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Panorama

Practices and Evolutions in Apprenticeship Training Policies in Europe

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Introduction

Youth employment is a major challenge in Europe.

Today, unemployment among young people in the euro zone is at 24.1%. Greece, Spain, and Italy are among the countries most affected. The NEET statistics¹, which concern principally the proportions of young people not in employment, education or training, are even more alarming. Italy and the United Kingdom are suffering from a marginalisation of the young. There is an urgent need for European countries to improve access to employment and promote employability among these young people. To achieve this requires supporting them in the transition from school to the labour market.

Dual education has already proved its effectiveness in a number of countries in Europe. Since European countries have different education systems and governmental structures, their training practices differ. This panorama compares apprenticeship training in five European countries: Switzerland, Germany, France, the United Kingdom, and Italy. Referred to as “The Key to Success” in Switzerland and “The Reference Model” in Germany, can apprenticeship training as it is practiced in these examples be exported and implemented in the same way? Is apprenticeship training a solution which may be applied in all European countries? Can it solve the problem of access to employment and the employability of young people? Does it address the problem of recruitment in companies? What are the conditions for success? Who are the stakeholders and decision-makers in apprenticeship training? The study provides an analysis of the historical background, context and policies concerning apprenticeship training, includes case studies from the five countries mentioned above, and conducts a prospective analysis. Its objective is to identify the common aspects, differences, and key success factors of training policies and practices in a sample of European countries to help them become more widely known, accepted, and implemented. Ultimately the aim is to ensure that apprenticeship training should be the privileged means for helping young people find stable employment.

¹ Social classification of a category of the non-working population. Concerns mainly teenagers who are not in the education system and adults who are not employed.



I. Apprenticeship Training Today and in the Past

The different apprenticeship systems in Europe are complex and present commonalities as well as differences. Before taking a closer look at the policies and practices concerning apprenticeship training let us compare the different youth employment situations in Europe.

The unemployment rate among young people under the age of 25 in the euro zone is 24.1% (Statista 2013). The situation in Italy and France, with youth unemployment rates of 40.4% and 26.1% respectively, is alarming. The NEET rate - young people who are not in education, employment or training - provides more precise and significant data concerning the employment situation of young people. The NEET rates in Italy (19.8%), the United Kingdom (14.3%), and France (12%) raise questions. They show the need for a more effective education system to remedy the exclusion of the young. On average, the NEET rate decreases between 0.04 and 0.09 points when the proportion of apprenticeship training increases. (Stettes/Flüch 2014, p.5)

	Switzerland	Germany	France	United Kingdom	Italy
NEET in 2011	[very low]	7.5 %	12 %	14.3 %	19.8 %
Rate of young people not employed (actively in search of work, students, others) September 2013	4.6 %	7.7 %	26.1 %	20.9 %	40.4 %

Sources: Stettes O.; Flüch S., *Jugendarbeitslosigkeit in Europa; 01/2014*, p. 5; Statista 2013

Whereas in Switzerland and Germany there are highly developed systems of apprenticeship training, this is not the case in the United Kingdom and Italy. However, the United Kingdom and Italy have a long history of apprenticeship and in France the apprenticeship system is evolving, especially in terms of the categories of people who benefit from it.

I. Apprenticeship Training in Switzerland: The Key to Success?

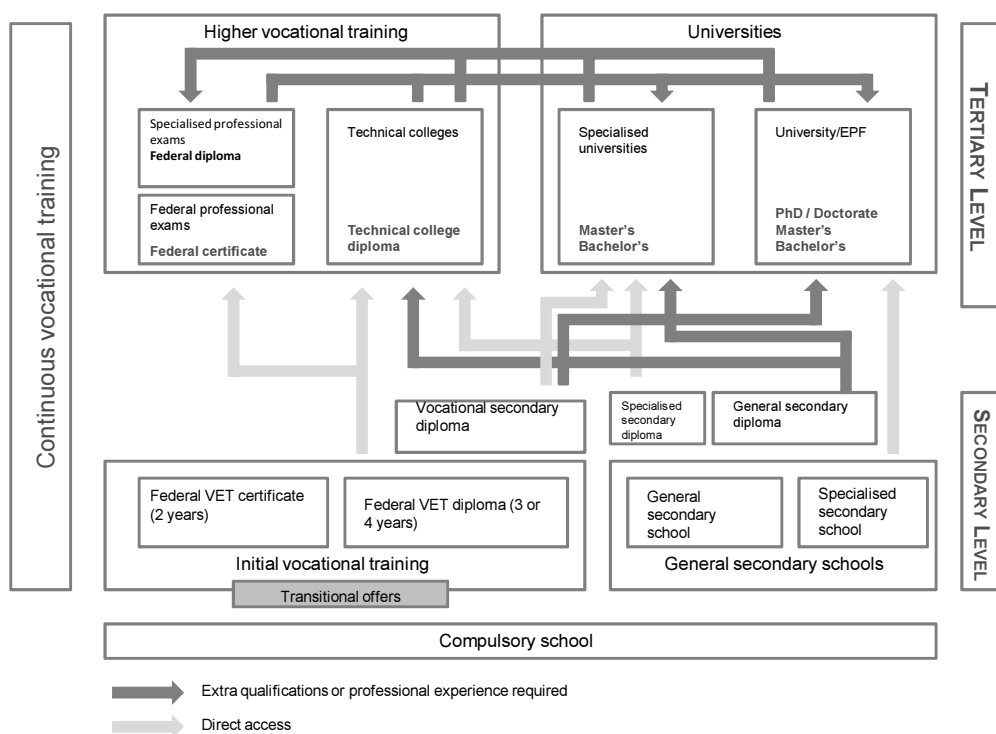
■ The Swiss Training System

Like Germany and Austria, Switzerland is among the few countries where vocational training is essentially based on apprenticeship, for which the responsibility lies principally with the companies. In Switzerland, the training system is referred to as a “dual” system. It divides the responsibility of training between two bodies: the company and the teaching establishments. More recently the term “triple” (in French “trial”) has been used to refer to this system to take into account the introduction, approximately 25 years ago, of a third component, that of “inter-company training courses”.

Switzerland, with its federal structure, articulates its training system between a central authority (the Secretary of State for Training responsible for vocational training according to



federal law) and a research and innovation agency (SEFRI) in charge of implementation and monitoring. The central authority (the Confederation) generally does not have the power to act directly. Thus, compulsory education (primary and lower-secondary) and general education (upper-secondary) are the responsibility of the 26 cantons. For vocational training, the implementation of apprenticeship training is done through the channel of professional associations on the one hand (called *Organisations du Travail* or OrTra) and the cantons on the other hand. However, the central authority provides a financial contribution for the implementation of this training.



La formation professionnelle en Suisse : faits et données chiffrées 2013, Federal Department of the Economics, Training and Research (p.5)

■ Apprenticeship Training in Switzerland: A Market

The training programmes proposed focus on the professional qualifications that correspond to the demand and to employment opportunities on the labour market. This direct link with the labour market makes it possible to rapidly adjust training to the needs of the economy. Thus, the notions of supply and demand in training in such a context take on a different aspect. There are no general conditions regulating the supply of training (by convention we shall use the term *supply* when referring to a company providing a young person with an apprenticeship position, and *demand* when referring to young people seeking an apprenticeship). We are in fact dealing with a series of micro-decisions which are subject to the laws of the apprenticeship training market. Currently, Switzerland has close to 250 dual education and/or in-school vocational training programmes. As a consequence, apprenticeship is the training most sought after, since it constitutes the point of departure of lifelong training and offers many job prospects with a very low rate of failure or non-insertion within the labour market. In September 2013, the unemployment rate of under 25s in Switzerland was 4.6% whereas it remained at 24.1% in the euro zone.

As far as the companies are concerned, supply is a function of different elements. The replacement of personnel is certainly one of these, even if all the apprentices who obtain the Federal Certificate of Qualification are not employed by the companies that trained them. The existence of a tradition, but also of premises, equipment, and staff totally or partially dedicated to training can also contribute to ensuring a regular supply, even though this supply remains

subjected to structural changes. Because the apprenticeship contract is also an employment contract, some companies are also interested in acquiring an employee paid less than an adult employee but who may sometimes, mainly in less qualified jobs, render service in the work place and gradually replace a qualified worker. It is likely that the existence of an apprenticeship tradition contributes to maintaining a supply of training positions, whereas its benefits are not so obvious in countries possessing other vocational training systems (the example of international companies in the region of Lake Geneva who host few apprentices points to the existence of different reference models in vocational education).

2. Apprenticeship Training in Germany: A Reference Model?

VET is commonly organised by the public and the private sectors. Stakeholders are the Federal Government, the governments of the Bundesländer, employers' associations, employers, and, finally, the trade unions. It is conducted in companies and in part-time vocational schools and carried out as training at the workplace and as classroom tuition. In general, the latter comprises between 8 and 12 hours per week, while apprentices work three to four days per week at the premises of the company that concludes an individual apprenticeship contract. Apprenticeship contracts are liable to social security contributions and in this respect comparable to regular working contracts. In addition, they are fixed-term and automatically expire at the end of the term or, at the latest, after successful graduation. Enterprises cover their own training costs (remuneration of the apprentices and cost of trainers and materials); the governments fund the schools, research in VET areas, and additional vocational training programmes. In this respect, the expenditure of the private sector accounts for approximately 73% of total funding for VET.

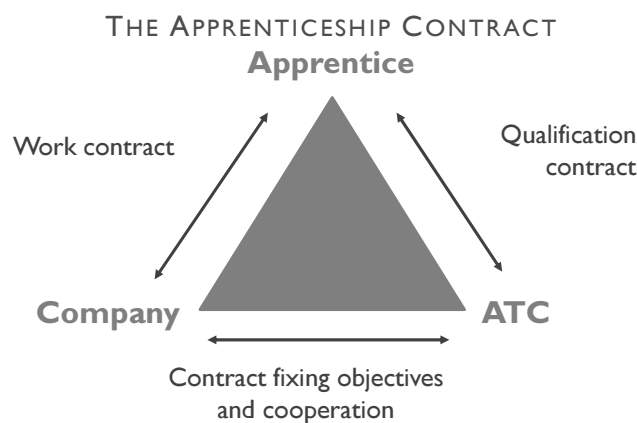
Currently, apprentices can be trained in 344 different standardised and approved vocational programmes. Courses at vocational schools can refer to either general educational issues (such as literacy, math, religion, sports or acquisition of foreign languages) or occupational-specific subjects. Curricula can notably differ between occupations and regions. Attendance at a vocational school is compulsory though this holds strictly only for those aged below 18 years (apprentices above the age-threshold may be exempted from the general educational courses). The duration of VET is generally between two (11% of all programmes) and three and a half years (16% of all programmes). The bulk of programmes run three years (73%). Though entering VET does not officially require having successfully graduated from school, apprentices usually obtain lower or higher secondary education diploma before starting VET. Two-year programmes are specifically designed for young persons (i.e. less theory) who exhibit severe problems in successfully applying for regular VET programmes. Irrespective of the length, apprentices have to master both an interim examination and final exam externally organised and supervised by chambers of commerce and chambers of trade.

In addition, apprentices may attend additional training courses that complement the regular vocational programmes, have a minimum number of training hours (at least 40 hours) and can be certified (Zusatzqualifikationen). One third of those courses refer to foreign language teaching, one in seven to engineering. Finally, vocational training programmes can be complemented with tertiary education, or tertiary education can be complemented by long-term internships in companies (Duales Studium). Training courses or periods at the workplace are closely aligned with training courses at the university. In this respect, VET and education at the university are fully integrated. Existing integrated programmes mainly refer to engineering or business administration.

3. Apprenticeship Training in France: An Evolving Tradition

Apprenticeship training is organised by the State, the regions, and the joint labour-management organisations.

Apprenticeship training is an initial dual training system organised within the framework of a temporary work contract (fixed-term work contract) which is an apprenticeship contract between the ATC (Apprentice Training Centre), the company, and the apprentice. It enables a young person to follow a general training programme in a training centre for apprentices and training in a company, thus combining theory and practice in view of obtaining a professional qualification. This contract provides for an alternation between periods of general, technological, and professional training in the training centre and periods of work in the company. It is for young people between the ages of 16 and 25 (with exceptions).



The apprenticeship centres receive subsidies and are inspected by apprenticeship and company inspectorates. These centres are created within a contractual framework involving public authorities (regional or State authorities) and a consular chamber, a teaching establishment, and an industry sector or a company. Therefore the offered training varies from case to case.

The apprenticeship contract is based on an old tradition and was the subject of in-depth reform in the 1980s. Between 1995 and 2008, the number of apprenticeships increased by 46%. Today more than two thirds of young people in dual training programmes compared with half that number in 1993 have signed apprenticeship training contracts. Between 1992 and 2000 the number of apprenticeships increased markedly before stagnating between 2000 and 2004. Globally since 2000, growth in the number of apprenticeships has slowed down although volume has continued to increase. The majority of apprentices follow level IV or V training. There has been a notable increase in the number of apprentices following level I, II, III, and IV training (ISCED 4-6) and at the same time a decrease in the number of apprentices at level V.

In September 2013, the rate of unemployment for under-25s in France was 26.1% whereas overall unemployment was approximately 11% (Statista 2013). In December 2009, out of 2.9 million unemployed young people aged between 15 and 25, 21% had work-based training contracts, of which 70% were apprenticeships (423 000 including all levels), the others had vocational training contracts (contracts for young people aged between 16 and 25, for job seekers aged 26 and over, and for the beneficiaries of certain benefits or contracts the objective of which is to acquire a professional qualification or to complete initial training with complementary qualification in view of obtaining a specific position in the company).

4. Apprenticeship Training in the United Kingdom: A Long Tradition

Apprenticeships have a long history in the UK although with the devolution of education and training policy to the individual countries within the UK, arguably the practice of apprenticeship training has become less consistent between the four administrations. Similar to other European countries, UK apprenticeships originated in the Guild system and as new industries developed, they expanded and by the mid 1960s when there were around 240,000 apprentices in England¹. Apprenticeships were originally based on a concept of time-served, could last up to seven years and comprised a mixture of on-the-job training (with the employer) and off-the-job training (at a college of further education). Over time, this time-served approach became the subject of criticism such that there was insufficient focus on skills and employability outcomes. At the same time, the decline of manufacturing in the UK reduced the number of apprenticeship training opportunities; by 1990 the number of young people in apprenticeships had fallen to 53,000. This coincided with rising levels of youth unemployment, and the implementation of new untested government actions to address this which included the Youth Training Scheme. These programmes arguably offered training of a lower standard than apprenticeship but more importantly are now viewed as having contributed to poor public perceptions of vocational qualifications that remains persuasive into current times.

Successive governments have sought to improve perceptions and take-up of vocational qualifications and apprenticeships particularly, with some success. The Wolf Review of vocational qualifications in upper secondary and post-secondary education (2011²) highlighted that, 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.' However, quality remained a concern and a challenge identified by Wolf was that not all young people are involved vocational qualifications which benefit them in the labour market, 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 country's, educational provision. But (critically) many vocational students are not following courses of this type.'

Consequently, the Wolf Review set in place new reforms for vocational education and training (VET) which aimed to provide a simplification (since English VET was reported 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 were 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 and a crucial to raising the participation age (RPA) in education and training³. This legislation guarantees an Apprenticeship for all capable young people who want one, and apprenticeships are 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.

There are currently close to 200 apprenticeship training frameworks in England and they span a wide range of occupations from traditional apprenticeships sectors to new occupational areas including the progressions. The current data suggests that circa 273,000 young people aged between 16 and 24 have started an Apprenticeship in 2012-13, and in addition 222,000

¹ Smith, E; Kemmis, R B. (2013) Towards A Model Apprenticeship Framework: A Comparative Analysis of Apprenticeship Systems; ILO/World Bank; case study of England by Miller, L

² <https://www.gov.uk/government/publications/review-of-vocational-education-the-wolf-report>

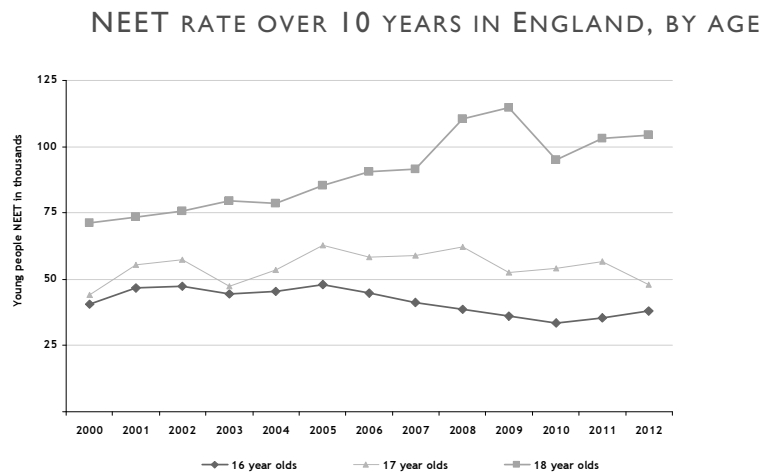
³ The 2008 Education and Skills Act included proposals to raise the age at which young people are expected to stay in learning in England to 17 years from 2013 and to their 18th birthday from 2015. These proposals were confirmed in statute in 2010 and this policy has been operationalised since September 2013.

adults (aged 25 years and over)⁴ have also started Apprenticeship training. Arguably, recent governments have been reasonably successful in promoting Apprenticeships as a high quality route to a broad range of careers.

■ The Transition from Education to Work

The implementation of the RPA legislation forms part of actions that aim to better prepare young people for the labour market and life, by improving their qualification levels since the range of evidence demonstrates that low educational attainment has a scarring effect on later economic and social outcomes⁵. Of key concern, are young people who are not in education, employment or training (NEET) and the focus on this group has increased due to the disproportionate effect of the national and international economic downturn on their transitions.

In the UK the term NEET typically refers to 16- to 18-year olds who are not entitled in most instances to unemployment welfare benefits. The UK government has been leading actions to reduce the numbers of young people NEET over many years, however, as the chart below shows, it is a persistent and ongoing problem.



