Vocational education and training, the EU labour market and the economic crisis – the cases of the UK and Germany

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Table of Contents

Abstract

In the turmoil that EU labour market is going through nowadays, a series of phenomena appeared: unemployment (especially in younger ages) and new and most of the time more flexible forms of employment (like part time, temporary, teleworking, even precarious). This is not something new, since some of these appeared in the US Stock Market Crash in 1929, but never again and more importantly, not in that extend. Apprenticeships and vocational educational and training (VET) routes also evolved and try to cope in the new environment.

Lifelong Learning (LLL) in hand with VET is another issue that undoubtedly plays a significant role in today's society and economy. Every country decides on different strategic point of view and with different priorities towards these matters. At the European level, LLL and VET would supposed to be seen in a similar way and a body like Cedefop, a European Commission Agency might play such a role of harmonizing and coordinating the different individual national policies. But is there such a thing as harmonization in LLL and VET in the EU? This is one of the main issues that this essay will try to enlighten. The two under investigation models will be Germany and UK and the possible common issues and dissimilarities will be analysed in a comparative way.

Introduction

EU labour market is in a serious turmoil and young people are exposed to above-average turnover rates between different jobs and face an increased risk of unemployment.

Natural explanations for the youth-adult unemployment gap are that young people initially lack important job search skills and have only little work experience to offer. As a result, young workers often show high turnover rates. Although this vulnerability declines with age, several young people encounter particular difficulties during the school-to-work transition process. Recent research on youth labour markets in the OECD countries shows that a considerable share of potential workers experience long unemployment spells, which are particularly prominent among very low educated individuals (Quintini, Martin, & Martin, 2007). Improving early labour market entry is particularly important for young people as many studies have suggested that long unemployment spells at labour force entry have long-run negative effects on employment probabilities and wages in subsequent working life (Gregg, 2001).

Policies that involve learning and employment and are intended to help young people with difficulties in school-to-work transition differ – and should differ – according to the national institutional context. The primary distinction is between countries with large, high quality apprenticeship training systems, which possess all of the institutional foundations needed to support supra-market co-operation, and countries with largely school-based vocational education, linked either to a liberal or a coordinated form of market economy (Thelen K. , 2004).

Apprenticeships have a number of benefits for all involved: for employers, they are away of plugging skills gaps, bringing new people with fresh ideas and approaches into the business, developing a well-trained, motivated workforce and improving productivity; for young people, they are a way into a rewarding, long-term career and an opportunity for those not inclined towards university to gain nationally-recognized qualifications while earning a wage. And for society at large, they provide a significant return on investment

while ensuring that young people can make something of themselves and that the problems of youth unemployment and skills gaps are tackled.

As European Commissioner Laszlo Andor responsible for Employment, Social Affairs and Inclusion in June 2013 stated:

"By alternating between the worlds of education and work, apprenticeships provide a perfect preparation for the labour market. Evidence shows that countries with strong apprenticeship systems tend to perform better in terms of youth employment.
Improving the ties between vocational education and the labour market will help to tackle high youth unemployment, whilst also contributing to better skill matching, social inclusion and economic competitiveness in the longer term. Employers therefore have everything to gain from investing now in a highly skilled workforce for the future.
A key problem across the EU is that there are not yet enough quality apprenticeship programmes: to this end, the Commission proposed country-specific recommendations on apprenticeships and reforms in vocational training to no less than 16 countries." (European_Commission, 2013)

Hence the issues of the current economic crisis, unemployment and new forms of employment will be further presented since they are very closely linked and interrelated with apprenticeships and vocational training.

Economic Crisis and Labour Market

When Lehman Brothers filed for bankruptcy in September 2008, many commentators started to draw parallels with the consequences of the US Stock market crash of October 1929. From the very beginning of the current recession, the world economy was tracking or even doing worse, than during the same stage period of the Great Depression (Eichengreen & O'Rourke, VOX, 2009). The fall in world trade and in the stock markets, more rapid in the first year of current recession than in the comparable period of the early 30s', the vulnerabilities and the tremendous disarray of the financial and housing sectors, combined with global trade imbalances and rising pessimistic expectations, made the world economy ripe for a second "slide in the abyss". That the risk was real was confirmed, as in the interwar period, by the swift international transmission of a crisis which originated in the US.

The great depression is usually taken as the prototype of a global crisis. The collapse in the demand that followed the stock market crash in 1929 was transmitted to the rest of the world via deterioration in expectations. As the uncertainties about the sustainability of the Gold Standard unfolded, the fall in demand became entrenched in a low labour utilisation and output (Bernake & Carey, 1996). Staying in the Gold Standard constrained central banks ability to lower interest rates to combat unemployment, which otherwise would have been forced to abandon the peg. As countries started to abandon the Gold standard, they were able to rapidly increase money supply and promote a rapid recovery. Conversely, those that remained in the system suffered a monetary contraction that caused persistent output and employment losses (Eichengreen & Sachs, Exchange Rates and Economic Recovery in the 1930's, 1985). With falling imports many countries introduced protective measures that further reinforced the collapse in the world trade.

The incomplete adjustment of nominal wages to the decline in the price level has been considered as one element that delayed the adjustment, contributing to the propagation of the deflationary shock (Bordo, Erceg, & Evans, 2000). The fall in the price level, unaccompanied by a comparable downward wage adjustment, put firms' profitability, especially the more intensive users of labour, under strain (Ohanian, 2009). The sharpest decline in manufacturing

output was experienced by countries where nominal wages adjusted relatively slowly to changing prices (Newell & Symons, 1988). The impact on unemployment was minimised by a fall in the average hours worked, which varied across countries depending on the real wage adjustment and the availability of unemployment insurance system, which some considered having shifted the balance of adjustment toward the extensive margin (Harrison & Hart, 1985). One distinctive element of the Great Depression is the increase in labour supply of many family members in response to the increase in unemployment of the principal bread winner (Margo, 1988). Finally, both the incidence of long-term unemployment and of average unemployment spells rose dramatically in the interwar period while, in many countries, men, older and young workers took the brunt of the labour market adjustment.

One unique element of the current situation in the EU concerns the size and timing of the policy response, which contrasts with the largely uncoordinated action of the early 1930s. Similarly, compared to the early 30s, no outbreak of protectionism was observed during the current recession (Baldwin, 2009). Moreover, while the inflationary pressures abated, persistent decreases in output prices were not observed. In assessing the labour market response during the recession, it should be considered that the European labour markets are nowadays fundamentally different from the sclerotic markets of only two decades earlier. Under the pressure of high and persistent unemployment and low employment rates, an incremental and continuous process of labour market reforms started in the mid 1990s. Increased economic 'turbulence' and demographic developments represented exogenous pressures to relieve the constraints to labour supply. As shown elsewhere, these reforms have been successful in raising employment rates and the labour market flexibility of especially those groups with low labour market attachment (Apraia & Mourre, 2010) as well as unemployment turnover and job-to-job shifts (Boeri & Garibaldi, 2009).

Employment, unemployment, employability, and many other terms are used nowadays to describe a series of concepts regarding the work and the labour habits and practices.

