. F112-F142.

⁷⁷ Gambin, L. and Hogarth, T. (2017, forthcoming) 'Who Pays for Skills? Differing perspectives on who should pay and why', in *Oxford Handbook of Skills and Training*, edited by J. Buchanan, D. Finegold, K. Mayhew, C. Warhurst, Oxford: Oxford University Press.

7.5 Conclusion

Without knowing more about the political economy within a particular country and understanding how that shapes approaches to various external challenges then a full understanding of how a country's VET system responds to those same set of challenges. The case study of England demonstrated how a particularly market orientated approach to solving issues of skill demand – and much else besides – resulted in a set of responses that might be considered unique to that system. This included giving the employer substantial influence over the content and structure of publicly funded programmes of IVET, such as apprenticeship, a system that allows new qualifications / standards to be produced relatively quickly, and the use of funding mechanisms to influence behaviour.⁷⁸ It was by considering VET policies, in the context of the wider political economy that guided all policy making, that one could begin to understand why the system operated in a given manner and how policy responded when unintended consequences arose.

⁷⁸ Gambin, L. and Hogarth, T. (2016) *Conceptualisation of the external factors shaping vocational education and training: an example drawn from England*. Working Paper

8. Conclusion

The response of many countries to the various external changes affecting their economies and labour markets is to increase the importance attached to VET as a means of tackling those external factors. VET, in some countries, is seen as increasingly important as a means of increasing social inclusion, reducing unemployment, and boosting productivity. The way in which VET has responded includes, amongst other things:

- increasing the attractiveness of VET to both young people and employers;
- placing a greater emphasis on workplace based learning – especially apprenticeships – as a means of equipping young people to enter the world of work;
- amending VET curricula so that it is more relevant to the needs of the labour market;
- ensuring that qualification frameworks are transparent; and
- investing in skill anticipation systems.

How the above are being implemented varies by country as do the relative starting points from which they are implementing changes and the institutional arrangements through which those changes will be introduced. As noted throughout this report the challenges facing member states – especially the economic ones – are similar. But countries differ too in this regard, especially with respect to demographic change. Some western European countries have been able offset, to a degree, the impact of an ageing population by being net recipient of skilled migrants typically from eastern Europe. At the same time, this increases demographic pressures in those countries facing a net outflow of skilled people. This places different pressures on VET systems depending upon the direction of migration flows.

It will be through the country case studies that a greater insight will be obtained in to how VET systems are responding to the variety of external factors summarised in this report. The draft case study for England has already provided an initial insight in to the information that might be provided in the country studies.