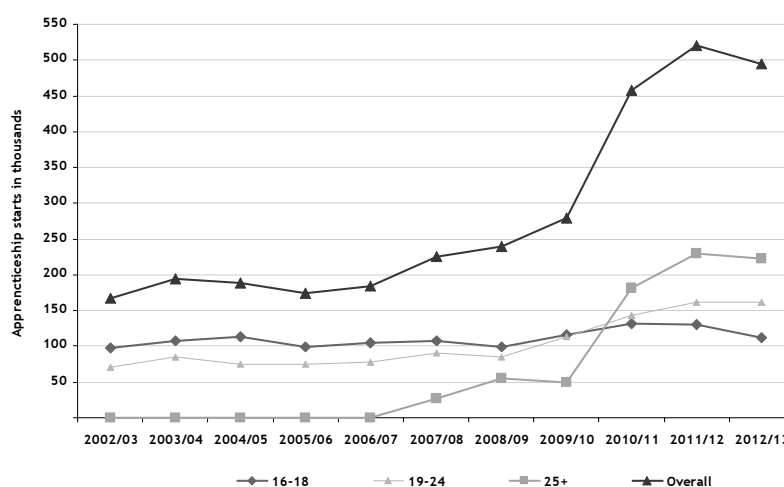
Currently in England around 95 per cent of young people continue into education and training beyond the age of 16. However, take-up of education and training beyond the age of 16 declines, and the rate of NEET starts to rise significantly among older young people (the latest data suggests that around 84 per cent of young people were participating by the age of 18⁶). This group is increasingly interested in entering the labour market, although may not be sufficiently well qualified to compete successfully for an Apprenticeship - which is the key route to labour market entry in England for this age group. Furthermore, and as noted above, there has been significant growth in apprenticeship delivery focused on people aged 25+ and much of this represents the conversion of existing employees to apprenticeship training⁷ – and this has been subject to some criticism where training accredits existing competences, rather than developing new skills.

A chart showing the expansion of the apprenticeship programme in England is shown below, which also includes the growth for different age groups. As can be seen, the number of

⁴ http://www.thedataservice.org.uk/NR/rdonlyres/D2947A69-5429-4362-A1B8-B3F99F9FC835/0/All_SFR_Tables_Nov13.xls
⁵ For example, Spielhofer, T., Benton, T., Evans, K., Featherstone, G., Golden, S., Nelson, J. and Smith, P., 2009. Increasing Participation: Understanding Young People who do not Participate in Education or Training at 16 or 17. London: Department for Children, Schools and Families DCSF-RR072; and, Bell D and Blanchflower D (2009), Youth Unemployment: Déjà Vu? IZA Discussion Paper No. 4705
⁶ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/263766/Quarterly_Brief_NEET_Q3_2013-Final.pdf
⁷ Fuller A, Unwin L (2012a), 'Banging on the Door of the University: The complexities of progression from Apprenticeship and other vocational programmes in England', SKOPE, Monograph No. 14, June; and, Fuller A, Unwin L (2012b), 'What's The Point Of Adult Apprenticeships?' Adult Learning, Spring

apprenticeships available to 16-18 year olds is falling, while there has been a step-change in growth for those age 25+.

VOLUME OF APPRENTICESHIPS STARTED IN ENGLAND OVER THE PAST TEN YEARS, BY AGE



Source : Première édition des statistiques sur l'apprentissage, Data Service⁸

5. Apprenticeship Training in Italy: A Gradually Evolving System

■ The transition to work regime

The school-to-work transition and the youth employment are two important aspects of the Italian socio-economical debate that point out the tricky situation of younger people in the labour market and the weaknesses of the Italian educational and vocational training system. Indeed, it's not possible to talk about a "dual training model" (like the one adopted in Germany) with regard to Italy, that is more an example of the Southern European school-to-work transition regimes characterized by a rigid and sequential education system unable to close the youth work experience gap. However, the recent reforms of labour market and of the apprenticeship system are an attempt to increase flexibility and a further step toward facilitating the transition process.

According to the Walther et al.'s (2009) taxonomy of transition regimes, developed within the framework of the European comparative project Up2Youth and based on the Esping-Andersen's (1990) definition of welfare regimes, Italy is part of the Mediterranean countries identified as sub-protective. Within this regime youth transition to working life is fragmented and often include long periods of unemployment and long series of fixed-term contracts and in which the social protection system is fairly weak and the family acts as an institutional actor in bearing the cost of the work transition instead of the state.

According to Pastore (2012), the particular Italian situation in terms of youth employment depends on a number of different factors, namely:

- the excessively rigid education system that results in very late entry into the labour market;
- the low level of both secondary and tertiary education;
- the lack of contact between the education system and the labour market provoking young people lack of work experience
- the lack of an adequate vocational training system;

⁸ http://www.thedataservice.org.uk/Statistics/fe_data_library/Apprenticeships/

- the lack of intermediation between demand and supply of qualification.

■ Youth Unemployment Rate

Unemployment rates for younger people are generally much higher than unemployment rates for all ages and have increased significantly in all countries due to the economic crisis that seems to have hit the younger more than other age groups. Youth unemployment rate reached 35.3 per cent in Italy in 2012, that is about 12 percentage points more than the EU27 average rate of unemployment in the younger people's group (15-24). The difference between adults and younger workers is disproportionately high, with an unemployment rate difference that is 26.4 per cent in Italy while in the EU27 is about the half (13.8 per cent). These rates reflect the difficulties faced by young people in finding jobs and their peculiar employment conditions. Temporary employment in fact, has been widespread adopted over the past 15 years for younger workers, with 52.9 per cent of them employed with a fixed term contract in Italy in 2012 compared to 42.1 per cent in EU27 (Eurostat data). Moreover, even with regard to the youth unemployment persists the situation of dualism between North and South of Italy, with the rate that in 2011 was the double in the South than in the centre and North (Istat, 2013).

Another big deal affecting youth employment in Italy is the large presence of young people aged 15–24 years that are not in employment, education or training (NEET). According to the latest Eurostat estimates (2011), about 7.5 million young people fell in the NEET category. The rate varies a lot across countries, but Italy, as well as Bulgaria, Ireland, and Spain, have very high NEET rates (greater than 17%). This implies that approximately one young person in five is disengaged from the labour market and education system, and perhaps from society in general.

■ Education Attainment

In this context, education attainment represents in general a relevant factor in relation to employment, with an employment rate of young people aged between 20 and 34 years between one and three years of graduation of 64 per cent in Italy and 81.6 per cent in EU27 (Eurostat). Educational attainment is considered a good predictor of labour market participation, however, the period of transition from school to permanent employment is quite long and, according to Quintini *et al.* (2007), is the highest among OECD countries. In Italy this period was 51.3 months in 2005, while the EU average was 30 months. Moreover, even if in Italy nearly all secondary high school diplomas give access to university, there is a lack of tertiary education. According to Eurostat data, only 22 per cent of people aged between 30 and 34 years had a university degree in 2012, that remains below the EU 27 mean of 36 per cent. Italy is also the first country in the ranking of drop-out during university studies, with 55 per cent of students who enter a tertiary programme leaving without at least a first tertiary degree (OECD, 2008: Table A4.1)

The economic structure plays also an important role in deciding which kind of educational degree enhances employability more and the relatively high proportion of young people leaving school without a basic education qualification, next to the fact that skills acquired in initial education are not always well adapted to labour market requirements, result in a lack of smooth transition. In Italy in fact there is a significant mismatch of human capital generated by disparities in demands and supply often resulting in mismatch and overeducation. That is to say that over-qualified workers are those who have a higher qualification than the most common qualification of all other workers in the same occupation, and in Italy the over-qualification mismatch rate is 23.53 per cent (EFILWC, 2007).

In addition, the role of work experience (as well as informal education) in people's chances of entering the labour market is quite important and considered one of the main weakness of the Italian school-to-work transition regime.



2. National Frameworks, Apprenticeship Training Policies and Practices

In this chapter, we shall concentrate on the national framework for apprenticeship training and policies and practices in each of the five countries studied.

In Germany there are vacancies for apprenticeship positions whereas in England there are ten applicants for each position. In Switzerland and France there has been a change in the profile of apprentices. Whereas a few years ago there were few apprentices in higher education there are now more and more every year. However, the number of apprentices registered in higher education training is still lower than that of those registered at lower levels. In Italy and the United Kingdom, apprenticeship training is on the increase thanks to new labour reforms and growing interest in this system.

In the interest of simplicity, this panorama will focus principally on the modalities of the apprenticeship contract given the diversity and complexity of dual training policies in the different countries. Apprenticeship training comes under the form of initial training for young people conducted within the framework of a fixed-term work contract. The training takes place in a certified training establishment and lasts four years on average. In most cases apprentices are remunerated and supervised by an apprenticeship supervisor within the company and a tutor from the training centre. But policies and practices vary between countries.

NUMBER OF APPRENTICES IN APPRENTICESHIP TRAINING

	Switzerland	Germany	France	United Kingdom	Italy
2005	523 967	550 179	385 859		
2009	593 372	564 306	424 742		361 184
2010	609 921	559 959	426 280		317 200
2011	627 270	569 379			
2012		551 259		273 000	
2013		530 715	435 000		
NEET in 2011	[very low]	7.5 %	12 %	14.3 %	19.8 %

There is a decline in the NEET rate when the number of young people in apprenticeship increases. This suggests that the apprenticeship training system is an efficient tool for reducing the NEET rate and improving the transition from school to the labour market.

THE APPRENTICESHIP CONTRACT - A COMPARISON

	Switzerland	Germany	France	United Kingdom	Italy
Points in common	<ul style="list-style-type: none"> - Initial training for young people - Fixed-term work contract - Up to 4 years - Alternating between training centre and company 				
Duration	2 - 4 years	2-3, 5 years	1-3 years	1 year minimum	Up to 3 years Beyond that the contract becomes a permanent contract
Age	16 and above	16 to 25	16 to 25	16 to 24 25+ (88 conditions)	16 to 29
With exceptions					
Periods and training locations	1-1.5 days/week ATC Or at school full-time	8-12 hours/week at the ATC;	Min. of 400 hrs/year	Min. 280 hrs at ATC	64 to 120 hours At the ATC
With exceptions and variations according to level of qualification, profession...					
Remuneration	The law sets no minimum amount; varies according to sector	On average: 767 €/month in the western part of Germany; 708 €/month in the eastern part of Germany	25 to 78% of the minimum wage (98% in public sector): Or between 361.35 € and 1127.40 €	At minimum: the minimum national apprenticeship wage £ 2.68/h	Pay may be set according to a percentage of full wage
depending on level of training, age, experience, and according to the professional sector					
Development	Dual system completely integrated at every level of the professional sector; preferred training system	Vacant positions, rate of recruitment of apprentices on the increase	Shift towards level I, II, and III apprenticeships	Number of apprentices aged 16-18 declining; Number of apprentices aged 25+ increasing	Not yet involving apprenticeship centre and a dual system; growing interest in apprenticeship training

Whereas in Germany the number of apprentices increases as a function of the size of the entity and of the number of employees, in France the opposite is true, with a greater number of apprentices in very small companies.

I. Switzerland

■ How Vocational Training is Organised

Before focusing on apprenticeship training, let us give a brief presentation of the different levels of qualification in training. As the figure on page 5 indicates, Switzerland has two “parallel” tracks which have become permeable during the last fifteen years:

- The professional track (upper-secondary and tertiary B)

- The academic track (tertiary A)

The professional track has the following levels of qualification (post compulsory education)

- The Federal VET certificate - AFP (a two-year programme)
- The Federal VET diploma – CFC (a programme of 3 years or more or AFP plus 1 year)
- The Federal vocational secondary diploma - MatuPro (a 3-year programme which is part of the CFC or of the CFC plus 1 year)
- Specialised professional diplomas - Federal certificates or diplomas (1 or 2-year programmes)
- Technical College Degrees (a full-time 3-year course or an 18-month course during employment)

The academic track has the following levels of qualification (post compulsory education):

- The diploma of general secondary education - ECG (a 4-year programme) or diploma of specialised secondary education - Maturités gymnasiales or Matu (a 4-year programme with specialisations)
- Bachelor's degrees issued by the University or Specialised Schools of Higher Education (HES) in 3 years
- Master's degrees issued by the University or Specialised Schools of Higher Education (HES) in 2 years following the Bachelor's
- University doctorates or PhDs

By simplifying these two tracks to the extreme and bringing them together it is possible to break the whole system down into 6 general levels:

1. The AFP level (basic)
2. The CFC or ECG level (functional)
3. The MATU level (functional +)
4. The Bachelor's level (basic graduate)
5. The Master's level (graduate)
6. The PhD level (post-graduate)

	1990	2000	2005	2009	2010	2011	2012
UPPER SECONDARY							
Total Students	295 807	307 121	317 417	343 297	351 296	356 720	
TERTIARY B							
Total Students		41 072	39 955	53 457	52 094	56 694	
TERTIARY A							
Total Students			166 515	196 618	206 531	213 856	222 656
Technical colleges			54 140	69 676	75 035	79 018	84 035
Universities			112 375	126 942	131 496	134 838	138 621
			523 967	593 372	609 921	627 270	

Switzerland has totally integrated the dual system approach for several decades now at every level of the professional track. However, only the technical colleges have systematically



introduced the dual system at the Bachelor's and Master's levels. The universities use the dual education system in training programmes that develop professional capacities to a high degree, such as studies in medicine, law, and psychology, but also in a few Master's programmes in highly specialised fields.

For the “functional” level, the dual system in Switzerland implements the sharing of responsibilities in education with alternation on a weekly-basis between the company and the vocational courses provided by the vocational schools. The Federal VET Certificate (CFC) - is issued following final exams covering practical, theoretical and general knowledge questions. The administration of these exams is the responsibility of the federal, regional (linguistic regions for example), and cantonal regions. Commissions (set up by professional organisations, OrTra) play a central role in designing and administering these exams. Since 2011, a short two-year professional training programme has been available to prepare for the Federal Vet certificate.

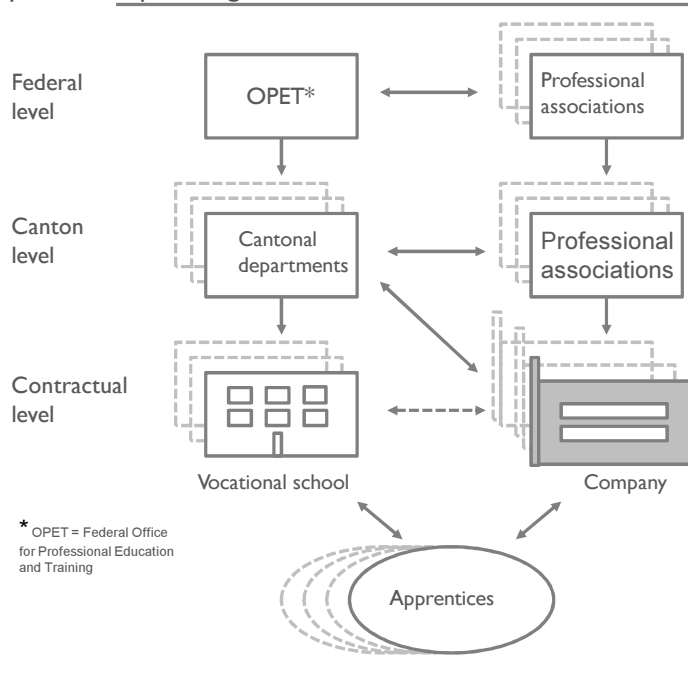
The company is responsible for transmitting the practical professional skills. It has three and a half days a week to do so. The vocational school provides the theoretical and practical vocational training but also develops technical, industrial and craft skills, as well as general culture (for training for commercial professions as well as personal and health care professions, traditional school disciplines are part of the programme but are not included in end-of-year and final evaluations). According to the law, the school has the rest of the week, one day or one day and a half per week depending on the qualification level required for the profession. Full-time training may also be followed in vocational or business schools. Federal law authorises apprentices with good academic learning abilities to follow an extra half-day of courses to perfect their general education; this extra training has led to the creation of a school of higher vocational training which provides preparatory courses for the federal vocational secondary diploma (Matur-Pro).

Federal legislation does not provide for a list of professions for which apprenticeships may be available, but does define the framework for the internal rules which do have a subordinate legal status. These internal rules are set out by the SEFRI following a process involving, when possible, the relevant professional associations. If they are well organised and have training resources, these professional associations may even play a key role. Apprenticeship rules and regulations define the general characteristics of the training, specifying its duration, the curriculum for the theoretical and general part of the training programme as well as the objectives for the practical part of the training. These objectives are often described in documents (methodological guides), which may include several large folders with sometimes very detailed descriptions of the professional skills that need to be acquired.

■ Vocational Training Stakeholders

In Switzerland apprenticeship training is different from general training of an equivalent level in that it is governed by a work contract. The system defines the framework for the conditions under which the training is provided, but the contract is drawn up between private legal persons, formally a company - whatever its legal form - and the young person or his or her legal representative. Regarding the statuses of the contracting parties, the law has reduced the legal constraints to a minimum. The person seeking an apprenticeship must have finished compulsory education and, since the contract is also a work contract, he or she must have a valid work permit for Switzerland (a political debate is ongoing concerning the right of access to vocational training for young people without work permits).

As far as the company is concerned, it must be authorised by the canton to train apprentices. Here again, the formal constraints are minimal and the few aspects referred to mainly concern the situation in the company concerning apprenticeship management and available equipment. The main requirement is for the company to appoint an apprenticeship manager in charge of the apprentices who has followed the same kind of vocational training and qualified. Apprenticeship managers are also expected to have received 40 hours or more of training in apprenticeship management. One of the corollaries of this legal framework is that vocational



schools are not able to choose their students. On the contrary, they are obliged to provide courses to all young people having signed an apprenticeship contract. Another point is that they do not define the objectives of the training but have control over the contents of the programmes and teaching methods used, since the study programmes are defined in terms of the competencies to be attained, not in terms of the contents of the courses (reform of 2006). In addition, they only provide marginal input in the design and administration of the final exams which is centralised at

the Federal State level. It is the company and the apprentice who are the principle decision-makers when it comes to deciding whether to start or to continue a training programme.

An important stakeholder in the management and development of vocational training in Switzerland which plays a complementary role to that of the cantons is the Federal Institute of Higher Studies in Vocational Education (IFFP). In Switzerland this institute is the expert organisation for initial and continuous training of vocational training managers and for the development of vocational training and research in general. It is also entrusted by the Confederation to provide the initial and continuous training for staff in charge of vocational training at the higher education level. By focusing on the links between a training system and the labour market, research in vocational education conducted at the Institute actively contributes towards the evaluation, optimisation, and development of vocational education in Switzerland. IFFP is commissioned by the Secretary of State for Vocational Training, Research and Innovation (SEFRI) to provide support to the professional organisations (OrTra) in view of introducing reforms in the labour market.