The labour force or else the economically active population consist of the employed and unemployed population. According to the International Labour Organization the employed population is made up of persons above a specified age who furnish the supply of labour for the production of goods and services whereas the unemployed of persons who are available to, but did not, furnish the supply of labour for the production of goods and services. The sum of the employed and the unemployed population measured for a short reference period is equivalent to the labour force, also known as the current economically active population. (International_Labour_Organization, 2010)

In the EU, following the escalation of the economic crisis in the euro area, uncertainty dominated the economic outlook, influencing investments and consumption decisions. Output growth in most EU countries decelerated, to a slowing growth in emerging economies. Employment was hardly hit. The timid recovery started at mid-2011 was interrupted and job losses prevailed. Repercussions were felt not only in terms of reduced job finding rates, but also in terms of a renewed process of job shedding. (European_Commission, Labour Market Developments in Europe, 2012)

Unemployment

The current economic recession has had a tremendous impact on the economy of most developed countries. However, its consequences for the labour market are rather unequal depending on the country considered. While some countries faced only a minor impact on their level of employment (e.g. France, Netherlands or Sweden) others are experiencing large increases in their unemployment rate. Indeed, the Baltic countries have experienced rapid increases in unemployment during 2008 and 2009 while countries such as Spain, Greece, and Ireland have experienced the largest increases in unemployment rates in the EU27 between the end of 2007 and the end of 2011. (Gradin, Canto, & del Rio, 2012)

Any unemployment spell is clearly associated with an individual loss of wellbeing due to its harmful effects on present and future earnings, and also on other non-monetary dimensions, such as, self-esteem, human relations

and family life, cognitive abilities, mental health, etc (Sen, 1997). It is generally accepted that the actual negative impact of unemployment can be very different depending on its duration, this is because long spells tend to harm wellbeing proportionally more than short spells and also because a long unemployment spell largely reduces the individual's probability of finding a job in the future (McGregor, 1978) However, the conventional statistics on unemployment do not adequately capture to what extent the recession is not only increasing the incidence of unemployment but also its severity in terms of duration in time for currently ongoing unemployment spells. Usually, this gap is only filled by the use of partial measures such as the share of long-term unemployment (12 months or more) on total unemployment or a measure of the average unemployment spell length. (Machin & Manning, 1999)

The fact that the intensity (duration) of unemployment is considered in the analysis of this phenomenon also raises the question of the extent to which the experience of unemployment is either concentrated in fewer individuals with longer spells, or instead, is more spread across a large group of people experiencing shorter spells. The traditional measures of other forms of lack of wellbeing, such as poverty or discrimination, suggest that the former, i.e. unemployment being long and concentrated in fewer individuals, is socially less desirable, assuming there is a social preference for equality. That is, in measuring the impact of unemployment on a society's wellbeing, the whole distribution of unemployment spells across the labour force should be considered as a base for constructing distribution-sensitive aggregate measures.

Nowadays, there are clear signs of an increasing duration of unemployment spells during the crisis in a variety of countries within the European Union with a massive increase in the unemployment rate in EU countries such as Spain, Greece, or Ireland in recent years (10-14 percentage points between 2007 and 2011). For example, the long-term unemployment share increased, between the start of 2007 and the end of 2011, from 22 to 43 percent in Spain, from 34 to 52 percent in Lithuania, from 29 to 63 percent in Ireland, from 23 to 33 percent in the UK, and from 14 to 19 percent in Sweden, whereas long-

term unemployment here refers to unemployed persons with a spell of at least 12 months, as defined by Eurostat (Eurostat, Eurostat).

Unemployment in the EU as a whole grew, in contrast with other world regions. The unemployment rate in the euro area is currently at the highest level since the start of the monetary union, and the degree of diversity in the unemployment performance remains at unprecedented levels. The overall unemployment rate of the EU is currently heading towards nearly 10.5%, that of the euro area is about 11%, the highest rate since the start of EMU. Since the start of the crisis in 2008, the number of jobs lost totaled about 5 million in the EU, 3 million in the euro area. (Eurostat, Unemployment Statistics, 2013)

Youth and women unemployment are the two major issues. The unemployment risk of young people is usually higher than that of adults, and younger cohorts have on average higher unemployment. This is a result of various factors including lower work experience, relatively short or unfinished education and more unstable contractual relationship, less job-search contacts. The proportion of young that are neither in education, nor in employment or training (the so-called "NEETs") has increased in the EU since the onset of the crisis. (Office_for_National_Statistics, 2013)

Women have been harshly hit by the crisis, especially due to the austerity measures introduced in addressing the crisis. It is essential to guarantee an equal access to the labour market for women and men and this from a young age, in order to prevent creating bigger gaps at a later stage. So, specific causes of youth unemployment among women have to be tackled. (Youth_Guarantee, 2012)

But the austerity measures taken by most of the European governments to address the crisis are affecting women more than men. As explained in a report by the British think-tank Fawcett Society women face "triple jeopardy", namely wage freezes and job cuts in the public sector where they are mainly employed, but also that women need the most (health and care services, care facilities, family support services, etc.) and because of the traditional roles in family, they often have to leave their jobs to take care of dependent persons when Welfare State is withdrawn. (Stewart, 2012)

The most traditional form of employment is the full time. Full-time employment is employment in which a person works a minimum number of hours defined as such by his/her employer. Full-time employment often comes with benefits such as annual leave, sick leave and health insurance etc.

A key driver of high levels of youth unemployment is the difficulty many young people have making the initial transition from school into work. Changes in the labour market associated with the shift from production and manufacturing to a service economy have made this transition more difficult as employers seek recruits with so-called 'soft skills' such as customer service and communication. These skills are difficult for young to develop and demonstrate with no or limited work experience. But we know that good qualifications are also more essential than ever, if young people are to avoid spells out of employment.

Through a combination of work and study, apprenticeships can smooth the path into work, enabling young people to continue to work towards higher qualifications while gaining valuable labour market experience. Completing an apprenticeship can significantly improve a young person's employment prospects.

Lifelong Learning (LLL) and Vocational Education Training (VET)

Contemporary corporate environment is very fast evolved and demanding, even more during the current economic crisis. Thus, continuous improvement of people and organizations and their ability to adapt themselves in any given condition and situation is crucial. Despite the fact that someone may possess knowledge in a scientific field, even in depth sometimes or have a set of skills and/or competences in a practical job, everyone's responsibility is to further develop it, follow new trends and evolutions, broaden his horizons and step into new areas and sometimes even diversify himself by changing his career.

As an answer to this need, at both state level as well as EU level, many initiatives are taken in order to safeguard and to promote this need for Lifelong Learning (LLL). More specifically, Vocational Education and Training (VET) is an application of LLL that prepares or develops further people for specific trades, crafts and careers, is an area of importance at a European level.

Lifelong learning (LLL) is the process followed by an individual or organization of getting new knowledge for either personal or professional reasons. It not only enhances social inclusion, active citizenship and personal development, but also competitiveness and employability. (Commission_of_the_European_Communities, 2006)

Vocational Education and Training (VET) is an education that prepares people for specific trades, crafts and careers at various levels from a trade, a craft, technician, or a professional position. Academic education is the one that builds analytical skills, knowledge and critical thinking while VET develops craftsmanship, practical experience and problem solving skills. (Education_International, 2009)

Hence, LLL is something more general in adult training and VET more job, profession and workplace focused.

At a European level in general, both these terms are well known and part of the society, although not in a uniform way and extent. There is European Centre for the Development of Vocational Training (Cedefop), an agent of the Commission, which plays a role at a supranational level.

In addition there are also different "schools" of vocational training, with most prominent the Anglosaxon model with United Kingdom as its main representative and the German model with Germany.

The Role of Cedefop

The **European Centre for the Development of Vocational Training** (**Cedefop**) is an agency of the European Union, established in 1975 by Council Regulation (EEC) No 337/75. (Cedefop, 2013)

Cedefop is located in Thessaloniki, Greece and its name is the acronym of its French title, Centre Européen pour le Développement de la Formation Professionnelle. It supports development of European vocational education and training (VET) policies and contributes to their implementation.

Cedefop's role is in identifying skills needs, understanding qualifications, analyzing policies and developing LLL. It's acting as Europe's VET and LLL reference center and its current priorities (2012-2014) respond to the European policy framework for education and training which the European Commission and Member States redefined in 2009 and 2010:

a. Supporting modernization of VET systems,
b. Careers and transitions – Continuing VET, adult and work-based learning
c. Analyzing skills and competence needs to inform VET provision. (Cedefop, 2011)

Cedefop is run by a Governing Board by which national governments, trade unions, employers' organizations and the European Commission are represented. Day to day operation is the responsibility of the director, who is appointed by the European Commission on the basis of recommendations by the Governing Board. Cedefop's budget comes from the European Commission.

Another issue that has been addressed lately at a European level is the mutual recognition of academic and vocational paths for citizens of the EU and the equivalence of their degrees and tittles. This has been dealt with in a series of treaties and was finalized via the Lisbon Strategy or Agenda (and via the Bologna and the Copenhagen Process respectively).

Initially, the Treaty of Rome did not make any extensive reference to education. It simply stated in Article 3 that the Member States should make a

contribution to quality education and training. It was essentially with the entry into force of the Maastricht Treaty that a comprehensive reference was made to the contribution of the EU in this area. Among other things, education became subject to co-decision. The Amsterdam Treaty changed the provisions slightly, the main change being that the co-decision procedure applied to vocational training as well.

According to the principle of subsidiarity, each Member State has the full responsibility for the organisation and content of its education and vocational training systems. Any act of harmonisation of legal and regulatory provisions of the Member States is excluded from the scope of Articles 149 and 150. (European Parliament, 2001)

Cedefop is the European Union's reference centre for vocational education and training, providing information on and analyses of vocational education and training systems, policies, research and practice. (Cedefop, 2013)

Lisbon Strategy (or Lisbon Agenda) in March 2000, was initiated due to the fact that the EU's economic performance had lagged behind that of the US throughout the 1990s and there were no signs that the EU would catch up in the next decade.

Lisbon Agenda set a series of specific targets for 2010, like overall, women and older workers employment rate, economic growth etc with an overall aim to make EU 'the most competitive and dynamic knowledge-based economy in the world'. (Hix, 2005) An important concept stated by then was the "Learning Economy", and part of it had to do with transparency of qualifications, support of LLL, access and progress of learning, support of mobility among member states.

The Bologna Declaration in June 1999 put in motion a series of reform needed to make Higher Education in Europe more comparable, competitive and attractive to citizens of EU as well as for students from all over the globe. The 3 cycle system (Bachelor – Master – Doctorate), periods of study and the quality assurance and recognition of qualifications were the main three objectives.

The Copenhagen Process aimed to help develop vocational education and training systems. (European_Commission, 2008) Its aim was to increase voluntary cooperation in vocational education and training, in order to promote mutual trust, transparency and recognition of competences and qualifications, and thereby establishing a basis for increasing mobility and facilitating access to lifelong learning. (European Commission, 2002)

The Bruges Communique in 2010 was the last evolution that announced VET as a motor for smart, sustainable and inclusive growth and set a new vision for 2020. (European Union, 2011)

Vocational training and Apprenticeships are a way for young people and adult learners to gain skills and achieve qualifications while working – apprentices work alongside experienced colleagues and attend training or study for one day a week (whether at college or delivered by a training provider working in

partnership with the employing organization) in order to gain technical knowledge, practical experience and a recognized qualification.

VET in Germany

The German system of Initial Vocational Education and Training (IVET) offers young people a wide choice of different paths leading to vocational qualifications. The internationally acclaimed dual system of vocational training forms the core of the Ger-man IVET-system and is also by far its most important single component in quantitative terms (i.e. with regard to the number of participating students). Indeed, some 86% of up-per secondary students in vocational pathways enroll in the dual system, the rest mainly in full-time vocational schools.

The highly skilled labour force is a fundamental strength of the German economy and a major reason for its positive performance on international markets. An important basis for this skilled labour force is provided by the extensive German apprenticeship and training sys-tem. Thus, the German vocational training system is commonly viewed as a key institutional ingredient sustaining the competitive strength of the German economy. High-quality vocational training according to commonly agreed national (quality) standards is provided in a wide range of training occupations in all economic sectors (and their sub-branches). This large spectrum of training occupations can also be regarded as an important factor why the German economy has a broad basis and is competitive in quite a large number of economic sectors and therefore has avoided a more unbalanced concentration on just a few sectors.

Unlike in the so-called "liberal" market economies, e.g. in Anglo-Saxon countries (characterised by a strong focus on pure market-co-ordination), the German system traditionally sup-ports very high levels of company-sponsored (and company-funded) training. At the same time, and unlike other enterprise-based (segmentalist) training systems such as those found in Japan, the German model embodies strong collectivist elements that guarantee that this training conforms to standards, in both quality and content, which are established and enforced at the national level (Thelen & Busemeyer, 2008)

As mentioned by Thelen and Busemeyer, three features set a collectivist system like the German one clearly apart from more segmentalist alternatives.

One is the overall higher level of company firm participation in training. In a segmentalist system like Japan, training is mostly undertaken by large firms for their own recruitment and retention purposes. By contrast, collectivist systems typically train "above need" and rely on the participation of a wider range of firms, including small and medium-sized enterprises (SMEs). Second, occupational labour markets feature more prominently in collectivist training regimes, whereas internal labour markets are more important in segmentalist systems. Third, and related to this, firm-based training in collectivist systems is subject to monitoring and oversight to ensure a degree of standardisation in the content and quality of skills – something that is completely absent from the alternative segmentalist model. Collectivist training regimes based on the production of occupational skills therefore require much more encompassing organisation and co-ordination on both the employer and labour sides than segmentalist systems based more on the production of company-specific skills.

The German version of a collectivist training regime has three main characteristics (Thelen & Busemeyer, 2008). First, a large share of enterprises engage in vocational training and, as a consequence, a large share of the youth population in a given age cohort opts for vocational training (mostly in the dual training system) in preference to a general or academic (tertiary) education. As companies participate in training above and beyond their immediate needs, graduate trainees can and do move between companies via occupational labour markets. Second, the content of in-company vocational training is strictly regulated in the form of nationally defined training directives ("Ausbildungsordnungen"). Semi-public competent bodies (mostly the business chambers) and works councils closely monitor the content and quality of training in order to ensure the comparability of vocational qualifications on the national labour market. Third, these training directives are developed jointly by representatives of enterprises and trade unions in an institutionalised framework under the guidance of state actors. A co-operative climate prevails and the role of the state is relegated to that of a supportive arbiter.

The origins of the German system of training can be traced back to the 19th century. One of its key defining features is a surprising durability of many of its core elements through the up- and downturns of Germany's political and economic development over the course of the 20th century. However, the IVET-system has not survived because of an inherent “stickiness" but instead through its ongoing, active adaptation to new problems thrown up by shifts in the political and economic context. Continuous reform efforts reflect a strong will to adapt the system to new challenges. Indeed, it is hard to think of another political-economic institution in Germany that all the relevant parties - the business economy, trade unions, government institutions, all major political parties - are as committed to support as the vocational education and training system (Thelen K. , 2007).