People starting initial vocational training	79 500
Total number of people in initial vocational training	236 600
Diplomas issued in initial vocational training	69 600
Professional secondary diplomas issued	12 900

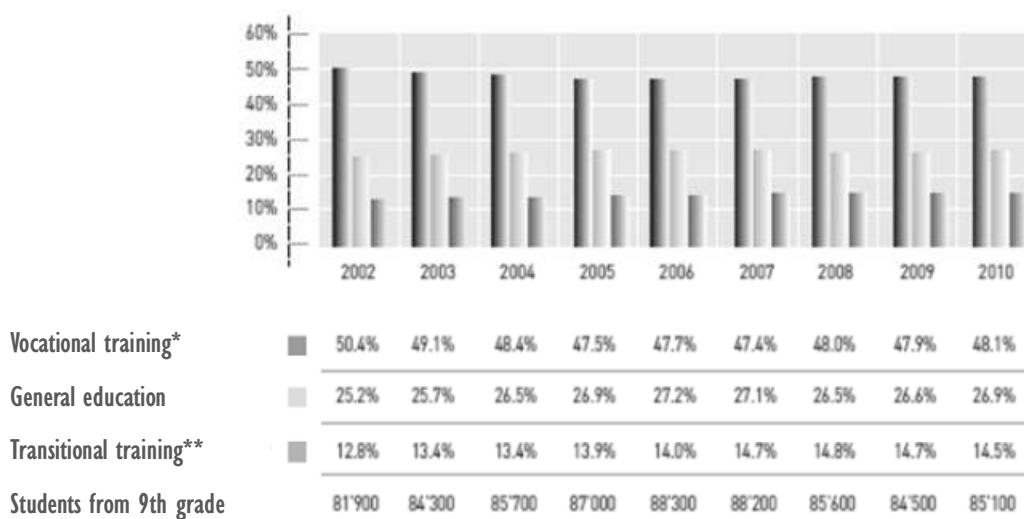
The apprenticeship market in certain regards resembles the labour market. There are employment sectors with a very high proportion of women, such as in the personal care and healthcare professions. Conversely, there is a high proportion of men in industrial jobs and of women in white collar and sales jobs. Apprenticeships are also ranked in terms of difficulty,

social prestige, and hardship at work, following the same criteria as those of the labour market. In addition, occupations which are the object of apprenticeships are ranked on the labour market in a similar way as occupations which are the object of training in vocational schools. Alongside the dual training system there are full-time vocational schools, almost all of which are in the French-speaking part of Switzerland. In this case the training establishment alone provides technical training and general education, and transmits practical professional skills in the relevant workshops. In many regards, these schools function in the same way as general education schools, however, they have a quota system linked to the number of places available in the workshops. Vocational schools generally provide training for certain occupations. The certificate they issue is exactly the same as in the dual apprenticeship system. In fact, the apprentices having graduated from full-time vocational schools pass the same exams at the end of their apprenticeship as their colleagues trained in companies.

LEVEL OF TRAINING OF THE RESIDENT POPULATION
AGED FROM 25 TO 64, IN 2012

	Women	Men
Without any training after compulsory education	16.4 %	11.0 %
Upper secondary level: vocational training	43.6 %	39.9 %
Upper secondary: general education	9.8 %	6.3 %
Higher vocational education	9.1 %	16.6 %
University, technical college	21.1 %	26.3 %

PROPORTION OF DIRECT TRANSFERS TO UPPER SECONDARY



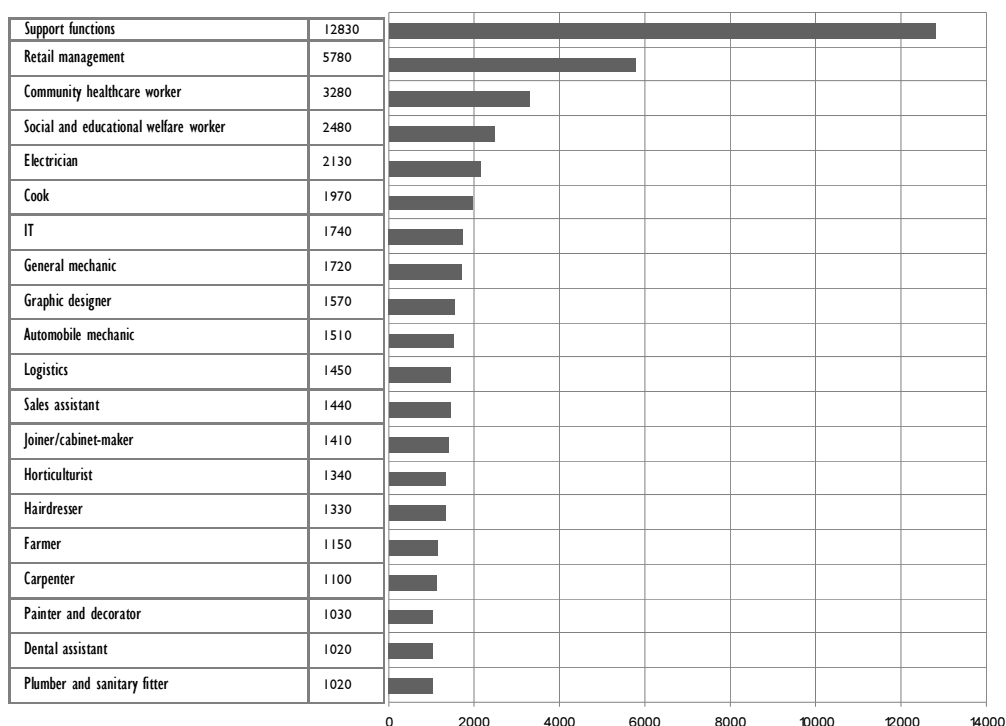
* Including elementary training

** Transitional training includes a 10th year, pre-apprenticeship training and preparatory classes

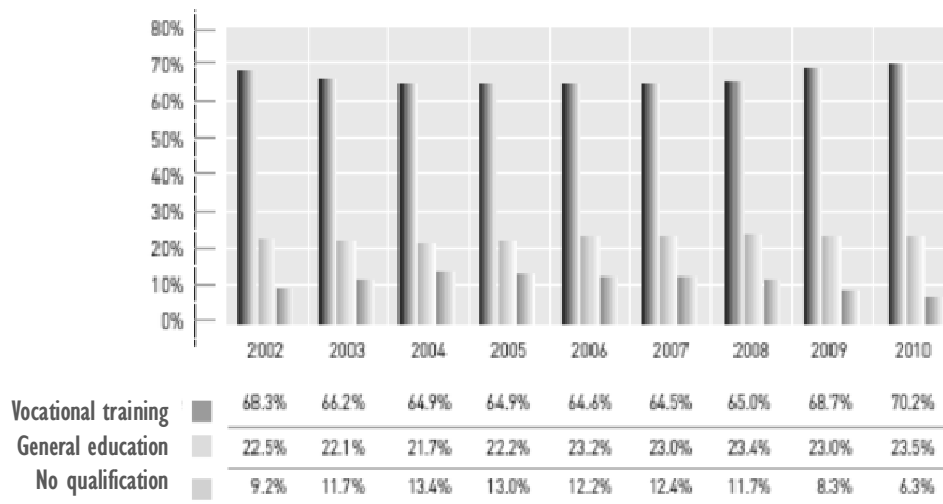
■ A Wide Spectrum of Solutions and High Success Rates

Directly after finishing compulsory education, the majority of students start initial vocational training or attend general education schools. The students who have not yet found a solution may choose a transitional offer, such as pre-apprenticeship training, attending a 10th year at a general school, or attending a preparatory school. Other young people choose to take a half year off or go abroad in order to learn a language.

Approximately 250 initial vocational training courses are proposed each year. The 20 initial vocational training courses most often chosen in 2011 represented more than 60% of the new apprenticeship contracts signed.



A vocational training diploma provides better job prospects on the labour market and is a good basis for lifelong learning. In Switzerland today more than 90% of young people have an upper-secondary diploma. The objective is to attain a rate of 95% by 2015.



La formation professionnelle en Suisse : faits et données chiffrées 2013, Department of the Economics, Training and Research (p.14)

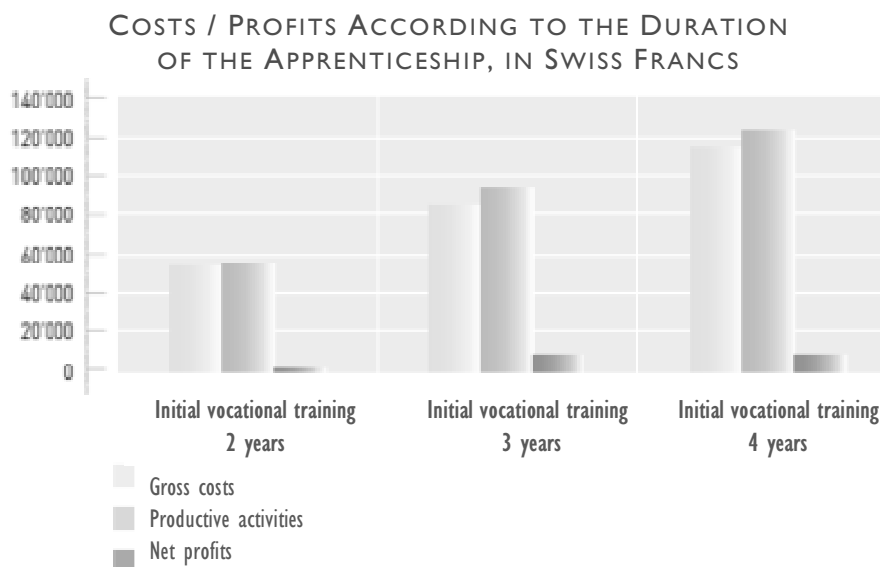
■ Financing of Vocational Training

The Confederation, the cantons and the professional associations contribute to the financing of vocational training. Since higher vocational training is principally the responsibility of the individuals and the companies (without a constraining legal framework) it is principally they who must finance it.

In 2011, the cost of vocational training covered by the public authorities amounted to close to 3.5 Billion Swiss francs. The cantons, which have the authority to implement vocational training, cover three quarters of spending in this area. The contribution from the Confederation to the funding of vocational training represents a quarter of the costs covered by the public authorities. Ten percent of the federal contribution is dedicated to encouraging development projects and special services of public interest.

With their training offers, the professional associations and sectoral organisations also contribute to the funding of vocational training: they carry out the ground work, manage their own training institutions and do advertising to promote their respective professional sectors. Vocational training is globally profitable for training companies. According to a survey conducted in 2009, the gross cost of training was 5.3 Billion Swiss francs, compared with 5.8 Billion Swiss francs of income from the productive activities of the people in training.

Through funds supporting vocational training defined by the federal law on vocational training, all companies are required to make solidarity contributions. These contributions are levied from the professional sectors and are used to encourage vocational training (development of training offers, organisation of courses, qualification procedures, promotion of the professional sector, etc.). Upon request, the Confederation can require all companies from a given sector to contribute to a compulsory fund.



*La formation professionnelle en Suisse : faits et données chiffrées 2013
Federal Department of the Economics, Training and Research (p.19)*

These statistics come from information collected among 2 500 companies that offer apprenticeships and 10 000 companies that don't offer apprenticeships. Comparison of the information supplied revealed the following relationships:

- The relationship between productive activities and stable resources (companies not providing apprenticeships) and the productive activities “benefiting” from the presence of apprentices.
- The relationship between the direct costs of training apprentices (wages and social insurance contributions, cost of the supervision of training, etc.) and the profitability of the productive activities of the apprentices.
- The relationship between the cost of recruitment and preparation of staff for companies without apprenticeship programmes and the same type of costs for companies which train apprentices and employ them once they qualify.

Several things have been learned from these findings.

First of all, the companies providing training already make a net profit during the apprenticeship. In all, the net profit amounted to 474 Million Swiss francs in 2009 on the basis of a gross investment of 5.35 Billion francs. This profit (adjusted to compensate for cost increases) results from the productive activity of the apprentices, which is stable (three years of training) and is even increasing (four years of training), and the decrease in gross costs for the companies. In other terms, this is further evidence that the training of apprentices is profitable for Swiss companies, in spite of the economic problems and the particularly volatile environment experienced in recent years.

Although the majority of companies giving training (approximately two thirds) have generated a net profit, others have made a net investment during the entire period of apprenticeship and have therefore had to bear the net costs during this time. Most of them have the means of redeeming the costs in the short term because the training of apprentices enables them to save on the costs of recruiting and preparing new employees. In 2009, companies with more than 100 employees, who are often the first to bear the net costs of training, saved 16 000 francs in recruitment costs and in the costs of upskilling qualified personnel for each person in training (opportunity gains compared to recruitment). For many occupations, the importance of such opportunity gains will increase given the ageing of the population and the increasing risk of a shortage of qualified labour.

Secondly, the fact that the greatest part of the training is conducted in vocational schools does not necessarily result in an extra cost for the company because of the greater number of absences of the apprentices in the workplace. When the skills, which are supposed to be transmitted by the training companies, are acquired at the vocational school this can result in more efficient training since the training company saves more in terms of skills acquired than it loses in productive activity. To achieve such an efficient interaction, it is necessary to define which skills the vocational schools are required to develop and those the training companies are required to develop and to decide when these skills must be taught. The savings made by the companies are greater when the partial transfer of training activities towards vocational schools concern the beginning of the apprenticeship, when the apprentices do not yet generate a profit. The increasing shift towards a model in which the time spent training in school reduces during the course of the apprenticeship is a move in the right direction.

Thirdly, figures relating to the entire apprenticeship period during which teaching activities complied with the reform measures concerning training in school show that vocational training has become slightly more expensive. However, more detailed analysis reveals that this increased cost is only partly due to the reform. The loss of productive activities comes principally from the greater number of days spent in school during the first two years of apprenticeship and which can not be entirely compensated for during the third year. But the increased cost is mainly due to two factors that have nothing to do with the reform: higher absenteeism among apprentices (illness, training, etc.) and special training given to apprentices in complementary areas (languages, specific methodologies, etc.).

Fourthly, there has been a net profit generated by all the new apprenticeship training programmes for community healthcare workers (ASSC) and social and educational welfare workers (ASE). This is an area for which the number of apprenticeship contracts has grown a great deal and could continue to grow because of the shortage of labour in the healthcare sector. Compared with the other 230 apprenticeship training programmes, the occupation of healthcare assistant is a special case in terms of cost/benefit analysis given that many companies providing training (but not all of them) receive training subsidies which are sometimes high. These amounts are generally much higher than the training subsidies other companies are able to benefit from under the form of vocational support funds. In-depth analysis of the net profits generated from training healthcare workers shows that these subsidies usually go to the companies providing training (hospitals) for which the training would be profitable even without the subsidies, whereas the sectors where the training of healthcare workers tends to generate net costs, namely for home care and long-term care, receive practically no subsidies.

Fifthly, if one excludes the companies which theoretically are not able to propose apprenticeships, the rate of in-company training is more than 40%. Of course, this does not mean that training is necessarily to be recommended for the remaining 60% of companies. The companies that do not offer training are often, either very small or very specialised, which limits the scope of action of the apprentices and does not cover the cost of training through productive activities. In spite of this it is certain that there are companies which could provide training. However, small companies with their head office located abroad are little inclined to offer apprenticeships. Given the continued globalisation of the economy and of the labour market, this is an important aspect which should be the focus of continued in-depth study in the coming years. Lastly, there are also many companies currently not offering apprenticeships which have done so in the past and plan to do so again in the future. It should be noted that in such cases the most important motive or at least one of the most important reasons for their interrupting apprenticeship training is the insufficient level of qualification among school-leavers. And given the current demographic context already evoked earlier, a good level of schooling remains an essential incentive for Swiss companies to offer apprenticeship training positions.

In summary, the Swiss vocational training policy, apart from a few exceptions, provides general conditions which largely favour the profitability of the training provided by companies. These general conditions also have favourable repercussions for the economy as a whole, since they encourage the companies to offer good quality apprenticeship positions in sufficient numbers. At the same time, the system guarantees for all school-leavers having finished compulsory education in Switzerland access to adapted training which is important in ensuring effective personalised vocational training.

2. Germany

VET is regulated by the Federal Government and by the Bundeslaender governments and is supervised by the chambers of industry and commerce, chambers of trades, and school supervision bodies. The Vocational Training Act (Berufsbildungsgesetz, BBiG) and the Craft Trades Law (Handwerksordnung, HWO) govern the issues of vocational training, such as the recognition of occupational titles and profiles, the duration of training, the general training plan and the requirements for examination. According to the legislation, VET should enable apprentice to acquire the knowledge, skills, competences and experience in the fields of the occupations concerned so that they are capable to perform the corresponding occupational tasks adequately, even in a changing work environment. Quality standards and profiles etc. are developed by experts assigned by national authorities, unions and employers' and business associations and laid down in specific framework training regulations that companies have to comply with. Though both laws do not cover only young workers, they, in practice, overwhelmingly cover the apprenticeships of people under 25.

The BBiG also prescribes that apprentices' wages should be fair. Wages can vary substantially among the various occupations, but should increase as seniority increases. According to a court ruling, wages for apprentices must not fall more than 20 per cent below the wages either that are usually paid in an industry or a region or that are fixed by collective agreements. In 2013, the average monthly remuneration of apprentices, which are settled in collective agreements, amounted to 767 euros in western Germany and 708 euros in eastern Germany, respectively. Wages are relatively high in apprenticeship programmes in manufacturing and services (except e.g. public services, jurisprudence or health service).

TABLE 0-1: REMUNERATION OF APPRENTICES
AVERAGE MONTHLY WAGES IN EUROS STIPULATED BY COLLECTIVE AGREEMENTS

	Western Germany	Eastern Germany
Manufacturing and Services	839	764
Public services	830	830
Agriculture	658	559
Jurisprudence, health services etc.	656	668
Crafts	638	542
First training year	691	638
Second training year	764	707
Third training year	845	771
Fourth training year	876	849
Total	767	708

Source: Beicht, 2014

The employment of juveniles who are 18 or younger is governed by the youth employment protection (Jugendarbeitsschutzgesetz, JArbSchG). The JArbSchG stipulates, for example, the maximum working hours per day and per week, the minimum holiday entitlement for various age groups, the attendance at vocational schools, the activities juveniles are allowed to carry out, and the provision of specific health-care measures. In this regard, the maximum daily working hours are limited to eight hours except for those juveniles aged 16 or older or who work in agriculture. Such workers are allowed to work nine hours per day; however, the maximum working hours in two subsequent weeks are restricted to 85.