CEDEFOP underlines that vocational training under the dual system is a key element of innovative strength, competitiveness and social cohesion in Germany (CEDEFOP, 2010). Its relevance to practical work and its closeness to the labour market enable high transfer rates from vocational training to working life and thus ensure that the economy's demand for skilled labour is being met. Moreover, vocational training provides young people with medium- and long-term employability and therefore good job and career prospects. It is also the best preventive measure against youth unemployment. These factors are a prerequisite for people's self-determination and participation in society.

In addition, the OECD acknowledges that the vocational education and training system is deeply embedded and widely respected in German society. According to the OECD, the system offers qualifications in a broad spectrum of professions and flexibly adapts to the changing needs of the labour market. The dual system is especially well-developed in Germany, integrating company-based and school-based learning to prepare apprentices for a successful transition to full-time employment (OECD, 2010).

The dual training system does not only have a good image in Germany and abroad, it also attracts a large number of students with high educational achievements. In fact, approx. every fifth trainee in the dual system holds a university entrance qualification and thus would be allowed to attend

university as well. Indeed, the existence of a well-organised and successfully performing training system (which also attracts many highly qualified students) is one key explanation for the internationally below-average share of young people who at-tend university in Germany. Nevertheless, a sizable share of these highly-skilled youths continue to university after completing their apprenticeship and return later to their training enterprise with a tertiary degree; a career path often to be found, for example, in banking.

An official definition of initial vocational education and training ("Berufsausbildung") is given by Section 1 (3) of the Vocational Training Act (BBiG). According to this, IVET has to provide trainees - within the context of a structured and officially approved training course - with the professional skills, knowledge and general skills (professional competence/ability to act) which are necessary for the execution of a qualified professional activity in a changing work environment. Furthermore the law states that IVET has to allow for the acquisition of the necessary practical/professional work experience.

According to the Federal Statistical Office (Statistisches Bundesamt) the term "apprentices" ("Auszubildende") is defined as follows: Persons who - on the basis of a training contract according to the Vocational Training Act (BBiG) - undergo in-company training in an officially approved training occupation. This includes also youths whose training is fully or partly financed by public programmes. Those persons are not considered apprentices whose vocational training takes place exclusively in (full-time) vocational schools (e.g. students at "Berufsfachschulen") or who are trained in public administration as civil servants (Bundesamt, 2010).

Thus, only trainees undergoing in-company training and studying at part-time vocational schools ("Berufsschulen") should be considered as apprentices.

BIBB's definition of "Vocational Training" includes the following six components (BIBB, 2010)

(1) Vocational training within the dual system (on the basis of the Vocational Training Act - BBiG),

(2) Full occupational qualification acquired at full-time specialised vocational schools ("Berufsfachschulen") according to BBiG and HwO (Crafts Code),

(3) Full occupational qualification acquired at full-time specialised vocational schools ("Berufsfachschulen") outside BBiG and HwO (i.e. in specific economic sectors such as non-academic health and caring professions),

(4) Training courses at specialised vocational schools and at specialised grammar schools that provide both a vocational qualification and a university entrance qualification at the same time,

(5) Vocational training according to Federal or "Land"-regulation in health, educational and social professions,

(6) Vocational training of civil servants in public administration (medium level).

On the other hand, concerning governing bodies, the Federal Ministry of Education and Re-search ("Bundesministerium für Bildung und Forschung", BMBF) has overall responsibility for the strategy in vocational education and training. It is responsible for the Vocational Training Act ("Berufsbildungsgesetz", BBiG), last reformed in 2005, publishes an annual VET report ("Bundesbildungsbericht"), funds and steers the Federal Institute for Vocational Education and Training (BIBB) and is responsible for programmes to improve VET. It also has responsibility for the in-company training part of the dual system.

Training directives ("Ausbildungsordungen") for specific training occupations are endorsed by specialised ministries, often the Federal Ministry of Economic Affairs and Technology ("Bundesministerium für Wirtschaft und Technologie", BMWi), but need the agreement of the BMBF.

The 16 Federal States ("Länder") have sole responsibility for the part-time VET schools of the dual system and the full-time VET schools. They design the school curricula, train and pay the teachers and are responsible for legal supervision of the competent bodies (business chambers). Due to this primary responsibility of the Länder for cultural and educational matters, there is

substantial variation across states with regard to the organisation and content of teaching in the school part of the dual system.

The social partners are closely engaged in the design and provision of VET. They are involved in the development and updating of the training directives (formally issued by the Ministry of Economic Affairs and Technology) and determine apprenticeship salaries through collective wage negotiations.

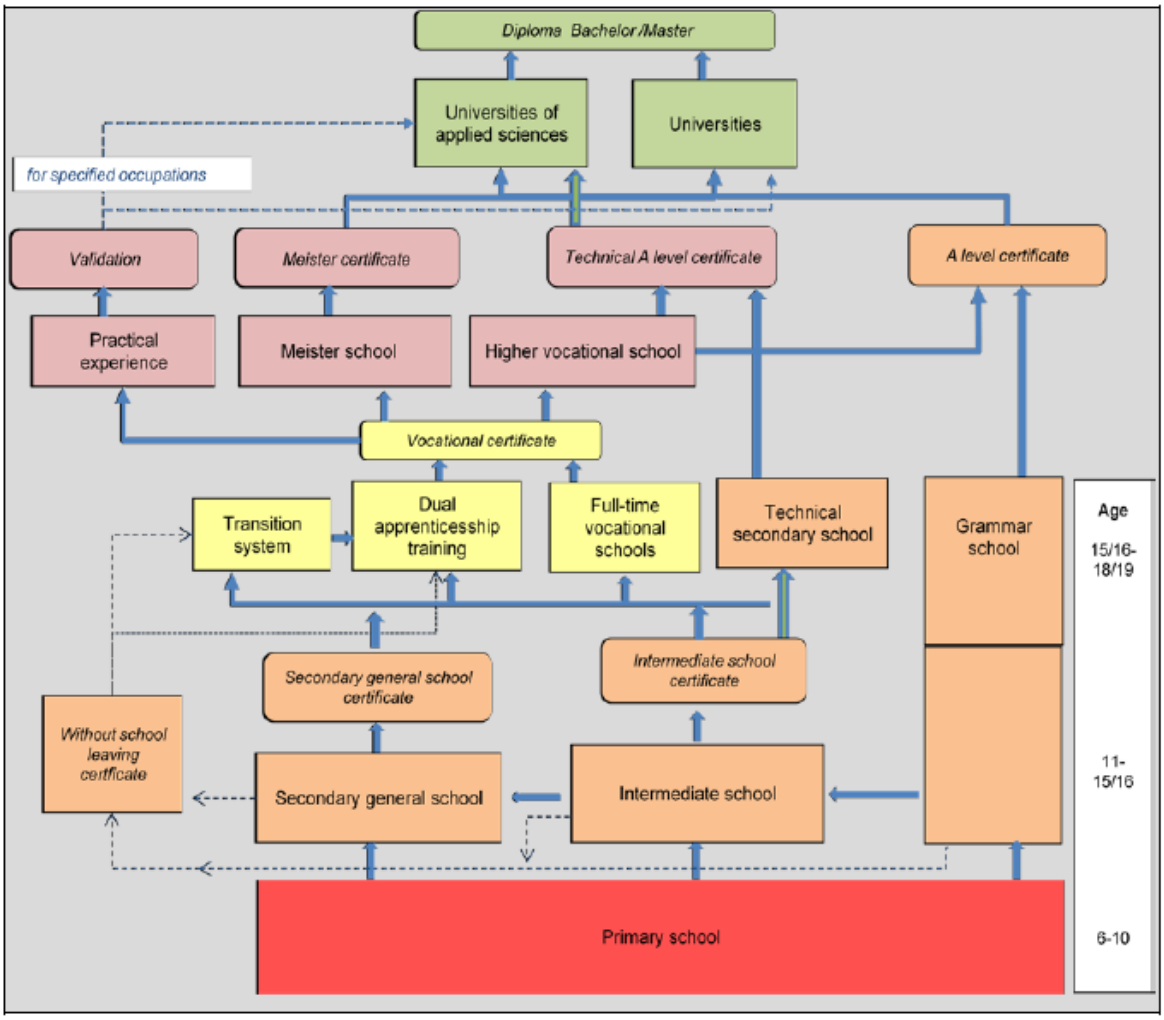
The business chambers are responsible for providing advisory services to participating companies. An important role of business chambers is their capacity as "competent body" ("Zuständige Stelle"). By way of the Vocational Training Act, the state has assigned business chambers with public/sovereign tasks in the dual system. The chambers supervise company-based training, register apprenticeship contracts, assess the suitability of training firms and monitor their training. Furthermore, they also assess the aptitude of VET trainers, provide advice to training firms and apprentices and organise and carry out the final exams (OECD, Learning for jobs - OECD Reviews of Vocational Education and Training Germany, 2010). The chambers also have an arbitration board that can be called in when a dispute arises between the partners in the traineeship; e.g. between the training company and the trainee.

The Federal Institute for Vocational Education and Training ("Bundesinstitut für Berufsbildung", BIBB) prepares the training directives in co-operation with other involved institutions. It also carries out research projects and helps in the further development of in-company VET by means of development, promotional and advisory work.

The Standing Conference of Ministers for Education and Cultural Affairs ("Ständige Konferenz der Kultusminister der Länder", KMK) issues framework curricula for vocational education at vocational schools. These framework curricula are harmonised with the Federal Government's training directives (CEDEFOP, 2010).

Concluding, apprenticeship in Germany is still the route into work and further career development for nearly two-thirds of all young people. Information and guidance on choosing apprenticeship is well-established in schools and in

careers advice centres. Since 1990, a proportion of apprenticeship places have been supported by federal and regional funding. Despite this support apprenticeship places have failed to match the strong demand from young people and some wait several years for a place. A sharp fall in young age group numbers is expected to resolve this problem in the short to medium term. Completion rates are good and additional courses provide access from apprenticeship to university. Employer commitment and involvement is high – almost all large firms offer apprenticeships – but there is dissatisfaction with the poor basic skills of some candidates. Apprenticeship costs to firms have fallen recently; savings in recruitment costs also help to offset the initial outlay on apprenticeship (Steedman, 2010).



(Bundesamt, Datenreport 2008: Ein Sozialbericht fuer die Bundesrepublik Deutschland, 2008)

VET in the United Kingdom

The British vocational training system is much different in its philosophy and implementation with the one of Germany. UK is committed to a step improvement in the level of workplace skills and substantial resources are allocated towards this objective. The VET policy-making in the UK could be described as dynamic and innovative, with a flexible system that allows tailor made training solutions for employers.

The recent Wolf Review has highlighted the importance of vocational education and training within the framework of qualifications and education in England (Wolf, 2011). As Wolf notes, '*most English young people now take some vocational courses before they are 16; and post-16 the majority follow courses which are largely or entirely vocational.*' While vocational education sits alongside a general (academic) route, it has been seen as the poor relation and as a result has been subject to continual attempts to revise and restructure it in order to deliver greater parity of esteem.

For example, intention to increase the vocational options available for young people between the ages of 14 and 19 was announced in the green paper, '14-19 Extending Opportunities, Raising Standards' (DfES, 14-19 Extending Opportunities, Raising Standards, Green Paper, 2002), with plans subsequently confirmed in the white pa-per, '14-19 Opportunity and Excellence' (DfES, 14-19 Opportunity and Excellence, White paper, 2003). '14-19 Opportunity and Excellence' recognised the need both to improve vocational options and raise the status of vocational provision. 'Curriculum 2000: Innovations, Opportunity and Change', further reinforced the message. This noted, among other points, the need to: increase parity of esteem for vocational qualifications, and to enhance and broaden 'A' level (Advanced post-16 qualifications) programmes by introducing vocational elements. Across the course of the next few years new programmes and a range of new awards were introduced (Tait, Frankland, Moore, & Smith, 2002).

More recently, governments have sought to increase the qualification and skill levels of individuals, to focus more attention on the technician level (Level 3, equivalent to ISCED 4), a need identified by the Leitch Review of Skills (Treasury, 2006). Different strategies have focused on the needs of young

people and adults, those in work and those preparing to join the labour market. For young people, the critical policy development has been the intention to raise the participation age (RPA) in education and training. The concept was introduced in the 'Raising Expectations: staying in education and training post-16' Green Paper and its implementation was established in the 2008 Education and Skills Act (DCSF, 2007). As a result of this strategy, young people are encouraged and at a final point mandated, to remain in education or training until the age of 18 and gain a minimum qualification of Level 2 (ISCED Level 3) with the achievement of Level 3 (ISCED 4) seen as the most desirable outcome.

The challenge now identified is that not all young people benefit from vocational qualifications which benefit them in the labour market. Wolf reports, 'conventional academic study encompasses only part of what the labour market values and demands: vocational education can offer different content, different skills, different forms of teaching. Good vocational programmes are, therefore, respected, valuable and an important part of our, and any other countries', educational provision… But (critically) many vocational students are not following courses of this type.' (Wolf, 2011)

The Confederation of British Industry (CBI) notes the centrality of apprenticeship but also its key concern in their reform:

'There must be a "respected and credible" vocational offer to employers and individuals that can command the same respect as academic options. This should be based on an expanded Apprenticeships scheme and reformed vocational qualifications." (BIS, 2010)

The vocational qualification offer will, as a result, be reformed – to provide a simplification since it is found to be 'complex and opaque' when compared to other EU nations and to focus on those elements which benefit young people and employers most. Apprenticeships are seen as the high quality route to achieving improved outcomes for young people who choose to leave full-time education in order to enter work. They are a crucial part of education and training provision within the UK and are critical to raising the participation age. Until the RPA strategy was established, three options were available to young people at the end of compulsory schooling: they could choose to

continue in education, they could take up a training post (an apprenticeship) or they could enter the labour market through taking up a job without training (JWT). This latter route is no longer acceptable to policy officials and expanding the provision of apprenticeships is seen as the key route to meeting the needs of young people in this group – so far as they have obtained qualifications which enable their access to an apprenticeship. For capable young people, an apprenticeship is now the only route to gaining nationally recognised and accredited initial vocational education and training which has a significant and mandatory element of work-based learning within the English system.

Apprenticeships have received significant support from successive governments in recent years with the previous Labour and current Coalition administrations detailing plans for their expansion. The most recent announcement, contained within the Schools White Paper (2010) envisages that 131,000 young people would start an apprenticeship in 2010/11.