Selected Facts and Figures

According to the latest data report of the Federal Institute for Vocational Education and Training (Bundesinstitut für Berufsbildung, BIBB), a total of approximately 1.5 million young persons were in training in 2011. Four in ten apprentices are female.

TABLE 0-2: APPRENTICES
TOTAL NUMBER AND PROPORTION OF FEMALES

Year	2003	2004	2005	2006	2007 ¹⁾	2008 ¹⁾	2009 ¹⁾	2010 ¹⁾	2011 ¹⁾
in 1,000	1 581,6	1 564,1	1 553,4	1 570,6	1 594,8	1 613,3	1 571,5	1 508,3	1 460,7
Females in %	40,6	40,1	39,7	39,5	39,3	39,6	39,9	39,9	39,3

1) restricted comparability with years prior to 2007

Source: BIBB Datareport 2013

About 530.000 apprenticeships were started between 1 October 2012 and 30 September 2013. Though this means a decrease in comparison with the previous period, the ratio of training vacancies to applicants has notably increased over the last years. The proportion of young persons eventually starting a training programme of those who are generally interested in VET (starter quota) totalled 65% in 2013. Approximately one in four new starters have already acquired the general qualification for entering university at school (i.e. upper secondary

educational level – ISCED 3) and only 3.5% of the apprentices who started their training in 2011 were school drop-outs (BIBB, 2013, 170).

TABLE 0-3: VOCATIONAL TRAINING IN GERMANY
MAIN FEATURES – AS OF 30 SEPTEMBER

	Training places		Applicants	Started apprenticeships	Vacancies	Starter-quota in % ¹⁾
	All	Of which company-provided				
2003	572 474	n.a.	592 649	557 634	14 840	59,4
2004	586 374	n.a.	617 556	572 979	13 395	60,6
2005	562 816	n.a.	590 668	550 179	12 637	59,2
2006	591 554	n.a.	625 606	576 153	15 401	59,2
2007	644 028	n.a.	756 486 ³⁾	625 884	18 144	60,3
2008	635 758	n.a.	712 588 ³⁾	616 341	19 417	64,6
2009 ²⁾	581 562	535 761	652 848 ³⁾	564 306	17 256	65,2
2010 ²⁾	579 564	538 521	640 104 ³⁾	559 959	19 605	66,3
2011 ²⁾	599 070	568 608	641 523 ³⁾	569 379	29 688	68,3
2012 ²⁾	584 547	558 645	627 243 ³⁾	551 259	33 276	66,9
2013 ^{2) 4)}	564 249	542 568	614 243 ³⁾	530 715	33 534	65,0

1) starter-quota: proportion of young persons that eventually started a training of those who are generally deemed interested in VET; 2) restricted comparability with years prior to 2009; 3) extended definition of applicants, thus restricted comparability with the years prior to 2007; 4) preliminary figures

Source: BIBB - Datareport 2010 and 2013; Ulrich et al., 2013

The total number of vacant training positions increased from 12,600 in 2005 to 33,300 in 2012. In addition, more than one in three companies failed in filling all vacant training positions. Both features indicate the growing problems of companies in finding applicants who are deemed qualified (especially in manufacturing). In this respect, companies suffer, firstly, from the decline in the total number of school graduates and, secondly, from a persistently existing proportion of drop outs from school. In 2012, a total of two thirds of all companies searching for apprentices reported difficulties in filling vacant positions (BMW i, 2012). Depending on firm size, between 75% (small) and 83% (large) of the companies exhibiting problems to recruit new apprentices in 2010 reported that the candidates did not meet the skill requirements necessary to enter the apprenticeship programmes (IW Köln, 2010). In between 45% (small) and 35% (large) of these firms the number of candidates was too small to fill the vacancies appropriately.

Four in ten apprentices are trained in programmes affiliated to production tasks though this share has slightly fallen over the years to structural change in favour of service-orientated tasks (BiBB, 2013, 143). In 2012, a total of 85,000 apprentices attended additional training courses, while 64,000 persons attended a fully integrated VET and tertiary education programme. Concerning the former, that means an increase by 31% between 2004 and 2012. Concerning the latter, participation remarkably increased of even more than 50%. Both features reveal the efforts both to upgrade VET and attract potential high-performers in advance, i.e. before being trained or educated in professional competences.

TABLE 0-4: TRANSITION FROM VET INTO REGULAR EMPLOYMENT

Proportion of apprentices who continue to work in their company after having successfully completed their vocational training, in %.

Year	Year	2003	2004	2005	2006	2007	2008	2009	2010	2011
Share	%	53	53	54	56	60	62	58	61	66

Source: BIBB, 2013

A proportion of nearly 92% of apprentices who enter the examination procedure for the first time successfully take the exam. The proportion of apprentices whose fixed-term apprenticeship contracts are transformed into permanent or fixed-term contracts for skilled workers at the same company amounted to 66% in 2011 (s. Table 4). Over the last years, this transition rate has notably increased. This applies particularly to VET programmes provided by private companies. All in all, 29% of the apprentices who successfully completed their VET were, in 2011, registered as unemployed shortly after completion (BIBB, 2013, 284). That means a decline by 5 percentage points compared to 2011. In comparison with unskilled persons, workers with VET exhibit an odds-ratio of 3 to surpass the threshold-level indicating the low-pay sector (BIBB, 2013, 290).

■ General Features of VET at the Company-Level

Offering VET requires companies to meet several criteria, such as employing skilled trainers. If an individual company fail to comply with the requirements it may organise VET in a network of familiar firms. Thus, only six out of ten establishments in Germany are eligible to run VET programmes (see Table 0-5). Small companies, in particular those with less than ten employees, are less frequently entitled to provide VET programmes (individual entitlement: 48%, network entitlement: 3%). This also holds for establishments in transport, storage and communication (individual entitlement: 28%, network entitlement: 3%).

TABLE 0-5: ENTITLEMENT TO PROVIDE VET PROGRAMMES
PROPORTION DES ENTREPRISES EN %

	2003	2004	2005	2006	2007	2008	2009	2010	2011
Individual entitlement	56	54	55	55	55	56	56	56	56
Network entitlement	5	3	4	4	4	4	3	4	3

Source: Hartung, 2013

More than 50% of those establishments entitled to provide VET programmes actually employed apprentices in 2011(see Table 0-6). Smaller firms with less than ten employees, however, were less frequently engaged in VET despite their approval. VET in smaller companies is usually on demand and aims at facilitating the replacement of skilled job holders who are about to retire or at filling additional job position. The proportion of engaged establishments is relatively high in manufacturing of food products, beverages and tobacco products, manufacturing of industrial products, manufacturing of equipment and machinery as well as in information and communication services.

TABLE 0-6: ENGAGEMENT IN VET
PROPORTION OF ACTUALLY TRAINING ESTABLISHMENTS IN %
OF ESTABLISHMENT ENTITLED TO TRAIN IN VARIOUS STAFF SIZE CLASSES

Employees	2003	2004	2005	2006	2007	2008	2009	2010	2011
1-9	38	42	42	41	41	42	41	41	42
10-49	67	72	71	70	70	71	72	71	69
50-499	86	88	87	87	87	87	87	86	87
500+	96	95	95	94	95	96	97	96	97
Total	49	53	53	52	53	54	54	54	54

Source: Hartung, 2013

According to a representative company survey run by the Cologne Institute for Economic Research, an integrated VET and tertiary education programme was, in 2010, provided by one in five companies that were actually engaged in VET (Erdmann et al., 2010, 15). Among those with 250 and more employees this proportion totalled even approximately 58%. Complementing training courses were provided by more than one in three companies (firms with 250 and more workers: 53%).

When a company runs a VET programme it usually develops a training schedule which defines the concrete content and sequence of the various training modules. Thus, it can align the guidelines and specifications stipulated by the statutory provisions with the firm-specific requirements. In this respect, training and instructions at the workplace are also synchronised with the modules set by the curricula at vocational schools (and universities in case of fully integrated VET and tertiary education). In order to improve the quality of training, companies implement measures such as a controlling of the learning progress, feedback-talks with apprentices, mentoring or continuous training of trainers.

While the training regulations developed and set by experts from national authorities, unions and employers' associations ensure that the apprentices can transfer their skills, knowledge and experience from one employer to another (i.e. VET working as a signalling device) they also allow the acquisition of firm-specific human capital. With reference to costs/benefits-analyses, Pfeifer et al. (2011) estimate that, on average, 12% of the company's total investments in VET can be characterised as firm-specific.

The annual gross costs per apprentice that firms have to bear totalled approximately €16,000 on average in 2007 (see Table 0-7). Total gross costs increase as firm size increases. Labour costs for apprentices account for 62% of the training costs, those for trainers account for 22% (Pfeifer et al., 2009). Due to higher salaries for both apprentices and trainers the averaged total annual gross costs increased between 2000 and 2007. As apprentices also produce a value added – both in simple and skilled tasks – the net cost falls to €4,300 (2007). The net cost were in 2007 notably lower than 2000 indicating that the volume of working hours assigned to productive tasks at the workplace increased. Empirical evidence suggests that companies, more and more, try to integrate apprentices directly in the regular production process instead of training them in classrooms or separated shop floors (Pfeifer et al., 2010, 181). The provision of separated shop floors not only increase the gross costs (2007: €20,063) but reduces also the value added (2007: €6,890). Moreover, further empirical evidence suggests that the likelihood of being employed after completion of the training programme at the training company increases as the value added of an apprentice during the training period rises (Alda et al., 2012, 13).

TABLE 0-7: ANNUAL GROSS COSTS, VALUE ADDED AND NET COSTS OF TRAINING IN EUROS PER APPRENTICE

	2000	2007
Gross Cost	14 795	15 941
Value added	8 056	11 652
Net cost	6 739	4 290

Source: Pfeifer et al., 2010

In addition, companies also benefit from the engagement in VET by saving recruiting costs that have to be borne when skilled workers are hired, such as searching costs, assessment and selection costs, training and instruction costs, performance differences to experienced or in-house trained workers. According to Pfeifer et al. (2009), total recruiting costs per worker averaged more than €4.200 in 2007. Costs for searching, assessing and selecting appropriate candidates rise as firm sizes increases. Thus, total recruitment costs of firms with 500 and more employees, in 2007, amounted to €7,735 on average.

■ VET and Collective Bargaining – Selected Provisions

Besides the remuneration of apprentices, collective agreements in some sectors include provisions on further employment of young persons after having successfully finished VET is regulated or the extent of training activities.

— Metalworking and Electrical Industry in Baden-Wurttemberg

In May 2012, the employer association for the metal and electrical industry in Baden-Wurttemberg, Südwestmetall, and the German Metalworkers' Union (IG Metall) agreed on rules how employment of apprentices after finishing VET could be fostered (Vogel, 2012). This agreement on apprentices came into effect on 1 June 2012 and will expire on 31 December 2014. The agreement has been adopted in the other bargaining districts of the metalworking and electrical industry.

After their training courses, apprentices are to receive an offer of employment by their companies. Employers are given two options for dealing with the rule:

1. Employers analyse the demand for permanent workers. Not later than six months before vocational training is completed, the management stipulates how many newly qualified permanent staff are required, offers this number of apprentices a permanent position after the successful completion of their training, and informs the works council accordingly. Those apprentices surplus to the stipulated demand are also offered an employment contract after their training period. However, theirs is a fixed-term contract for only another 12 months.
2. Employers and the works councils stipulate in a works agreement how many apprentices are to be offered a permanent position after the successful completion of their training. The company and the works council will analyse the demand for workers before a new training year begins. In this case, the number of positions laid down in the works agreement is binding on the establishment. Those young people who are trained beyond the demand for permanent staff do not have a right to be taken on as permanent or fixed-term staff.

The collective agreement makes provision for companies who are forced to deviate from these options. If a business is in serious economic trouble to the extent that its employment levels are affected, it is not obliged to adhere to these clauses on apprentices. The same holds true if personal reasons warrant further employment of an apprentice. In the first case, the works' council has to approve of the delay. In the second case, it only needs to be agreed by the management.

The collectively agreed job offer guarantee can, however, be detrimental to companies' engagement in VET. According to a survey conducted by the employer association in the metal and electrical industry in North Rhine-Westphalia (Metall NRW) in autumn 2013, 85% of the companies bound by a collective agreement in the sector offered apprenticeship positions in 2013 (Vogel, 2014). However, around 26% were planning to offer fewer positions in the future. Nearly 37% of the employers indicated that they would only continue to train more apprentices than needed in their own company if their works council agreed to waive the rule obliging employers to offer fully trained apprentices employment. Metall NRW emphasised that the new rule was too 'bureaucratic' for its member companies to implement.

— The Chemical Industry

Since 2003, the involvement and engagement of companies in the chemical industry in VET has been supported by the provisions of the collective agreement for apprentices ("Zukunft durch Ausbildung"). Employers in the chemicals sector committed to creating 9,000 new training positions for apprentices each year between 2011 and 2013. The prolongation or renewal of the agreement is one of the topics that have been negotiated between the Mining, Chemicals and Energy Industrial Union (IG BCE) and the German Federation of Chemicals Employers' Associations (BAVC) in the recently started bargaining round 2014.

The VET agreement has been governed by the principle that offering apprenticeships has priority over subsequent employment. Nonetheless, the social partners, in 2010, initiated a scheme called '1,000 for 1,000' as reaction to economic crisis. Companies in the industry were to make a one-off payment of €25 million into a new fund to support firms that continued to employ apprentices who had successfully completed their training but had not been offered permanent jobs because of the crisis. The companies could take advantage of a reimbursement of €1,000 a month from the fund for a maximum of one year, thereby reducing their personnel costs for the employee in question by about a third. The fund was jointly operated by IG BCE and BAVC.

Since 2000, the IG BCE and BAVC have jointly run the initiative 'starting the career' (Start in den Beruf) that supports youngsters who have failed to secure a vocational training place or do not have the necessary skills for such training. They can attend a special training with duration between three and twelve months. The training includes in-house instructions on the job, classroom tuition, and socio-pedagogical assistance. Content and sequence of modules depend on the requirement of both the individual person and the company though the schedule is to allow for the timely start of a regular apprenticeship. The participants obtain a monthly remuneration of €450. Since 2000, over 2,700 youngsters have taken part in the programme, around 70% of whom were subsequently able to secure a training vacancy. Further 10% of the participants have qualified for another educational programme or have directly started a job. The initiative has, by now, been funded with a total of €5.8 million.

3. France

■ The Organisation and the Concept of Apprenticeship Training in France

The dual training system in France comes under two forms of contract: the apprenticeship training contract (*contrat d'apprentissage*) and the vocational training contract (*contrat de professionnalisation*). Both combine training in a training centre and in-company training. Their modalities differ in terms of the duration of the contract, the training, and the remuneration, as illustrated in the table below. Whereas the apprenticeship contract is initial training governed by a fixed-term work contract, the vocational training contract is continuous training governed by either an open-ended work contract or a fixed-term work contract. A new law,

under discussion, is proposing the possibility of apprenticeship contracts governed by an open-ended work contract. (Dayan/Delpech, 2013)

DUAL TRAINING

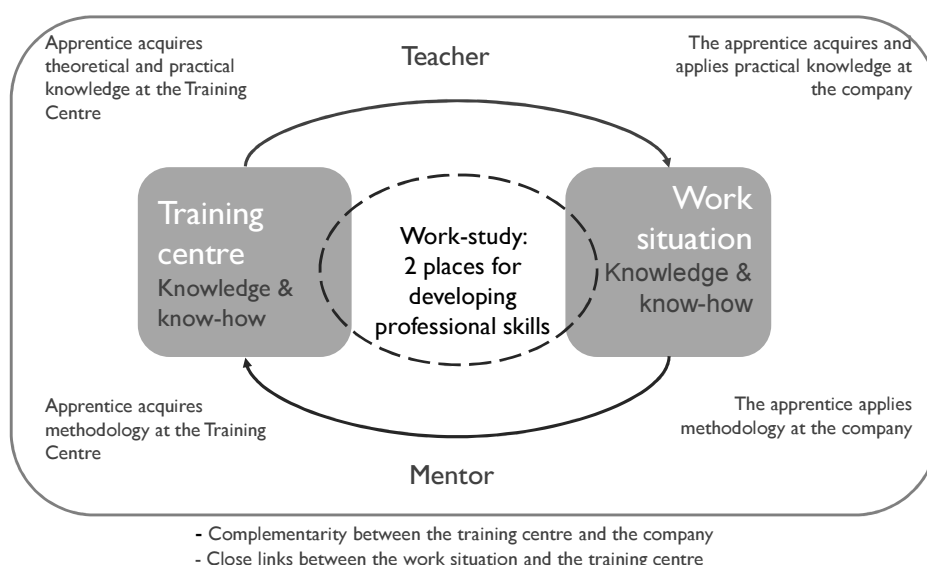
The Apprenticeship Contract	The Vocational Training Contract
Initial training for young people aged 16 to 25, governed by a fixed-term apprenticeship contract	Vocational training For adults aged 16 and over Within the framework of an open-ended or fixed-term work contract
The training takes place in a certified training centre	Priority is given to people with work experience for adults without technical or vocational diplomas
Duration: 1-3 years	Duration: 6-12 months +
Remuneration: between 25% and 78% of the minimum wage according to level of training (98% in public sector)	Remuneration: defined contractually

The definition of dual training - as a system for developing professional skills - is based on five principles:

1. It is in the form of a single training period divided into two coordinated, complementary and interactive sequences in a school or training centre and in a company
2. Its management is structured and organised
3. It includes mentoring
4. The learner is placed in a working environment, is empowered, and is part of a working community for a significant amount of time
5. The programme includes formal recognition and validation issued by the representative "body" of the "educational community" of professional abilities in addition to technical skills

The illustration below presents the dual training provided by the apprenticeship training centre and the company.