Historically, apprenticeships have been held in high esteem and they are currently viewed as a high quality route which deliver benefits to young people (who gain good quality qualifications which underpin labour market transitions) and employers (who may access skilled young people and train to the company's standards). However, in the intervening period, reforms are said by some commentators to have led to a devaluing of apprenticeships such that there is concern that young people and employers lack awareness of the opportunity to undertake them. These reforms have included a shift from time-served and employer contracted apprenticeships to accredited- and competency-based approaches (through National Vocational Qualifications) and new models of delivery. The expansion of apprenticeships into non-traditional sectors may have had an influence here and some have argued this led to the establishment of a two-tier system such that Apprenticeships in traditional sectors are viewed as having higher value than those delivered in non-traditional sectors. There has been an increasing focus in recent years on achievement rates in apprenticeships and this may have led to a tightening of entry criteria. Apprenticeships are available to all young people in England,

and particularly suitable for those who want to qualify through work-based training rather than to continue in full-time learning.

The Data Service 270 identifies that an apprenticeship in England is 'a framework consisting of a National Vocational Qualification (NVQ), Key Skills qualification (typically functional literacy, numeracy, IT skills), a technical certificate (which provides the 'knowledge' input element and may be combined within the NVQ) and input focused on employment rights and responsibilities. Learning as part of an apprenticeship takes place both in the workplace and with a local learning provider. The apprenticeship framework ranges from qualifications at Level 2 to Level 4 (ISCED equivalent 3 to 5

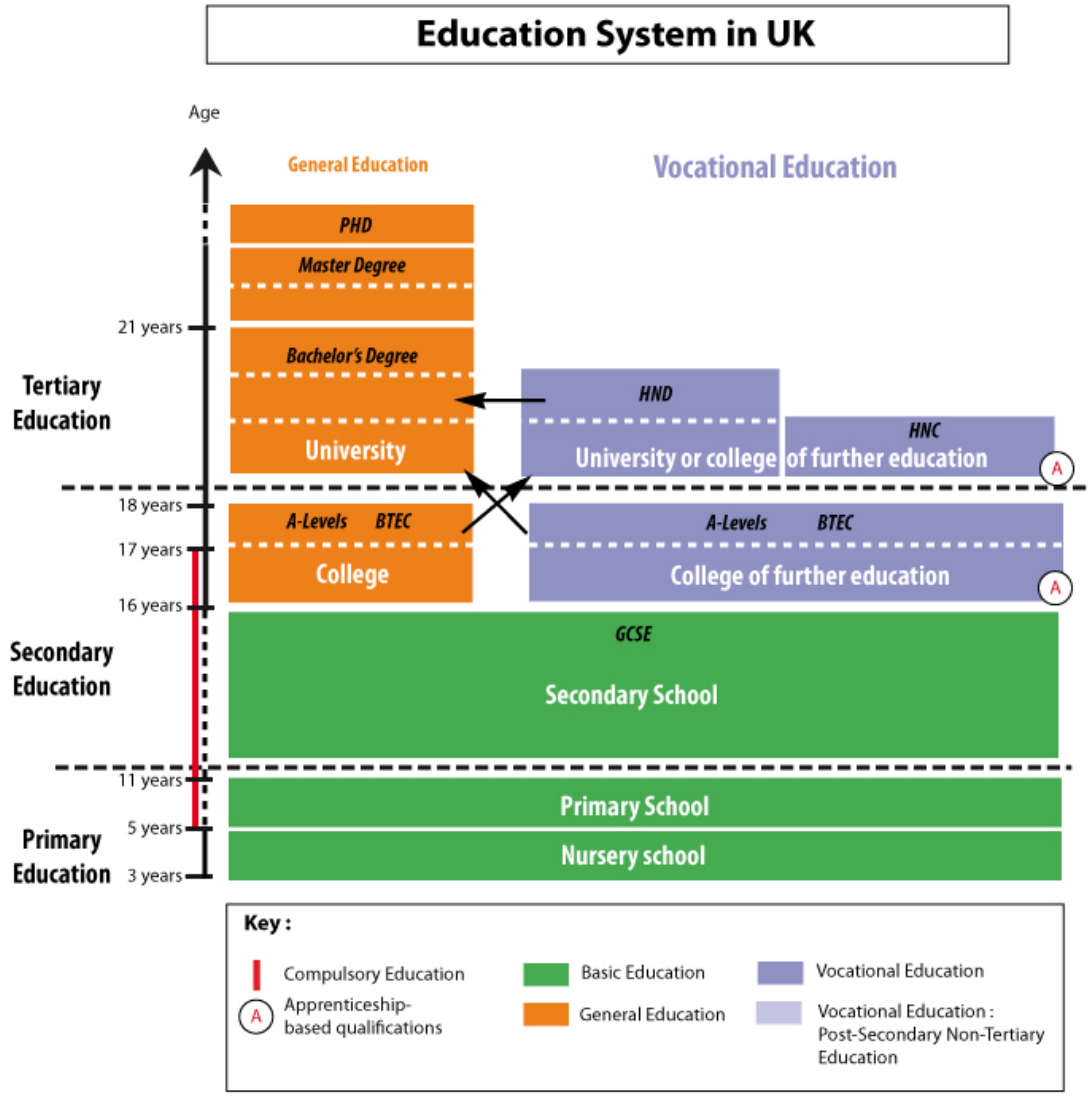
Responsibility for apprenticeships straddles the policy areas of the Department for Education and the Department for Business, Innovation and Skills. Consequently, ministerial responsibility encompasses both of departments. The Department for Education has responsibility for education among children and young people; hence its interest extends to young people engaged in Apprenticeships (up to the age of 19). The Department for Business, Innovation and Skills focuses on adult skills and training (ie post-19 years) and adult apprenticeships are within its remit.

The National Apprenticeships Service coordinates and leads apprenticeships in England with responsibility for providing information and advice to employers and to young people. It is tasked with providing a job matching process. These responsibilities are delivered through a national policy and business delivery team, and regional teams with dedicated employer and learner services. The national team works to promote Apprenticeships and develop policies and practices which enhance the learner and employer experience. Regional teams provide detailed support to employers and support training providers and careers guidance staff in schools and colleges. The Apprenticeships, Skills, Children and Learning Act 2009 set priori-ties and targets for the activities of the National Apprenticeship service. This act provides the legal framework/legislative structure for apprenticeships.

OFSTED, the Office for Standards in Education, Children's Services and Skills in England, regulates apprenticeship training. It has responsibility for the regulation and inspection of schools, colleges, training providers and other

education establishments to achieve excellence in the care of children, young people and adults and in education and skills for learners of all ages. The social partners declare their centrality to supporting apprenticeships although the Trades Union Congress (TUC) has noted a decline in the influence of unions in recent years. The social partners provide a critical dialogue on the government policies and strategies.

Apprenticeship was almost relaunched in England in 1994 and numbers increased to 200,000 by 2000 and just under 300,000 by 2009. Employers are well-represented on national and sector skill organisations but employer numbers offering apprenticeships are low by international standards (~8%). Hence, the supply of applicants substantially exceeds employer demand. Apprenticeship requires completion of competency based qualifications, underpinning knowledge and key skills, employment experience and off-the-job training. Completion rates have improved and are now comparable to some other countries. Progression to higher qualification levels is poor. The administration of government funding for apprenticeship training lacks transparency and deters or at best marginalises many employers. Financial incentives available in most other countries to employers taking apprentices are not normally available in England (Steedman, 2010).


Education System in UK
Age
General Education
Vocational Education
PHD
Master Degree
21 years
Bachelor's Degree
Tertiary Education
HND
University
University or college
HNC
of further education
A
18 years
A-Levels
BTEC
College
17 years
A-Levels
BTEC
College of further education
A
16 years
GCSE
Secondary Education
Secondary School
11 years
Primary School
5 years
Primary Education
Nursery school
3 years
Key :
Compulsory Education
Apprenticeship-based qualifications
Basic Education
General Education
Vocational Education
Vocational Education : Post-Secondary Non-Tertiary Education

(ONISEP)

Comparing the two models

The German and the UK model are both supposed to be two pretty successful vocational education and training models with long tradition, though very different in both their philosophy and their implementation. The German system is frequently contrasted with two alternative models of skill formation that have very different distributional consequences – so-called liberal and segmentalist skill formation regimes, a distinction by Kathleen Thelen, taking the distinction of "liberal" and "organized" market economies of P. Hall and D. Soskice a step forward (Thelen K, 2003).

Very briefly, in liberal training regimes such as in the United States and Great Britain, firms do not invest as heavily in initial vocational training for industrial workers; instead, training takes place mostly through institutions offering formal education that focus on general skills (Hall & Soskice, 2001).

One of the crucial traits of the German apprenticeship system is its dual character. Whereas in other European countries, including the UK, on-the-job training – even under modern apprenticeship programs – is complemented by off-the-job training on a more or less voluntary basis, in Germany, it is mandatory. While there has been an ongoing discussion about the process character of vocational training in the UK – including the scope for expansive participation of companies in workplace-related training, in Germany, the law provides the framework for dual apprenticeships by making sure that school leavers are kept within the educational system – although there is now a growing number of school leavers in school-based VET and various vocational preparation and transition programs. For each training occupation, the state education ministries, in line with training regulations under the federal law, work out syllabuses for the vocational and general subjects within a given occupation taught at the part-time vocational schools. Therefore, the most traditional model of a dual system exists in Germany and may be described as comparatively resilient to change, which certainly poses problems in the context of European VET policy which tries to integrate obviously different cultural concepts of organizing labour, labour markets, and modes of skill formation (Deissinger, Dual System, 2010).

Such a system is seen as particularly good at producing a range of very high-end skills (high-end services and information technologies, for example), though not as suited to generating a strong supply of blue-collar manufacturing skills. In such a system, the acquisition of skills itself depends crucially on the resources that young persons (actually, their families) can bring to bear, with obvious consequences for the reinforcement of socioeconomic divisions rooted in different educational opportunities (Becker, 1993).

There is an alternative, "segmentalist" system for skill formation – such as one finds in the large firm sector in Japan, for example –that, like the German system, has traditionally been seen as supporting significant firm-based training and strong performance in manufacturing (Finegold & Soskice, 1988). In such a system, firms invest significant resources in training workers, mostly in company-specific skills, and they combine these efforts with complementary personnel policies such as seniority wages and internal career ladders (Swenson, 2002). Segmentalist systems are typically associated with a high degree of labour market "dualism" (thus sustaining strong differences between conditions of work in the core and periphery) and they are also strongly associated with company unionism – with implications for organized labour's overall rather weak position at the national level (Streeck, 1989).

In a comparative perspective, German firms employ a high proportion of the workforce with intermediate-level qualifications. The reason for this is that vocational training mostly occurs in the dual system (Duales System) which functions as the major nonacademic route for German school leavers by giving them formal access to the labour market as skilled workers, craftsmen, or clerks. The system has traditionally recruited between 50 and 60% of 16–19-year-olds and contributes to limiting the number of unskilled employees to a constantly low proportion in the German labour market. Unlike in the UK, where they form a marginal sector within the vocational training systems, dual apprenticeships exist in nearly all branches of the German economy including the professions and parts of the civil service (Deissinger, 2004).

Hereby, the function of the dual system unequivocally is to impart initial training to school leavers in a given range of declared trades or recognized

training occupations (Ausbildungsberufe) by using two sites of learning: the training company (Ausbildungsbetrieb) and the part-time vocational school (Berufsschule), with compulsory school attendance for all young people under the age of 18 not attending a higher or a full-time vocational school, hence covering virtually all who have entered an apprenticeship. Instruction can be part time during the week or on a block-release basis. Compulsory instruction in the parttime vocational school is both laid down in the various federal state school acts and indirectly regulated in the Vocational Training Act (Berufsbildungsgesetz), which defines the duties of both parties out of the training contract. When it comes to working time and working conditions, the Youth Employment Protection Act (Jugendarbeitsschutzgesetz) obliges employers to release young people to attend the vocational school during normal working hours.

Moreover, the German dual-apprenticeship system may be viewed as a system of training rather than a system of employment in which the wages of apprentices reflect this emphasis, with German apprentices typically receiving wages that are far lower than adult rates and apprentice rates in the UK. Training allowances are the result of collective bargaining but keep attached to the purpose of giving young people a basic start into their working lives without putting too much burden on employers. As the apprenticeship system is neither part of the school or education system nor a normal sphere of work the system reference is clearly training and recruitment for skilled work. Such a clear separation of pathways or subsystems implies that expectations which rest on the dual system and frictions on the training market can hardly be compensated without additional activities on the side of the state. Among these, the promotion of external training options and the introduction of incentives for employers have been the most important ones in recent years.

However, in contrast with the German type of dual training, apprenticeships in the Anglo-Saxon world are organized in a much more open, volatile way: In England, for example, the apprentice is expected to maintain his normal working hours with an employer while undergoing on-the-job training. This allows the apprentice to achieve national vocational qualifications (NVQs). At the same time, the learner is supposed to spend time with a learning provider

to gain key skills, and to study for a technical certificate. Hereby, the weekly balance of work and study depends on the type of apprenticeship and on the individual employer. There are models where apprentices are given time off work on certain days to go to a learning provider, often a local further education college. The dual system therefore is much more employment based and not regulated in a uniform way, let alone based on vocational training law. Many researchers of apprenticeship training in the UK have consistently pointed to the structural weaknesses of modern apprenticeships lacking minimum training periods, compulsory part-time technical education, and other quality standards (Marsden & Ryan, 1991).

The absence of process regulation in the UK obviously corresponds with the competence-based approach in the area of skill certification. What matters here is demonstrated competence in the performance of work tasks and no substantial educational attainments. The Anglo-Saxon model of apprenticeship therefore is an interesting mixture of old and new without the political or institutional buttressing of the system typical of Germany, and without locating apprenticeships in senior secondary education. As a matter of fact, apprenticeship numbers have stagnated on a level which is seen by policy as too low for stabilizing the company-based entry-level training system. Under these circumstances, learning on the job in a more or less formalized manner, is still the dominant way of acquiring skills outside the system of further education. Skills remain job specific as they are not based on a broadly designed initial training program (Clarke & Winch, 2007).

It is really difficult to say which of the two models is better in its structure, philosophy and results. In some cases the British proved to be better in some other the German.

In a sector study by H. Steedman back in 1997, about the Engineering and Construction Skill formation and its comparison between the UK and Germany (Steedman, 1997), it is concluded that allowing for differences in the size of the engineering and construction sectors in the two countries, Britain continues to lag well behind Germany in the production of intermediate level engineering skills and in craft qualifications in the building trades. The standard of the German tests of technical knowledge and of mathematics was

judged to be well above the building trades craft level in Britain. Unlike their German counterparts, British construction and engineering trainees awarded NVQ 2 and NVQ 3 qualifications are no longer obliged to pass externally set and marked tests in occupationally-related technical skill and knowledge and in mathematics. It appears that Britain is still some way from closing the skills gap with Germany in engineering and in the building trades despite sacrificing rigour in assessment and the breadth and technical knowledge base of traditional skills training programmes and concentrating instead on work-related practical competences.