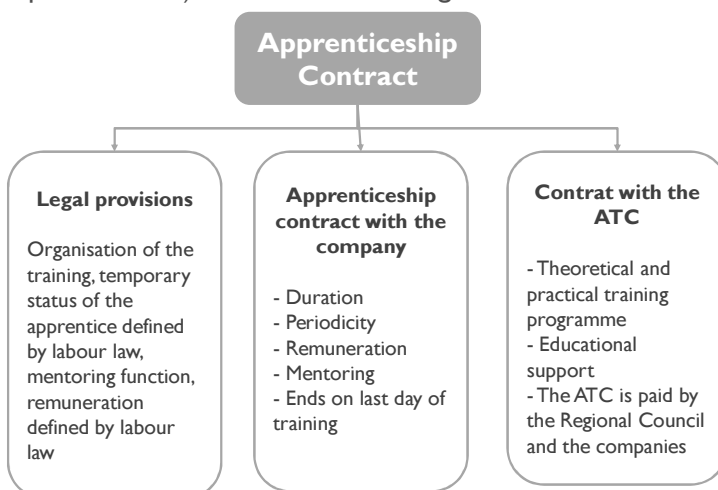
DUAL TRAINING



For the sake of simplicity, we shall focus on the modalities of the apprenticeship contract.

Apprenticeship training is an initial training for young people aged from 16 to 25 governed by a fixed-term work contract. The training takes place in a certified training centre and the apprenticeship contract is a work contract. The duration of the apprenticeship is 1 to 3 years and the time spent in training at the ATC (apprenticeship training centre) is at least 400 hours per year. The apprentices are remunerated according to their age, level of qualification, the year of apprenticeship, and the sector to which the host company belongs. This remuneration ranges from 25% to 78% (98% in the public sector) of the minimum wage. The contract must be in writing and under the form of a private agreement. Each contract must be signed by the employer, by the legal representative of the apprentice or by the apprentice if he or she is of age. (Article L 117-12 of the labour law). The figure below illustrates the complex structure of the apprenticeship contract.

Before taking a closer look at key apprenticeship training figures, here is a table presenting the different levels of training qualification:



CLASSIFICATION OF TRAINING LEVELS IN FRANCE

French classification	Level of training in France	Equivalent ISCED classification
Level V	BEP - Technical school certificate CAP - vocational training certificate (2 years)	3 c
Level IV	BAC - secondary diploma (3 years) BT - vocational training certificate, BP - professional certificate (2 years)	3
Level III	BTS (higher training certificate) and DUT (undergraduate diploma in technology)	5 b
Level II	Licence professionnelle - vocational bachelor's degree (3 years) M.S.G. (Master's in management sciences; 4 years) and E.C.G.S. (business economics: 4 years)	
Level I	Engineering diploma (5 years) Master's (5 years) Doctorate	6

Source: MEN – 2012/2013, Guide d'Apprentissage

In France in 2013, 435 000 apprentices started apprenticeship training (CCI, 2013, p.6). The growth rate of apprenticeships has decreased but there has been an overall increase in the number of apprenticeships. In France, apprenticeship training has shifted to a higher level in general, with a relative decline in the number of apprenticeships of level V. Even if the majority of apprentices follow level IV and V training programmes, a growing number start apprenticeship training at level I, II, III, or IV (ISCED 4-6). (Durier/Saing, 2007; Demongeot, Leprévost, 2011).

KEY APPRENTICESHIP FIGURES IN FRANCE

ISCED	French level	1995	2007	2008	2009	2010
3	Level V (Cap, BEP)	232 135	239 294	231 659	209 767	191 857
	Level IV (Bac Pro, BP)	41 327	95 753	98 470	111 900	123 018
5	Level III (BTS, DUT)		55 577	58 572	59 532	62 074
6	Levels I & II		34 538	38 949	43 543	49 331
Total		293 512	425 162	427 650	424 742	426 280

Sources: MEN-DEPP: Durier Sébastien, Saing Phanit: October 2007, *Le développement de l'apprentissage depuis les années quatre-vingt-dix*, N° 75 Education & Formation; Demongeot Aurélie, Leprévost Eloi: January 2011, Growth in the number of apprenticeships levelled off in 2008 and 2009

PROPORTION OF APPRENTICES ACCORDING TO SECTOR

	2009	2010	2011	2012
Agriculture, forestry, fishing	2,4%	2,7%	2,8%	
Industry	20.1%	20.5%	20.7%	21,2 %
Construction	21.8%	21.4%	20.4%	19,7 %
Service sector	55.7%	55.4%	56.1%	-
Including: Retail, automobile and motorcycle maintenance	20.4%	20.3%	19.2%	18,1 %
Retail				18,8 %

Source: Magnier, 2012, p.3

Most apprentices work in the service sector. The majority of them have an apprenticeship contract in retail and in automobile and motorcycle maintenance.

PROPORTION OF MEN AND WOMEN IN APPRENTICESHIP TRAINING

	Retail sector			Public sector
	2009	2010	2011	2011
Women	32.2%	32.4%	33.1%	48.8%
Men	67.8%	67.6%	66.9%	51.2%

Source: Magnier, 2012, p.4

The figures concerning gender distribution among apprentices between 2009 and 2011 show a higher proportion of men. However, the number of male apprentices is declining and that of female apprentices is growing.

PROPORTION OF APPRENTICES ACCORDING TO THE NUMBER OF EMPLOYEES IN COMPANIES

Number of employees	2009	2010	2011
1-4	40.0%	41.0%	39.7%
5-9	18.3%	18.2%	17.8%
10-49	19.8%	19.5%	19.3%
50-199	7,4%	7,5%	7,6%
200-250	1,1%	1,2%	1,2%
More than 250	13.4%	12.8%	14.4%

Source: Magnier, 2012, p.4

In France, the majority of apprentices are to be found in very small businesses. In 2008, more than half the apprentices were in companies with fewer than 10 employees. Only 11.2% of

apprentices were trained in companies with more than 500 employees. (Dayan/Delpech, 2013, p.13). In France, the main employers of apprentices are small businesses. From 2009 to 2001, there was a slight increase in the number of apprentices in big companies and at the same time a slight decline in the number of apprentices in very small businesses.

The remuneration of apprentices: Apprentices are remunerated according to their level of qualification, age, the year of apprenticeship they are in, and the business sector to which the host company belongs. Remuneration ranges from 25% to 78% (98% in the public sector) of the minimum wage as indicated in the table below.

REMUNERATION OF APPRENTICES AS A % OF THE MINIMUM WAGE

Age of the apprentice at the beginning of the contract	Level V prepared			Level IV prepared			Level III prepared		
	Year of the contract			Year of the contract			Year of the contract		
	1st	2nd	3rd	1st	2nd	3rd	1st	2nd	3rd
- 18	25%	37%	53%	35%	47%	63%	45%	57%	73%
18 - 20	41%	49%	65%	51%	59%	75%	61%	69%	85%
21 +	53%	61%	78%	63%	71%	88%	73%	81%	98%

*Minimum monthly wage on 1st January 2014: 1 445.38 € gross per month

Source: Guide pratique de l'apprentissage November 2013

— The Financing of Apprenticeship Training

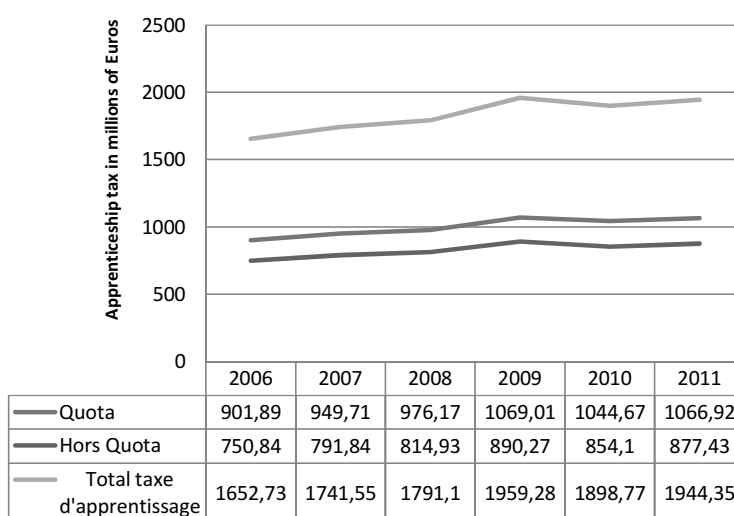
The financing of apprenticeship training is shared between the companies, the regions, and the State.

The Contribution of the Companies - The Apprenticeship Tax: The objective of the apprenticeship tax is to ensure employers contribute to the financing of apprenticeships. The gross apprenticeship tax amounts to 0.5% of the payroll (AT = Payroll * 0.5%). (CCIP, 2012)

The “quota” is the part of the apprenticeship tax reserved by law for the development of apprenticeship training. For 2014 this quota was set at 57% (52% in 2011). The “out of quota” part of the apprenticeship tax which provides funding for the first levels of technical and vocational training was set at 43% in 2014 (48% in 2011). (Patriat, 2013 Sénat N°455)

EVOLUTION IN THE APPRENTICESHIP TAX FROM 2006 TO 2011 (IN MILLIONS OF EUROS)

Evolution in the apprenticeship tax from 2006 and 2011 (millions of Euros)



Source: data communicated by DGEFP (General division of employment and professional training)

Funding organisation	Apprenticeship spending in 2007
Companies	1.04 B €
State	1.49 B €
Regions	2.04 B €
Other public authorities	0.13 B €
Households	0.23 B €
Total expenditure	4.93 B €
Total headcount	418 000 € (of which 326 000 are preparing a level V or IV diploma).

Source: PLF 2010, DEPP-MEN et calculs du CAS

Spending for apprenticeship training in 2010 was at 8 Billion euros, of which 3.3 Billion euros, or 41% came from companies, 2.2 Billion euros from the State (27%), and 2 Billion euros (24%) from the regions.

Currently there are 141 apprenticeship tax collecting organisations (OCTA), 63 of which are chambers of trade and commerce, 23 organisations with regional accreditation, and 55 regional collection organisations.

A reform is under way to simplify the collection systems and transfer from the State to the Regions the political and budgetary responsibility for apprenticeship training.

4. The United Kingdom

■ Definition of Apprenticeship in the UK

The Data Service 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 responsibilities⁹. Learning as part of an Apprenticeship takes place both in the workplace and with a local training provider. The apprenticeship framework ranges from qualifications at Level 2 to Level 4 (ISCED equivalent 3 to 5).

Responsibility for apprenticeship policy straddles the government Department of Education, and the Department for Business, Innovation and Skills. Consequently, ministerial responsibility encompasses both 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 (i.e. post-19 years) and adult apprenticeships are within its remit. The Apprenticeship Unit provides the means for the Departments to collaborate on Apprenticeship policy.

A National Apprenticeships Service in England has responsibility for providing information and advice about Apprenticeships to employers and to young people. It is tasked with providing a job matching process via its online resource. The Apprenticeships, Skills, Children and Learning Act 2009 set priorities and targets for the activities of the National Apprenticeship service. This act provides the legal framework/legislative structure for apprenticeships.

⁹ http://www.thedataservice.org.uk/Statistics/fe_data_library/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.

■ **Concept of the Dual System**

The UK would not recognise itself as operating a dual system of apprenticeship, which is seen as the preserve of other European countries such as Germany which have different historical developments of apprenticeships. For example, the IPPR (2013)¹⁰ describes dual apprenticeship systems such that they 'combine training in a firm alongside education in schools and colleges, which lead to a qualification that signals proficiency in a narrowly defined occupation.' 'The system of joint vocational education and work, commonly known as a 'dual apprenticeship' model, is relatively widespread in Germany because many employers and unions are strong supporters of the system.'

However, while the UK would not describe its apprenticeship programme as a dual system, apprentices are nonetheless employed by a firm throughout the period of their training, and the firm leads their on-the-job training activity. In addition, apprentices are typically released from work to attend off-the-job training in college for one-day per week. The college-led element focuses on theoretical skills whereas the firm-led element is concerned with competence.

To date, the key relationship in UK apprenticeship delivery is between the firm that employs the apprentice and the apprentice. The government and its agencies govern the nature and content of apprenticeship training, which is defined through industry consultations led by sectoral bodies which in turn inform the provision that training providers must deliver to apprentices and then assess. The quality assurance of training and of training providers is led by OFSTED, a government agency that oversees the delivery of all education (including early years but not extending to higher education) and training in England (see earlier).

The health and safety of apprentices, since they are classed as employees, falls under the auspices of the Health and Safety Executive which enforces the Health and Safety and Work Act 1974 for all employees in England.

■ **Reform of the Apprenticeship Programme in England**

Since 1990, numerous attempts have been made to raise the quality and credibility of apprenticeships alongside an expansion into industries without a history of Apprenticeship training, such as hairdressing and business administration. In 1995 apprenticeships were redesigned and rebranded as 'Modern Apprenticeships' which were based on the attainment of a National Vocational Qualification (NVQ) and which were not subject to the regulatory requirements that formed the basis for quality inspections for other school and college programs. Other waves of reform have similarly aimed at improving the quality and appeal of apprenticeships:

- In 1998, the Training Standards Council (subsequently the Adult Learning Inspectorate) took on responsibility for inspection of work-based learning providers, with responsibility for inspection being transferred to Ofsted in 2007.
- Level 2 (ISCED Level 3) apprenticeships were introduced in 2000 (until then they had been available only at Level 3; ISCED Level 4).

¹⁰ IPPR (2013b) States of Uncertainty (IPPR, London)

- Also in 2000, the Learning and Skills Council (LSC) took on responsibility for the funding of apprenticeships from the Training and Enterprise Councils (and this transferred to the Skills Funding Agency in 2010).
- A technical (knowledge) certificate was introduced in 2003/04 to explicitly require theoretical knowledge from apprentices (and, implicitly, structured off-workstation training).
- In 2004, the apprenticeships family was again re-branded with 'Modern' dropped from the title. They became Apprenticeships (Level 2/ISCED Level 3) and Advanced Apprenticeships (Level 3/ISCED Level 4).
- An apprenticeships 'blueprint' was introduced in 2005 to provide updated guidance for Sector Skills Councils (independent, employer-led, UK-wide organizations charged with encouraging increased employer investment in skills) on how to define their apprenticeship frameworks. The nature of this is set out in table 1 below.

	Essential content	Areas of flexibility
Competence-based element	The competence-based element must be assembled from sector-relevant National Occupation Standards, take the form of a National Vocational Qualification (NVQ) and be assessed using methods designed to test competence. Assessment methods should be determined by the Sector Skills Council in collaboration with the QCA (now OFQUAL).	The content of the competence element may be determined by the Sector Skills Councils, Sector Bodies and their employers. The qualification name may be varied to suit the sector.
Knowledge-based element	The knowledge element must be designed to provide evidence that underpinning theoretical knowledge required by sector entrants has been demonstrated. The knowledge element will be independently assessed using appropriate methods determined by the Sector Skills Council and Sector Bodies and agreed by the QCA. The knowledge element should form part of a progression route from between levels and into higher education.	The knowledge element may, or may not be integrated with the competence element. The knowledge element may be separately accredited or may be accredited as part of the competence element. Progression from Advanced Apprenticeship to higher education may require additional knowledge, provided that this is clearly stated and the means of progressing is available on commencement of the Apprenticeship.
Transferable skills (Key Skills/Functional Skills)	The following Key Skills should be delivered: <ul style="list-style-type: none"> • Application of Number at: Level 1 (Intermediate) and Level 2 (Advanced) • Communication at: Level 1 (Intermediate) and Level 2 (Advanced) • Key Skills assessment must include an end test, unless an exemption/relaxation applies. 	The range of proxy qualifications. The relaxation requirement where a learner holds other qualifications and the time limit relating to this relaxation. How the aspiration that apprentices achieve Level 2 Key Skills and advanced apprentices achieve Level 3 key skills is expressed within the framework. Contextualisation, integration and embedding of Key Skills external assessment.
Employment rights and responsibilities	Employment rights and responsibilities must be included and it is essential all apprentices understand their responsibilities for equal opportunities, health and safety and the safe learner concept.	The content and assessment of employment rights and responsibilities is the responsibility of the Sector Skills Councils and Sector Bodies designing the framework.
Other considerations	Key Skills, where required by the learner, must be independently accredited (although they may be delivered as part of other qualifications). Knowledge and competence based elements must lead to accredited qualifications.	Sector Skills Councils, Sector Bodies and the QCA may wish to consider the feasibility of introducing grades to Apprenticeships or their component parts.

- The National Apprenticeship Service was launched in April 2009 which is ultimately accountable for national delivery of targets and growth in the number of employers offering apprenticeships and with overcoming barriers to the growth of the programme.
- The Specification of Apprenticeship Standards for England (SASE) was introduced in January 2011 through the Apprenticeships, Skills, Children and Learning (ASCL) Act and states minimum requirements for programs (BIS, 2011). This replaced the Apprenticeship Blueprint and set out new legal requirements for apprenticeships such as a 12 month minimum duration of employment, a salary (at minimum the Apprenticeship National Minimum Wage) to be paid by employers from day one of the training and a minimum number of teaching hours (280)¹¹.

The culmination of these reforms has been an agreed framework for Apprenticeships such that all apprenticeships in England entail an NVQ qualification, technical certificate (which may be embedded within the NVQ) and the provision of Key Skills and input on rights and responsibilities.

5. Italy

■ Definition of Apprenticeship in Italy

Apprenticeship was regulated for the first time in Italy with Law n. 25 in 1955 followed by the 1997, 2003 and 2011 reforms. Nowadays, the apprenticeship is regulated by the Consolidated Act of 14 September 2011, modified by Law n. 92 of 28 June 2012, and the official definition of apprenticeship in Italy is “A permanent employment contract for youth training and employment”¹². This definition reveals the dual nature (oriented both to educational and employment purposes) of a contractual tool, the apprenticeship, that is receiving even more attention in the Italian labour market.

— The Apprenticeship Reform

The apprenticeship is a permanent contract aimed to train and employ young people (up to the age of 29) with a specific supporting legislation that has been recently reformed by the “Consolidated Apprenticeship Act” (so called *Testo Unico dell’Apprendistato*), approved in 2011 and entered into force on April 25th 2012. In order to reform the apprenticeship system the new Law amends and reorganizes the previous legislation on apprenticeship text by simplifying the subject and making the regulation more homogeneous across the country thanks to the supremacy of national collective agreements (CCNs) and special interconfederal agreements and the overcoming of regional regulations. In particular, it introduces some general principles and new features in the three types of contracts.

The maximum length of the apprenticeship contract is reduced from 6 down to 3 years. It can’t apply to more than 50 per cent of the staff of firms employing fewer than 10 employees and basic training is extended from 64 up to 120 hours. For businesses with less than 9 employees, contributions will amount to 1.5 per cent of pay for the first year, 3 per cent for the second year, and 10 per cent for the third year. For businesses with more than 9 employees instead, they will amount to 10 per cent. The text also provides the opportunity to recruiting workers on “Mobilità” with an apprenticeship contract for retraining, in which case employers will accumulate 50 per cent of the workers’ benefits per salaried month. The type and duration of the training, and also the number of apprentices that can be employed, will be established by national collective bargaining agreements covering the relevant sectors, and by intersectoral agreements. However, an employer can not hire more than one apprentice for

¹¹ Sources: www.apprenticeships.org.uk and <http://repository.excellencegateway.org.uk>

¹² Art. 1, par. 1, Consolidated Act on Apprenticeship, Legislative Decree, n. 167, September 14, 2011

every qualified or specialised worker. As for the pay of apprentices, their salary has to be at least two levels lower than the salary figure established in the national sectoral collective agreement. Alternatively, salary levels can be established at a specific percentage of the full salary. After three years this type of contract will become permanent. (Planet Labour, 2011; Pastore, 2012; Sanz, 2011).

The new apprenticeship system provides three types of contracts characterized by different purposes and target groups.

TABLE I. TYPES OF APPRENTICESHIP IN ITALY

Apprenticeship Typology	Training apprenticeships	Professional apprenticeship	Higher education apprenticeship
Target Age-group	People aged 15-25 years	People aged 18-29 years	People aged 18-29 years
Goals	To obtain a vocational qualification diploma recognized at the national level (ISCED level 3 to 4).	To obtain a qualification (recognized by collective agreement and enterprises) for those sectors who require professional training. This form of contract can also be used in the public sector.	This level comprises two distinct typologies: - “apprenticeship for higher education” leads to an upper secondary and tertiary qualification, technical specialization, or gives access to Regulated Professions (ISCED level 6 to 7) - “apprenticeship for research” leads to the contractual qualification of ‘researcher’ that is recognized by relevant collective labour agreements (ISCED level 8)
Regulation level	The training program for this type of apprenticeship will be established by the regions, in collaboration with the Ministry of Labour (LPS) and the Ministry of Education.	The minimum length of contract and type of training will be established in collective and intersectoral agreements. The training organized by an apprentice’s company will be integrated with public training programs aimed to providing basic professional skills, for a maximum of 120 hours spread throughout the three years of the apprenticeship.	The Regions establish the regulation and length of the training programs, in agreement with regional employer associations, universities, technical and professional institutes and other training and research institutes.
Duration	The contract can last up to a maximum of three years (four in the case of regional diplomas) and the length depends by the targeted qualification and degree to be reached.	The contract can last no more than three years (five for artisans).	The contract can last no more than three years.

The skills and abilities acquired by each apprentice will be certified following the modalities defined by the regions on the bases of the list of trades created by the Ministry of Labour on the bases of the CCNs’ staff categories. Moreover, each activity will be registered on the apprentice’s training book.

If the company fails to provide training to its apprentice as planned in the contract, employers will have to pay for the difference between the contributions paid and the contributions due for conventional supervision as targeted by the apprenticeship with a 100% increase. In cases of violation of conventional apprenticeship provisions, they will have to pay a fine of €100-600 and of €300-1,500 for second offenses.

— Apprentices in the Labour Market

Most recent data is available for 2010/1 (Isfol, 2012) and represent the apprentices’ presence in the labour market before the 2011 reform. According to Rustico (2013), Table 2 presents data (thousands and percentages) on ‘apprenticeship’ inflows, standardised by youth

population, and ‘apprenticeship’ stocks, standardised by the number of employees in employment in the whole economy both for 2009/10 and 2010/1.

TABLE 2. NUMBER OF APPRENTICES IN 2009-10, 2010-11 IN ITALY

		Thousands	%
Inflows	2009/10	283 083	4,19
	2010/11	289 076	4,30
Stocks	2009/10	594 668	2,58
	2010/11	541 874	2,57

In Italy 289.076 people started an apprenticeship program in 2010, equal to 4.30 per cent of youth population, while there were 541.874 apprentices covering about 2.6 per cent of all employed people. More than 58 per cent of the apprentices belong to the 18-24 years group while under-18 accounts only for 1.4 per cent (Table 3).

TABLE 3. NUMBER OF APPRENTICES BY AGE (SOURCE: ISFOL, 2012)

	2009		2010	
	000s	%	000s	%
<18 years old	10 419	1,75	7 702	1,42
18-24 years old	361 184	60,73	317 200	58,54
25-29 years old	187 530	31,54	177 337	32,73
>30 years old	35 535	5,98	39 636	7,31
Total	594 668	1,00	541 874	1,00

Moreover, data reveals that 176.996 apprenticeships in 2010 were transformed in employment contracts. Among these, people older than 25 years accounted for 60 per cent (Istat, 2012).

Manufacturing and wholesale, retail and repair were the sectors employing the higher number of apprentices (about 24% each both in 2009 and 2010) while the area of human service and work activities (that are mainly public) and those of transportation and storage and financial and insurance activities accounted, in total, for about 6 per cent (Table 4).

TABLE 4. NUMBER OF APPRENTICES BY SECTOR OF ACTIVITY (SOURCE: ISFOL, 2012)

	2009		2010	
	000s	%	000s	%
Manufacturing	146 721	24.67	126.060	23.26
Construction	96 049	16.15	84.988	15.68
wholesale, retail and repair	141 718	23.83	131 669	24.30
accommodation and food service	57 166	9.61	56 356	10.40
transportation and storage	16 507	2.78	13 726	2.53
financial and insurance activities	15 255	2.57	14 286	2.64
real estate and support service activities	65 792	11.06	61 202	11.29
human health and social work activities	6 654	1.12	6 344	1.17
other service activities	43 539	7.32	42 433	7.83
Other	5 268	0.89	4 810	0.89
Total	594 668	100	541 874	100

3. Case Studies

1. **Switzerland:** *La Poste, Espace Entreprise, Rolex* - Innovative Strategies

■ **The Pioneers**

With the aim of promoting gender equality and providing as many opportunities as possible in vocational training, the cantons are developing communication strategies and incentives to ensure:

- children are better informed about the occupations of their parents (“Special Day for Children in Companies”)
- boys and girls are encouraged to consider vocational training in sectors where traditionally the other gender is prevalent [...] by referring to them as “pioneers”.

■ **A Bilingual French-English Curriculum for Employees in Support Functions**

Lessons in French associated with an English module and the practice of English in the company, supported by language courses on site, is a new system proposed by the Canton of Geneva as a incentive for multinational companies which have so far not been greatly implicated in upper-secondary vocational training.

■ **The Integration of Undocumented Young Workers in Vocational Training**

There has been an ongoing parliamentary debate since 2012 in Switzerland about whether young people of age wishing to follow vocational training but who do not have valid work documents should be allowed to do so. This approach is based on an acquired right in Switzerland dating back over thirty years enabling all children residing in the country to attend school, irrespective of their situation. Due to pressure from conservative and extremist parties who do not want migrants to be encouraged to come to Switzerland to benefit from training, the question raised is whether a prerequisite for candidates should be for them to have followed compulsory education in Switzerland.

■ **A Post Office Run by Apprentices**

In the municipality of Chêne-Bougeries in Geneva: all of the departments and functions of the post office have been placed under the responsibility of twenty apprentices supervised by 3 instructors. The apprentices are put in charge of the management and administration of the post office, of customer services, distribution of the mail, and marketing activities during a three-year training period. The more experienced apprentices also act as mentors for the younger apprentices.

■ **A Simulated Environment for Training in Business Support Functions**

The Canton of Geneva has opened a training centre for apprentices training in business support functions based on the principle of the simulated company but working under licence for partner organisations (neighbourhood associations, companies, other State services, etc.). The apprentices share their time between the school and the centre and spend time in the different departments (administration, human resources, communication & marketing, finances, development, procurement, and logistics). The instructors are all former professionals in these areas and manage the training programmes as “apprenticeship supervisors”.

■ **The Student Watch**

The watchmaker’s apprenticeship at Rolex is based on the brand’s notoriety with a “student watch” which is produced by the apprentices from scratch and which is presented each year at the international watch fairs of Basel and Geneva. This approach also confirms the capacity of a factory to provide training for apprentices at all the stages involved in the production of a timepiece with complications; an approach which guarantees enhanced employability for the graduates.

■ **Between 10 and 15 Different Occupations in a Single Company**

Three big Swiss companies (Services Industriels de Genève - a former public utility company -, Nestlé Switzerland - a subsidiary of the multinational agri-food company -, and Etat de Genève - the public services administration of the Republic and the Canton of Geneva) each have between 150 and 250 different occupations represented among their staff and are able to offer a hundred apprenticeships in more than a dozen different areas, including administrative and support functions as well as production and craft activities. This incredible effort, which requires a great deal of flexibility to provide consistent vocational training while addressing the training requirements for each of these occupations, is in line with two strategic objectives: ensuring the maintenance of professional skills to avoid the risk of being impacted by labour market variations and ensuring the attractiveness of two sectors which, although benefiting from media exposure, may scare off potential applicants for vocational training.

2. Germany: *Alltrotech* and *Airbus*

■ **Alltrotech**

Alltrotech is a supplier of software engineering services with around 40 employees that is located in Dresden, eastern Germany. As expanding firm Alltrotech aims to recruit highly skilled specialists in the fields of information and communication technologies (ICT) and engineering. As recruiting specialists from the external labour market has proved to become more and more difficult, Alltrotech has been training one or two students (each year) in the fields ICT and business information systems since the beginning of the 1990s though at that time the variety of appropriate training programmes was small. The company’s VET programme, thus, represents the model of tertiary education complemented with extended internship-periods.

The former is organised by the vocational academy of Saxony (Berufsakademie (BA) Sachsen). The proximity of the company and the academy has allowed establishing a direct contact between the responsible persons at both institutions. The academy stands for small classes and a sophisticated curriculum. Close cooperation between Alltrotech and the academy is deemed crucial for the success the VET programme as problems can be adequately and timely dealt with. According to Berit Krille, chief officer for organisation and controlling and in charge of the training programmes, the longstanding cooperation with the academy works very well.

Thus, Alltrotech can assist both the academy in advancing its training programme and students in dealing with problems at the academy.

Entering the integrated VET programme requires that the candidates have acquired the general qualification for entering university. According to Ms Krille, applicants have to have good skills in mathematics and physics; IT skills are warmly welcomed so that the students can be integrated into working teams from the first day. Soft skills are expected as students will have contact to clients even during their training. Students run through six internships whose training schedules are closely aligned with the curriculum of the academy. The students are involved in the regular projects at Alltrotech and have to perform tasks whose results can also be used as seminar papers and thesis. The students have also access to Alltrotech's internal seminars and continuous vocational training programme. An experienced professional is assigned to every student as mentor. In addition, during the last stages of the VET programme specialists support the student/mentor-pair. At the end of each internship a feedback-talk is organised to ensure both the quality of training and the learning progress. When projects are performed or in meetings of companies who also cooperate with the academy Alltrotech can make proposals for amendments of the curricula and learn from other companies to optimise its training programme.

Between 2001 and 2011 all students successfully graduated the VET programme. More than 90% of the graduates were offered an employment contract afterwards. According to Alltrotech, graduates can be directly integrated into the work organisation and perform regular jobs. In addition, the VET programme facilitates the knowledge transfer between students/graduates (with the up-to-date human capital) and experienced workers. In this respect, the former can also benefit from getting impulses for their individual working career.

With respect to the lessons learnt, Ms Krille highly recommends interested companies to contact the dean of the selected programmes/faculties at the universities and academy directly. The latter are mostly pleased to give consult on the curricula, conditions etc. In addition, companies should exchange ideas with other companies that offer a tertiary education complemented with extended internship-periods.

■ **Airbus Group**

Airbus offers a broad variety of VET programmes. According to its website, candidates in Germany can apply for about 18 "regular" VET programmes in technical occupations and 7 "regular" VET programmes in business occupations which result in receiving grades of ISCED-level 3. A detailed description of each of the offered VET programmes is available online. It includes the general training content, the length of the training, the educational and skill requirements, the career prospects, and the job vacancies at the various sites of Airbus.

In addition, Airbus offers both vocational training programmes that are complemented with tertiary education and tertiary education that is complemented by long-term internships. The students can acquire a Bachelor of Arts or Science in several fields of engineering and business administration. Agreements between Airbus and the academies or universities ensure that the content of the academic courses, the training at the workplace and the projects and tasks performed at Airbus are effectively aligned. In some subjects, programmes allow for training modules abroad. A detailed description of every of the combined VET/tertiary education programmes is available online. It includes the training programme, the length of the training, the educational and skill requirements, the career prospect, and the job vacancies at the various sites of Airbus as well as the name of the cooperating university or academy.

The length of the period of a vocational training programme that is complemented with tertiary education is about five years. The student/apprentice and the firm conclude a regular apprenticeship working contract and obtain the regular remuneration of apprentices. Students attend universities or universities of applied science where they learn the academic knowledge in the corresponding subjects. In training modules at Airbus, they are trained in those fields which are described by Airbus-adapted training scheme and required by the statutory

provisions. In addition, the periods during the terms can be used to gain work experience in selected projects. They have to perform the exam both at chamber of commerce and the university. The thesis will be prepared in topic with direct relevance for and reference to Airbus.

When tertiary education is complemented by long-term internships, students sign fixed-term working contract with a corresponding remuneration. Internships account for 50% of the total length of the programme. The latter is usually three years. The sequence of internships and tertiary education modules depend on type of cooperating institutions (vocational academies: alternating periods of internships and academic courses; universities: internships take place between the terms). The topics and tasks learnt in the internships are in line with the cooperation agreement with the university and depend on the subject.

3. France:

Veolia Environnement, Parcube, and a Consulting Firm...

■ **Veolia Environnement**

Veolia is a large French multinational company. It has four business lines: water, transport, energy, and waste management. The company has 100 000 employees in France and the rest of the world.

Veolia has been hosting apprentices since 1994. They are mainly recruited to follow training in occupations closely related to the core environmental activities of the company. The level of qualification of the apprentices ranges from the vocational training certificate (CAP) to Master 2. Veolia decided to develop apprenticeship training to enhance the image of the company and promote professionalism in occupations relating to the core business activities of Veolia. The company therefore decided to create, in cooperation with the French education system and the French universities, qualifying training courses to promote these occupations. Currently, the recruitment of work-study learners, in a much tougher economic context, is largely motivated by the company's key role in promoting and facilitating the creation of jobs. This engagement has led the company to create the network of Veolia Environnement Campuses which is a central part of the company's training policy in helping employees and apprentices acquire these core competencies. Veolia's platforms and simulators reproduce the tools, processes, and working conditions of the employees thus ensuring training truly applied to the job and constitute a reference in terms of vocational and continuous training.

The mentors provide coaching for 1 to 3 learners and receive training and coaching at the Veolia Campus.

Veolia has many partnerships within the French school and higher education system. However, apprentices receive teacher training at the Veolia Campus itself. Veolia is a pioneer in apprenticeship training in France and has created its own training centre. As a result of this investment in apprenticeship training Veolia recruits between 50% and 80% of the young people who have done their apprenticeship in the company.

■ **Parcube Bordeaux**

Parcube operates several car parks in Bordeaux.

Recently the company widened the scope of its activities by developing the construction of car parks. Parcube is an SME with a headcount of 130 employees and has been hosting apprentices since it was founded 9 years ago. Each year, Parcube recruits 1 to 2 apprentices for apprenticeships lasting more than 3 months. Most of the apprentices are hosted by the sales department whereas few apprentices are employed in technical jobs. The company plans to host a level 1 or 2 apprentice in legal matters.

For *Parcub*, recruiting apprentices is a way of addressing two issues:

- the increase in the work load at a given point in time and the need to find competent staff to deal with it
- the need to develop a corporate culture aimed at facilitating the integration of young people in the work place when the workload makes it possible to provide these young people with real objectives and tasks to perform.

A give-and-take approach: the recruitment of apprentices is part of a give-and-take approach in which the apprentice reinforces a team in a real work situation. *Parcub* never recruits an intern if the work programme does not provide the learner with an interesting activity.

Parcub recruits mostly apprentices with a level 3 qualification (DUT or Bachelor's degree) or a level 1 or 2 qualification (Master 1 or 2, business school). The apprenticeship manager is the person in charge of the department the apprentice works for. At *Parcub* the sales manager is in charge of apprentices. A maximum of 2 apprentices may be mentored by the apprenticeship manager, making it possible to ensure close supervision which is reassuring for the apprentice and the mentor. Regular situation reviews are conducted. There is no formalisation of this monitoring process due to the fact that the apprentice is in regular contact with the manager, however, exchanges are frequent. Each time the apprentice returns to the company after a period spent at the training centre a review meeting is held with the manager to cover progress made during the previous days and to define objectives for the coming days. The General Manager also monitors the apprentice's progress with frequent review meetings in the presence of the apprentice and the mentor.

The work-study schedule is adjusted to suit the requirements of the ATC. ATCs are essentially business schools or university faculties. No specific measures have been taken since the hosting of learners is a part of the corporate culture at *Parcub*. Department managers know they can ask the general manager to recruit apprentices each time they have an increase in workload and don't have the manpower to deal with it. The apprentices are recruited for administrative and support functions; therefore the only problems to solve are of a logistic nature, such as providing the apprentice with a work station.

Regarding the level of recruitment, to date, only one apprentice has been recruited following an apprenticeship. This can be explained by the motives for resorting to apprentices. Bearing in mind that *Parcub* recruits apprentices to address temporary needs, there is no work programme that enables envisaging a full-time recruitment at the end of a training period. Another reason is the mobility of apprentices in general. Most of the students come from a business school in Bordeaux and start their work-study programmes during their Master 1 often continued their studies with a Master 2 but not necessarily with a work-study programme. These students often go on to study in another town.

■ Consulting Firm

We analysed the situation of a small consulting firm which wishes to remain nameless. This firm is an association of HR consultants working for large French and international corporations, has 40 employees and has been hosting apprentices for fifteen years. The company trains 2 to 3 apprentices every year from France and neighbouring European countries. The learners are hosted for a period of approximately one year and most of them follow a level I apprenticeship training programme (Master 2), but there are also learners on level III programmes. Each apprentice is supervised by an apprenticeship manager. The apprentices are recruited mainly to work in the fields of human resources and corporate social responsibility, skill management and management sciences, but the firm is currently hosting an apprentice from film school.