In another study about the ICT, Britain proved to have a better skills supply model. In her study, Hillary Steedman, was found considerable differences between Britain and Germany in the skill supply available for recruitment to ICT support and development departments (Steedman & Wagner, The impact of national ICT qualification systems on companies' recruitment practices - an Anglo - German comparison, 2007). In Britain, the skill supply is characterised by:

- a rapidly expanding university population,
- three-year first degree (Bachelor) courses,
- relatively low university drop-out rates,
- almost no use by companies of apprenticeship programmes,
- increasing use of work permits to import ICT skills,
- extensive use of contractors and out-sourcing.

The skill supply in Germany is characterised by:

- a relatively small number of students completing university courses in computer science, at about a third of the British figure,
- a long study period of between six and eight years,
- FH graduates who study for four years and often spend two periods of three to six months working in companies,
- a strongly increasing number of apprentices,
- difficulty in attracting/integrating employees from other countries,
- considerable use of contractors and some outsourcing.

German companies were found to employ graduate entrants at higher positions and paid higher real starting salaries than in Britain. Not only was a smaller supply of ICT graduates available to German companies, but German companies normally recruited only graduates with ICT or ICT-cognate qualifications such as physics.

British companies on the other hand were found to be extremely flexible and it was common practice to recruit graduates for ICT occupations from a wide range of academic disciplines. This more liberal attitude requires cooperation across organizational boundaries, a less hierarchical work organisation and a flexible working attitude. However, given that the graduates came from all sorts of disciplines with only little or even no ICT specialisation as a consequence British companies had to train new graduate recruits for longer and more intensively than was the case in Germany (Steedman & Wagner, 2007).

A successful apprenticeship system requires a high level of employer involvement.

In Germany, apprenticeships are highly regarded by both students and employers – the qualifications they provide are recognized as a reliable mark of competence and employers have confidence in the level of skills and knowledge they impart.

One of the main reasons for this is the high level of employer involvement in the German apprenticeship system – almost all large employers take on apprentices, and a large number take a very active role in the development of the system. Employers contribute in a number of ways: they develop and provide training for apprentices, are active in the development of training programmes and standards, support co-ordination between schools and enterprise, advise on and supervise training provision, implement examinations and award qualifications.

High involvement rewards German industry with significant influence over the vocational curriculum, ensuring a good match between the supply of, and demand for, skills in the labour market.

In contrast, in England under a third of large employers offer apprenticeships and smaller businesses, in particular, find it much harder to engage in the system. This limited engagement has meant that, in many cases, apprenticeships have not been developed with employer needs in mind, which, in turn, has constrained growth in the supply of good quality apprenticeships.

It is vital that employers of all sizes are part of an apprenticeship system if its to deliver a skilled workforce that matches employer needs.

Apprenticeships should involve high-quality training and educational content

As a form of part-time education, apprenticeships should involve a substantial amount of off-the-job learning. The German system excels in this respect – German apprentices typically spend around 12 hours in off-the-job learning per week in both vocational and more general areas of study (for example languages, business studies and citizenship). Through combining school and work-based learning, theoretical approaches developed in school are thought to complement practical learning in the workplace.

In Germany and many other countries across Europe, Level 3 (equivalent to two A Levels) apprenticeships are the norm. This high level of educational content provides enough knowledge and skills to be transferrable to other career sectors or further education.

The UK system has much to improve in this respect – here apprentices typically spend only one day per month in off-the-job training, and the vocational qualifications that make up the educational aspect of the framework are criticized for being too job-specific and not 'rich' enough. Most of the recent rise in apprenticeship take-up has been at the intermediate level (Level 2 – equivalent to 5 GCSEs), which will limit labour market returns.

Quality also varies widely, and in sectors where apprenticeships have traditionally been less common, for example in retail and customer service, apprentices spend the majority of their time working and only a very small amount of time in off-the-job training.

Apprenticeships should provide a clear pathway form school to work

While apprenticeships are not just for young people, they are a key mechanism to smooth the school-to-work transition. In Germany, a high proportion of young people choose to pursue vocational pathways, compared to the UK where this route is often regarded as secondary to academic study – here many people 'end up' on an apprenticeship, after being funneled through an academic system that is not right for them.

As a result, the apprenticeship system has, so far, had little impact on the UK's youth labour market. Recent growth in apprenticeship numbers has been driven by those aged over 25, suggesting that young people either don't know enough about them or don't view them as a worthwhile route from school to work. This contrasts sharply with Germany, where vocational pathways are more common and where are almost four times as many apprentices as in England.

A lot more progress must be made to increase young people's knowledge and awareness of apprenticeships – clearer pathways into apprenticeship are essential if they are not to offer a clear vocational alternative to academic study.

Conclusions

Different countries see their priorities and organize their strategies and the execution of these strategies differently. And as far as Lifelong Learning and Vocational Education and Training is concerned, harmonization is not an issue as a result of Maastricht Treaty. Hence an agency like Cedefop at a European level may not harmonize or regulate initiatives and policies of individual countries. Its role is helping the European Commission, EU Member States and the social partners to develop the right European VET policies and works to strengthen European cooperation and provide the evidence on which to base European VET policy. Cedefop's comparative analyses provide an up-to-date information on developments in VET as well as opportunities for policy debate.

Therefore the German model of apprenticeship with a greater weighting on the hands on job experience and less on its educational part is one viewpoint, that is very much followed by all German speaking countries (Germany, Austria, Switzerland). The need of immediately available trainees-employees to staff industry is very much the priority. The role of state in its regulation and coordination is vital despite the joined responsibility it has with the private sector and the shared financial contribution towards this aim.

In the UK, the well known VET system with NVQ's seems not to be so appealing anymore, especially in motivating and engaging employers. As a result the VET system is much more liberal (someone could call it even loose!) and more academic (more formal training and less practical) with a great variety of topics and specializations to be offered.

Britain's liberal market economy (LME) is characterized by low levels of business coordination and state intervention, and deregulated markets serve as the primary coordinating mechanism for economic activity. As a consequence, firms are often unable to resolve collective action problems and are rarely in a position jointly to provide basic supply-side goods that sustain vocational training, R&D, and long-term finance. In contrast, Germany's coordinated market economy (CME) is distinguished by extensive coordination among firms that is facilitated by encompassing and overlapping business associations (Hall & Soskice, 2001).

CMEs make use of workers with high levels of industry-specific skills which are generated by an education and training system largely coordinated by industry-wide employer associations and trade unions (Thelen K., 2004).

German production strategies have been characterised as relying on high and diversified quality production (DPQ) supported by a skilled labour force (Herriegel, 1996). The backbone of the German production system is the apprenticeship qualification which has provided training for about 70% of an age group. However, the emergence of lean production has threatened diversified quality production as it enables manufacturers to produce goods of comparable quality far more quickly. It places more emphasis on team work than on the individual worker's skill, close partnerships with suppliers and a system of continuous improvement. This has led to extensive questioning of the relevance of the traditional German apprenticeship, in particular since companies are moving towards a flexible, more customer-oriented model of work organisation which is characterised by rigorous cost-control (Baethge & Baethge - Kinsky, 1998).

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