As a company specialised in the organisation of work and training, the hosting of learners is an integral part of its corporate culture. The company is motivated to coach learners and provide

them with on-the-job training. The work-study programme schedule is adjusted to suit the requirements of the ATC. Usually a schedule defining the time spent at the company and at the ATC is drawn up for the entire year. On average, in the course of a year an apprentice spends 36 weeks at the company and 16 weeks at the ATC or university. The apprenticeship manager regularly monitors the learner's progress.

The company cooperates with the universities or the training centres, which are principally located in the Paris region.

To date, the company has not recruited apprentices after the apprenticeship training.

4. The United Kingdom:

Kent County Council, Mears Group Plc, Rolls Royce, Nicholas and Harris

The UK case studies have been selected to demonstrate apprenticeships within different industrial settings and include examples drawn from the public services (where apprenticeships do not have a long tradition), as well as examples in both construction and manufacturing which have well established traditions of training. A further example details how apprenticeships for adults have been introduced and supported. In two cases, there are strong moral drivers to the delivery of apprenticeships which surround increasing opportunities for young people to enter and experience the labour market while also improving their skills. In another example, the firm is known to offer extremely high quality apprenticeships which have a strong role in assisting young people to enter and sustain their position in work. Finally, a further case study demonstrates collaboration with the social partners to improve opportunities for work place training for adults.

■ **Kent County Council**

The first UK case study relates to Kent County Council, which is a public sector local authority employing around 44,500 people. This County Council set targets to increase the number of apprenticeships available within its community by 1,000 between 2006 and 2010 and then to at minimum sustain this level of training. In order to expand its apprenticeship programme, it developed a programme known as 'Kent Success', which targeted 16 to 19-year-olds to support them into apprenticeships. The 'Kent Success' project was formed of a number of elements, which included:

- supernumerary apprenticeships in the council. These were temporary contract training posts which were created specifically to increase the number of apprenticeships available and to provide young people with experience and training to support their future transitions. Employment contracts were typically for 18 months which allowed time for qualifications to be gained alongside a significant period of work. The posts provided additional capacity within the council and did not displace existing workers or permanent employment roles. Young workers received a wage above the national minimum wage for apprentices. Following successful completion of training and the acquisition of qualifications, apprentices were entered into a preferential recruitment pool to ensure they received details of suitable jobs within the council and its key partners. Furthermore, employers were assured that applicants from the pool were suitably qualified and experienced to take on the jobs.
- ENTRY LEVEL APPRENTICESHIPS IN THE COUNCIL. A strategy was introduced such that where entry level roles (grades 2-4) became available, unless an existing member of staff required redeployment, the role, which was based on a permanent contract, was offered as an apprenticeship. During the period the young person spent in training, they were paid above the NMWAR. Once qualified, they went onto receive pay on the relevant

scale of the role. The apprenticeship served to ensure that they had the skills necessary to be productive in their role.

- **CREATING/SUPPORTING APPRENTICESHIPS IN OTHER LOCAL EMPLOYERS.** This entailed brokerage and business support for other employers in the county to take on an apprentice, aiming to build links between young people's work aspirations and employers' needs. In this strand, Kent County Council offered leadership and encouragement to businesses to take on apprentices, as well as tangible business support, such as providing them with template contracts and policies to meet the requirements expected of employers who engage with apprenticeship training. In some instances, where employers had concerns over their ability to sustain the employment of a young worker in the longer-term, Kent County Council acted as an employment agency holding the contract of employment with the young person while the external business provided the work-based learning element of training.
- **SUPPORTING VULNERABLE YOUNG PEOPLE OUTSIDE OF THE LABOUR MARKET.** The Vulnerable Learners Apprenticeship project was introduced to recognise the increased likelihood of some groups to enter the NEET category. It drew on £0.5m investment by Kent County Council from its capital reserve which demonstrated its commitment to improving the chances of young people in the county. It was an 18 month project through which 80 young people who were care leavers, young parents, young people with disabilities and/or learning disabilities and young offenders, received support and training to become employment ready and then be brokered into a suitable apprenticeship. Kent County Council covered the salary costs of their employment contracts at this pre-apprenticeship stage, which was of one year's duration.

The Kent Success apprenticeship programme provided additional support to the national framework for apprenticeships in the UK to ensure that young people receive more than the formal work-based training element. The support package included:

- a focus on information, advice and guidance and assessment;
- helping young people to develop generic skills and employability attributes (e.g. confidence building, team working, time keeping);
- creating social support structures and networking opportunities for young workers; and
- a focus on job search when apprenticeships were nearing completion (e.g. support with CV writing, completing application forms and interview techniques).

The scheme benefited from strategic commitment to the needs of young people who were struggling in the labour market at a time of economic instability. It also supported the Council to engage with all members of its local community. The key driver to the development of Kent Success was a review of the workforce which revealed a large proportion of workers who were aged over 45. This assessment demonstrated that the council's focus needed to turn to encouraging young people into its workforce and making the package as attractive as possible in order to achieve this. The Council was keen to attract and more importantly retain young people in its workforce. This led to its strong focus on their needs but also ensuring suitability of working arrangements and provision.

■ **Mears Group Plc**

The second UK case study relates to Mears Group Plc, a private sector firm which provides and maintains social housing, and residential care facilities. As a publicly limited company, with a range of UK subsidiaries and regional branches, overall it employs around 12,000 people. Given the differing funding subsidies by age present in the UK¹³, the apprenticeship schemes

¹³ At present, the UK government provides funding for the training element of the apprenticeship, through contracts with training providers. For apprentices aged between 16 and 18, the full costs of training are subsidised. Fifty per cent of the training costs for 19-

offered by Mears Group are funded by itself, government, the Construction Industry Trade Board (CITB¹⁴) and its client companies. Apprenticeships are seen by the company as the gold standard in terms of training in the UK, since they offer young people an opportunity to gain practical, on-the-job experience and theoretical, college-based training.

Mears Group Plc has a strong sense of social responsibility and takes a holistic approach to its apprenticeship schemes, offering opportunities to young people from relatively deprived and difficult backgrounds, and trying to ensure that their apprenticeship experience is as rounded as possible. This includes residents of the social housing it supports and maintains. This is driven by a desire to give something back to the community and it also sits within Mears' general corporate social responsibility (CSR) framework. The apprenticeship scheme receives senior, strategic support, with the buy-in of senior HR personnel.

Mears Groups offer a range of apprenticeships that are locally devised and specific to the particular regions in which the company operates, in partnership with the specific clients that the regional division works with. At the time of the case study, Mears Group was in the process of centralising the schemes, to ensure that all new apprentices were offered a structured and uniform introduction to the company, before commencing their apprenticeship. There is no upper age limit on the apprentices at Mears Group although the average age is between 18 and 24.

In general, apprentices spend three-to-four days working and one-to-two days a week at a college to learn the theoretical side of their trade. The apprentices follow multi-trade apprenticeship frameworks or specific trades such as carpentry or electrician skills. As would be expected, apprenticeships lead to a formal and transferable, recognised qualification. Mears Group receives an element of subsidy from the Construction Industry Trade Board, which is funded by levies from construction companies. The subsidy works in terms of rebates from the levy, which vary depending on how many apprenticeships are offered. Mears Group also works in partnership with some of its clients, which co-fund the apprenticeships.

Apprentices are paid a set rate of pay according to experience. Pay is set by the government and the construction industry, the CITB and the unions in the sector, in the Construction Industry Joint Council, and is a proportion of the minimum wage. There is also a Joint Industry Board that sets pay for electrician apprentices. Pay rises in increments, according to the modules apprentices complete and/or their age, and starts at around £2.50 an hour for an entry-level apprentice.

The company tries to offer a wide-ranging experience to apprentices, to equip them with technical, practical and general workplace and life skills. It is flexible in that it can tailor what it offers to the individual, which can include driving lessons and key skills refreshers, in maths and English.

After initial selection, apprentices typically embark upon a two-year training programme. Apprentices work with mentors (experienced and fully trained employees), who guide them throughout their apprenticeship. After the apprenticeship, individuals are offered a job with Mears Group, if work is available, or they are given extra help and support in finding their way after leaving Mears Group. This includes support on how to become self-employed. The majority of apprentices stay with Mears Group after finishing their apprenticeship.

The advantage of the apprenticeship programme for the company is that, apart from giving something back to the community, it can grow its own employees in an expanding business. This is its preferred approach; Mears Group states that it will always hire apprentices in preference to hiring staff externally.

24 year olds is subsidised by government with employers expected to fund the remaining monies; and finally, for apprentices aged 25 years and over, employers and/or individuals are expected to meet the costs of training.

¹⁴ The Construction sector is one of a few in the UK that has retained its training board. Member companies contribute to a levy, which in turn pays towards grant and training for workers in the sector.

■ **Rolls Royce**

The third UK case study relates to the private sector engineering firm Rolls Royce, a large multinational manufacturing firm that employs over 38,900 people across 50 countries. Currently, Rolls-Royce operates in five main areas – civil aerospace, defence aerospace, marine, nuclear and energy. It has a long tradition of apprenticeships, is seen as a high quality apprentice employer and there is strong competition to gain a place on its programme. Alongside the standard elements of apprenticeship training, Rolls-Royce offers basic skills (applied literacy and numeracy) training and the opportunities to participate in community projects.

All apprentices are new recruits to the firm, and the selection processes are rigorous since the firm receives roughly two to three thousand applications each year. New recruits are typically young, but not necessarily recent school leavers. Those selected are involved in a pre-induction, to give them information about the training and to undertake initial assessment in order that Rolls Royce can fully understand their current skill levels, assess their needs and understand which business area they are most suited to. On the basis of this assessment an individual training plan is drawn up for each apprentice. Following this apprentices receive a corporate induction and attend an outward bound team building course. Following this apprentices begin their apprenticeship and are attached to a specific business area and undertake a variety of placements within it.

Each apprentice has an Apprentice Development Leader who is their first point of contact if they want to discuss any issues relating to their training programme. When on placements apprentices have access to mentors who are departmental trainers. In addition, the company is developing a peer buddying programme.

Rolls-Royce recruits around 150 new apprentices each year across nine sites in the UK and its apprenticeships offer opportunities to qualify at Level 3 (ISCED Level 4) and to Level 4 (ISCED 5). As a consequence, the duration of training is around three to four years.

■ **Nicholas and Harris**

The fourth case study is of Nicholas and Harris which is an artisanal bakery with a history dating back to the 1830s. It employs around 200 people. Around one-third of Nicholas and Harris's products are organic and it is the UK's largest producer of organic bread. The GMB union is recognised at the firm and has an active role in promoting learning and training. The company has a high proportion of migrant workers. The partnership between Nicholas and Harris and the GMB union has resulted in classes being delivered for staff in English for those with English as a second or other language (ESOL), literacy and numeracy; as well as the Level 2 adult apprenticeships in Food Production.

The union suggested that the firm start an adult apprenticeship initiative in order to consolidate employee's knowledge and accredit their skills and to assist them to extend their skillsets. The union also suggested a greater focus on ESOL training in this firm to better meet the needs of the migrant employees.

The apprenticeships were jointly delivered by two training providers, with one providing the technical training and the other delivering ESOL as needed. As a result of these developments, in the firm and the union established a Learning Agreement which sets out different levels of learning that the business will support. Since entering into the Learning Agreement with the GMB, Nicholas and Harris have been able to use the union's learning centre in Southampton to run some training sessions. The GMB has funded two laptops in readiness for further learning initiatives and the partnership has just discovered that it has been approved for a grant from Call 2 Learn, a SW TUC fund, to establish a Collective Learning Fund in the workplace, which will allow the company to widen their learning offer.

Subsequently, there has been a review of how training providers are selected and recognition of the importance of fully documenting what is expected from them. In addition, the training provider is now invited to attend regular learning agreement meetings.

The company believes that the partnership with the GMB union has helped it to move towards high performance working. While it is difficult to separate out the precise impact of introducing the apprenticeships, since they have had an improvement project running in parallel with the apprenticeships, the apprenticeships are viewed as a key part of the company's move towards improved working. Furthermore, the firm identifies benefits of continuing with the partnership and it has been considering options for training apprentices to the next level. The partnership had successfully bid for a grant from the Collective Learning Fund from the South West Trades Union Congress (TUC) which will be used to develop the learning centre. The firm is co-funding this in kind by refurbishing the room that will accommodate the learning centre, while the union is providing laptops.

5. Italy: *Telecom Italia, MV LINE, Radiotelevisione Italiana*

The Italian case studies have been selected to represent how higher education apprenticeship and professional apprenticeship apply in different contexts. The first case is an example of higher education apprenticeship in a private company arose from the merger of several state-owned telecommunications companies in which apprenticeship is strictly linked with university paths and apprentices are employed part-time. The company is inspired by moral drivers in delivering apprenticeship in those geographical areas in which youth unemployment is higher and young people have less opportunities to improve their skills and having work experiences. The other two cases include examples of the most commonly adopted apprenticeship contract, professional apprenticeship, in two companies that differ for size, sector and industry. One is a medium, private company in the manufacturing industry, the other one is a public, big company in the television industry. In both cases apprenticeship is becoming the main recruitment strategy.

■ Higher Level Apprenticeship at *Telecom Italia*

Telecom Italia is the leading Italian Telecommunications and ICT provider for both fixed and mobile phone services and is also one of the most important Telco players in Brazil.

Telecom Italia has about 53.000 employees in Italy and is listed both on the Italian and New York Stock Exchange. Given the company orientation to be a sustainable enterprise by contributing to the economic and social development of the country, Telecom Italia has launched a Higher Education Apprenticeship program in order to facilitate the school-to-work transition of undergraduate students by offering concrete employment opportunities to talented and motivated young people.

In 2011 Telecom Italia signed an agreement with major Italian trade unions in the telecommunication sector to implement an apprenticeship program which would favour the encounter between the academic world and the labour market, especially in regions in which the youth unemployment rate was higher. The scheme was designed to develop new managerial capabilities and fill the generational skill gap in order to prepare the Company to face the new challenges of a rapidly changing competitive landscape. The initiative, named “The Day Before”, represented a training and job experience for 200 students enrolled in the faculties of engineering and economics at universities mainly based in the southern regions of Italy. After signing agreements with the Universities, the company started the recruiting process aimed at selecting undergraduates in their last year of university, with a maximum age of 29 years and who had yet to acquire no more than 60 university credits.

The company received more than 4100 applications. The recruiting process was led by a Telecom Italia owned company (HR Services) and the selection phase was based on academic CV screening, managerial potential assessment, technical and linguistic skills assessment, attitudes and motivation evaluation. As a result, the undergraduates were offered a 18 - month apprenticeship period with a part time contract (50%) in order to match both company needs and students' learning and academic needs.

During the apprenticeship period, Telecom Italia provided 240 hours of training (that is twice the amount required by law), consisting in different modules dedicated to the development and operation of telecommunications networks, technological solutions and commercial offers. In particular, each apprentice, other than mandatory modules necessary to perform their job, created his/her own education path according to personal orientations and previous academic knowledge by choosing among the following training modules:

- organizations and processes
- network and operations planning for telecommunications
- market analysis and customer base analysis
- technological solutions and commercial offers
- organization and management

Managers and experts of the company were involved as speakers in the training program and, in addition, each apprentice had an internal tutor and a project work to deliver. The company tutors were selected on the basis of their knowledge and experience of the particular area of activities in which the students were involved. On average each tutor was in charge of a group of 5 apprentices and received specific training on how to properly manage the Y generation, applying a homogenous evaluation criteria and coaching skills.

The apprentices have been bi-annually evaluated through self - evaluation, tutor evaluation and a final assessment in order to determine a final ranking. At the end of the apprenticeship period, Telecom Italia hired with a permanent contract over 50 apprentices who achieved their degree with an excellent grade, performed well during the apprenticeship period and with high managerial potential.

In 2012 Telecom Italia launched an extension of the apprenticeship program introduced by "the Day Before" scheme and offered undergraduates students in engineering an opportunity to work in the Technology/Open Access area on specific network engineering and management tasks related to the development of new ultra-broadband technologies (NGN and LTE). In this case the company received an overall of 2400 applications and at the end of the recruiting process 170 new apprentices were enrolled within the company with the same features described above. The company is currently in the phase of hiring a minimum of 50 apprentices with permanent contracts after the 18-month apprenticeship period.

■ Professional Apprenticeship at MV LINE

MV LINE is a medium Italian company situated in the industrial area of Acquaviva delle Fonti, near Bari, in the South of Italy. The company's core activity is the industrial production of insect screens, filtering and darkening systems and it is mainly oriented to the business-to-business market. The company tries to balance the artisanal vocation with the requirements of the industrial production, and each one of the more than 20 types of screens can be personalized according to the customers' needs.

Thanks to a large investment in marketing and communication, and also to its involvement in research and development activities, MV LINE has become a leading company in its field and the brand has crossed national borders spreading its presence also in Europe and South America. The dedicated and qualified staff of the research and development division is

constantly focused on innovation and quality, in order to produce versatile and design products that meet the “Made in Italy” standards and the market’s needs.

The company’s flagship product, Phantomatik, is a special insect screen with a very thin floor rail that ensures security and elegance and is featured with a self-closing mechanism. It is a registered international patent and is getting a growing market success.

Over the last years the company has regularly adopted professional apprenticeship so that this can be considered as the main recruitment policy of the company. The reason behind this strategy is that the training process is very long and requires a large investment, especially in terms of training on the job, before the employee is autonomous and able to perform the job well.

In the last four years have been recruited twenty four apprentices on a total of about 120 employees. The recruitment of the apprentices occurs among those who have been preliminary involved in 6-months stage or internship programs in the company and that have performed well during that period. The apprentices are hired as technical or clerical workers at the first job level of the national collective agreement in metalworking industry for 36 months. After that period, in most cases they are finally hired at the third level of the same contract.

Each apprentice has an individual educational plan that, taking into account skills and abilities already held, defines the specific training activities in which the apprentice must be involved in order to acquire the knowledge and competences related to the specific professional qualification. MV LINE provides 120 hours of external training and 260 hours of internal training.

The internal training mainly consists of on the job training and is led by tutors and supervisors in order to let the apprentices acquire the right skills and abilities for performing properly the job. The company is also partner of an external training centre that supports the company by preparing the individual educational plan and providing training on three types of skills - foundation skills, transferable/transversal skills and technical/vocational skills – such as English language, computer skills and company organization that are needed in the job.

Training and professional activities carried out during the apprenticeship period are daily recorded. Apprentices are continuously evaluated by their tutors and supervisors and each year there is an overall assessment through self-evaluation and individual meetings with tutors, supervisors and HR managers.

Internal tutors are selected among the supervisors of the divisions employing the apprentices on the basis of their knowledge and experience on the particular area of activity. On average each tutor follows 2 apprentices after having been previously involved in a training program.

More than 90% of the apprentices are hired by the company after their apprenticeship program.

■ **Professional Apprenticeship at RAI- Radiotelevisione Italiana**

Rai - Radiotelevisione Italiana is the biggest television company in Italy. It is the national broadcasting company and is controlled by the Italian Ministry of Economy and Finance.

The company operates 14 television channels and 6 radio stations, broadcasting in digital terrestrial and in several satellite and IPTV offerings. The average number of employees, including those on fixed-term contracts, was 11.851 in 2012.

Despite the structural change in the competitive context, characterized by a more articulate and multilevel competition, and in television market structure, Rai confirmed its role as leader of the television market with a 39.8% share over the 24 hours and with 41.3% in primetime, and in the specialized offering in 2012. However, the recessive trend of the Italian economy, characterized by the reduction in the advertising market, following the decline of over 13%

recorded in 2009 and the almost 4% recovery in 2010, reached a decline close to 4% in 2011 and a reduction of over 14% in 2012.

The on-going financially and economically critical situation has made it necessary to strengthen the measures aimed to rationalize and improve efficiency as well as containing employee-related costs. Towards the end of 2012, the Board of Directors authorized the use of a fund for incentivized resignation, to reduce the Group's structural costs by encouraging staff to take retirement. The process was initially destined to those who have matured pension requirements but is aimed also to favouring the decongestion of careers and a physiological recovery of bonus programmes, the accelerated stabilisation of temporary contracts and the introduction of young staff members via apprenticeship contracts (Rai, 2012).

As part of the initiatives included in the business plan and related to the digitization and computerization of the television production systems and related technical and editorial processes, in 2013 the company signed an agreement with the major Italian trade unions in the telecommunication sector involving resignation measures and apprenticeship programs. The company launched in June 2013 the selection of ten young graduates in Computer Engineering, Electronic Engineering and Telecommunication Engineering. Each candidate should have a final grade higher than 107/110 and be younger than 29 years old. The recruitment process assessed the necessary technical and educational qualification as well as personal attitudes and competencies such as relational and interpersonal skills, pro-activity, dynamism and the ability to fit a changing environment. Moreover, it was considered as an advantage graduation with honour, a postgraduate qualification and the knowledge of the English language.

The company established an examining committee for the recruitment process and has been supported by an external consulting company. The selection process was articulated in two phases. In the first stage candidates participated to a written pre-selection test that was aimed to assess general technical knowledge related to the specific area of activity; the second stage included an individual interview with the specific examining committee, aptitude tests and the assessment of English language proficiency. The first ten among the 279 candidates received an offer for a Professional apprenticeship contract of 36 months.

Moreover, according to the agreement signed by the company and the main trade unions in the sector in May 2013, the company intends to hire 150 professional apprentices after the exit of more than 400 employees established by the industrial plan to foster generational turnover and reduce costs. The selection will address people aged between 18 and 29 years old that will acquire skills in the areas of administration, technical and production, operation and publishing directly in the company.

Specifically, the company plans to hire: 80 apprentices in the technical area (set decorator, costume designer, camera operator, video operator etc.) with an high school diploma (ISCED level 3); 50 apprentices in the administration and publishing area with a high school diploma (ISCED level 3) (animator, assistant to producer, etc.) or a degree in Law or Economics (ISCED level 6) (clerical employee); and 20 apprentices in the operational area (wardrobe assistant, craftsman, electricians, etc.). The apprentices will be hired with an employment level that is two points below the standard of the role and with a salary of about 870,49 €. After the apprenticeship period they will rise to the standard of the role and their salary will be 1.028 €.

What Rai expects at the end of the staff resignation program is a 'younger' and better equipped company able to take on the challenges it will meet. In the near future the apprenticeship will become the main way to entering the company's workforce.

4. Perspectives and Ambitions for the Dual Education System

I. Switzerland

■ **OECD Evaluation of the Vocational Training System in Switzerland (Learning for Jobs - 2009)**

— **Strengths**

Switzerland has a highly developed vocational training system with many strong points:

- It is very attentive to the needs of employers and the labour market.
- It benefits from a partnership between the Confederation, the cantons and labour market stakeholders.
- Education in schools and practical training are well integrated; in-company training is not too specific to the host company.
- The Swiss vocational training system has good resources and is able to integrate modern equipment.
- The Swiss vocational training system, which is based on the apprenticeship system, is amortised, because the profits make up for the costs for the majority of employers.
- Vocational training at the higher education level is well established; a wide range of vocational training offers are available at this level.
- Flexible courses have been introduced to facilitate mobility and avoid training that is not relevant to corresponding job opportunities
- Teachers and vocational training instructors, exam experts, and the directors of vocational training schools are well trained.
- Quality control is guaranteed and national evaluation procedures are in place.
- Career guidance and advice is systematic and done in a professional manner.
- A highly developed factual basis is routinely used to back up policy decisions.

— **Challenges**

However, the system is facing a series of challenges:

- The global recession could have negative repercussions on vocational training, especially in terms of the number of apprenticeship positions on offer.
- Demographic changes, such as a decline in the number of students having finished compulsory education, could increase competition between academic and vocational training. Vocational training is in competition with tertiary degree A training.

- The arrival of international companies with no training tradition is a threat for the dual system in Switzerland.
- A number of concerns relating to equity are weighing on the vocational training system.

— **Recommendations**

1. Switzerland should apply a number of practical measures to preserve the strong points of a vocational training system it may legitimately be proud of. To do so it needs to have analytical data of excellent quality. A global assessment needs to be made of the relevance of the current combination of vocational and academic training offered to young people and the needs of the labour market.
2. Switzerland should ensure greater equity in the vocational training system: reduce the rate of school failure and provide adequate support for students failing in school, guarantee the principle of shared funding in support of subsidies given to vocational and academic training, and use vocational training to develop skills among women and promote greater gender equality in the labour market. Switzerland should closely monitor the system to measure the achievement of these objectives.
3. Switzerland should take urgent steps to address the problem of the reluctance of employers to provide apprenticeship positions because of the economic crisis.

■ **Vocational Training Prospects: Projections for Upper Secondary for 2011-2020**

— **After a ten-year decline a stabilisation of the headcount towards 2020**

The new projections made by the Federal Statistical Office (FSO) for the vocational training system confirms a decline of 5 to 6% in the total number of upper secondary students expected in the current decade, essentially for demographic reasons. This decline will slow down towards 2020, with a levelling off followed by a resumption in growth. Depending on the track, the number of students in vocational training should start to increase again from 2019 or 2020.

In 2011 the headcount in 1st year upper-secondary should be close to that of 2010 in all the categories: initial vocational training (-0.7% to +0.1%), upper secondary schools (-0.4% to +0.3%), schools of general further education (-0.6% to -1.9%), and transitional training (-0.5% to -0.6%).

Between 2010 and 2020, we may expect a decline in the number of entrants by approximately 6% in initial vocational training, from 0 to 3% in general education and 2% to 4% in transitional training. The number of upper secondary vocational students could increase until 2014 (+7 to +16% compared with 2010) and then drop by 4% by 2020. That of upper secondary students is expected to drop by 3% to 7% between 2010 and 2020, but the drop might occur only after several years of stability.

— **The Transition to the Upper-Secondary Level: A Complex Change**

The transition from compulsory school to upper-secondary is a complex process. According to the track, various factors have more or less impact on the number of entrants in post-compulsory training. School demographics (number of students finishing the 9th year of lower secondary) generally play a preponderant role. In a context characterised by a succession of structural reforms, medium to long-term trends relating to changes in the behaviour of people starting training or temporary effects due to the general situation of the economy and changes in the labour market may also have an effect. Certain specific measures taken by institutional players can also influence the figures. Lastly, the quality of the data collected and the classification of the training schemes has an impact on the information processed.

— Two Scenarios for the Future

The analysis of time series drawn from educational statistics makes it possible to identify the mechanisms at work in the transition from compulsory education to upper-secondary and to draw up a model of the past behaviour of entrants in the different systems. During the last thirty years the transition rate towards initial vocational training has generally decreased with increasing unemployment, whereas in the other systems it has done the opposite. The attribution of these trends to precise causes and the measuring the observed effects gives rise to certain uncertainties due to the complexity of the system and the nature of the data available. That is why the FSO presents two projections for future trends in the number of upper-secondary students and qualifications obtained. Both are based on an detailed analysis of the flows through the training system and fully take into account expected demographic impacts. However, whereas the “neutral” scenario follows the assumption of an interruption in the effects of trends and temporary factors observed in the past, the “trend” scenario follows that of a gradual dampening of these same effects over the next decade.

2. Germany

■ Strengths and Shortcomings

In general, the VET-system Germany is deemed an effective instrument to qualify young workers for adequately performing those tasks in a specific occupation that they are or may be confronted with at the workplace. According e.g. to a survey in the metalworking industry, companies are satisfied with the VET system and particularly appreciate the possibility to align the statutory regulations of the various VET programmes with the requirements at the workplace (Gesamtmetall, 2008). Firstly, the statutory provisions do not refer to specific technologies or products but to competences. Secondly, the training of occupational-orientated general/core skills and that of occupational-orientated specific skills as well as the teaching of subjects at vocational schools and the instructions of related issues at the workplace can be flexibly synchronised. Thirdly, apprentices are involved in the regular work processes especially at the last stages of the VET programme.

Graduates from VET programmes are generally accredited with having learnt on the job and already acquired job experience, being able to reflect the lessons learnt on the job, having developed competences to solve job- and firm-specific problems at the workplace, and being empowered to participate in the informal and formal knowledge transfer between skilled workers at the workplace (Werner et al., 2009, 223). In addition, as apprentices are directly integrated into the working teams in the companies they become familiar with the corporate culture and habits before starting a “regular job”. Thus, the VET-system can generally foster the smooth transition of young persons from education and training into employment within the same company.

As the interim and final exams are operated by the chambers of commerce and crafts – i.e. by an external agency – a sound quality standard is established. Many companies involved in training, however, propose to enrich the external examination process by credits that are issued for efforts done at specific stages of the VET programme. The external examination increases the acceptance of certificates among potential employers as the signal that an apprentice has developed specific occupational competences and has acquired the necessary knowledge during VET. In this respect, the VET-system generally facilitates labour turnover and job mobility of those who are not offered a job by their training company or are not willing to accept a job offer.

In addition, the set of statutory provisions, e.g. on training content, entitlement to train etc., and the quality standards ensured by external exams prevent apprentices from being exploited as low-wage workers instead of being trained. Furthermore, the graduation in VET

programmes is the requirement for the acquisition of widely acknowledged certificates in continuous vocational training (CVT) equalling ISCED-levels 4 and 5, such as a master craftsman's diploma. Therefore, the acceptance of VET among the apprentices is high, too.

The close cooperation of employers and their representatives, unions and educational institutions in developing and synchronising VET-programmes ensures that VET is widely acknowledged. Thus, skills and competences can, firstly, be more easily reflected in collective agreements on wage scales. The framework agreement on wages in the metalworking industry, e.g., assigns jobs into wage groups by crediting, among other dimensions, skill standards, such as a graduation in VET, that are deemed necessary for a specific job. Secondly, the development of new VET programmes and the amendment of existing ones are facilitated.

Besides programmes that fully integrate VET and tertiary education the alignment of VET and CVT with tertiary education has to be improved. Skills and competences acquired in VET and CVT programmes are barely acknowledged by universities as credits. Thus, the proportion of students who have not qualified for attending universities at school, but completed a VET programme is rather low (only 1% of the students starting tertiary education). In addition, students have to attend courses and to acquire credits even in subjects that they dealt with in a completed VET programme.

■ **Conditions of the Dual Training System to Improve the Necessary Qualifications for Young People**

The VET system is to achieve a variety of goals at the individual, the company and the economy-level. The involvement of employers and their representative, unions, educational institutions and other national authorities allows the VET system evolving in line with the dynamics of the economy, changing requirements of the firms, and differing competences of the apprentices. All in all, three fields can be identified where VET in Germany should advance:

— **Flexibilisation**

The alignment of training programmes with specific vocational requirements in the almost 350 occupations should be maintained, but expanded – when appropriate – to groups of related occupations. This allows the exploitation of synergies in the provision of training services in the companies and classroom tuition at the vocational schools, and the flexibilisation of training modules with respect to content and sequence. The latter extends the possibility of firms to align the training content with the requirements of the production processes and work organisation as well as with the individual learning progress of the apprentices. In this respect, the synchronisation of the on-the-job training at the last stage of the VET programme with the assignment to a specific job after the completion of the VET programme can be improved. Furthermore, the benefits of VET in the form of value added during the apprenticeship could rise which may prompt companies to offer more training vacancies.

— **Transition from the general education system into VET / employment**

As many juveniles (nearly 300,000 in 2011) fails to move directly from school to an apprenticeship position and a proportion of 13.4% of young people aged 20 to 29 (excluding those who were in education or training) were, in 2011, without a vocational training certificate or any equivalent qualification, it is widely acknowledged that the provision of vocational guidance for all school pupils, the promotion of individual counselling for school-leavers on matching their occupational choices to their talents and the placement services for applicants for apprenticeships has to be improved. In this respect it should be kept in mind that many companies provide additional courses and training vacancies where graduates or drop-outs from public schools can improve their literacy, math proficiency etc. as the public school systems still fails to qualify students adequately so that the latter can successfully enter VET and cope with the requirements for acquiring vocational competences.

— 2. Aligning VET and CVT and Tertiary Education

The attractiveness of VET – in particular for high potentials – increases as VET programmes and subsequent CVT programmes are closely aligned with tertiary education at universities. The modularisation of VET and the integration of approved modules or courses at the universities into VET or CVT as complementing features could improve the accrediting of VET or CVT graduations when students who completed a VET programme enter universities. Thus, the upskilling of workers would be fostered.

3. France

To answer the question concerning the prospects of and desirable changes in the dual education system in France, six major issues need to be addressed:

■ The Numbers Issue

For many years now public authorities have sought to develop the number of apprentices in dual education. The target of one million apprentices was even officially announced in 2012. So far official figures are more modest (500 000 apprenticeship contracts) without these being necessarily attained. Although the employment situation has played a part in this, it does not fully account for the situation: it is the image of work-study training itself that needs to be promoted further among young people, their families, and employers. One piece of good news is that whereas apprenticeship training had been confined for a long time to lower levels of qualification it is now being developed in many universities, engineering schools and business schools. Proof that it is increasingly being considered as the system of excellence for developing professionalism. The prospect in coming years therefore is for growth, provided the resources are there to finance it.

■ The Administrative Issue

The French system for funding apprenticeship training is based principally on a tax (referred to as an apprenticeship tax). For different reasons, the development of a very complex system of collection and transfer of the tax has led over the years to it becoming understandable only to an informed public. Along with other reasons this has resulted for the employer in a truly dissuasive administrative complexity that has prevented this apprenticeship system from developing. Aware of this, the public authorities are looking for ways of simplifying the system.

■ The Teaching Method Issue

It is not enough to simply state that the work-study teaching method is made up of alternating periods between a training centre and a work situation. There is also the need to apply the principles (page 33) which make it possible to provide a really effective work-study programme. Clearly, in practice these principles are not always applied. Although many apprentice training centres are organised to comply with the required teaching practices, other centres are still far from doing so. As for the employers, they need to take into account the fact that their apprentices come to acquire professional skills and must therefore organise their presence accordingly. In this regard the role of mentor and the different forms it takes are essential: the quality of the mentoring is the best indicator of the quality of the work-study apprenticeship. It may also be necessary to link the financing of the work-study programme with a monitoring of the teaching approach (especially the mentoring).

■ The Issue of Cooperation between the Company and the Training Centre

Cooperation between the Company and the Training Centre is not something which occurs naturally in France. For a long time there was a total separation between the place of work and the learning centre, and this was even considered desirable. Although in certain occupational sectors (construction for example) there has been cooperation, this has generally been the case with organisations created and managed by the sector concerned (this is also the case in the farming sector). However, in other sectors the company-school relationship is definitely more complex and can even be marked by a certain hostility. Yet the teaching approach in a work-study programme requires cooperation: concerning requirements, responsibilities of the different parties in the apprenticeship, disciplinary measures, and the assessment of results. Since time is a rare commodity, in too many cases the constraints of the work-study teaching approach (prior meetings, review meetings during the training, visit of the work premises, exchanges between training staff, mentors, and management) are experienced by the partners as constraints (literally imposed administratively) more than as investments in developing professionalism. But counter-examples (in certain sectors and in many companies, especially in big companies) show that companies and training centres are able to put aside historical antagonisms and engage in contractual agreements that are profitable for all, and especially the apprentices.

■ The Political Issue

The purpose of the dual education system is to develop professionalism, which is an essential need. But the dual system is also a means for the employer and the apprentice to get to know one another, for them to check whether they are able to work together and wish to do so. It is in the interests of both parties involved to consider the dual system not only as a means of qualification but as a means of “integration” or even of “inclusion” (for certain special categories). There would also be a need for some employers to combine recruitment and dual apprenticeship programmes to economise on resources by using apprenticeship training as a means of induction for new employees. This is in their interest: during the apprenticeship the employer is able to take an informed decision and thus guarantee the validity of a recruitment choice. And of course, this is also valid for the apprentice: if he or she accepts the job it is clearly based on an informed decision.

■ The Regional Issue

The State decided several years ago to transfer its responsibilities in apprenticeship training and more recently in vocational training to Programme Regions: there are 24 Programme Regions in France. This transfer is based on the belief that a regional policy approach is more appropriate in defining the relevant initiatives for developing professionalism to fit the actual needs identified at the local level. The effects of this policy still need to be evaluated: it is too early to do so but we shall probably observe a number of notable differences between regions according to the means and resources made available, how they have been used, and the level of competence of those implementing these policies. These differences may present the risk of challenging the traditional French republican principle of equal treatment for the country as a whole and will thus undoubtedly provoke debate.

4. The United Kingdom

■ Current Developments and Challenges

Reforms of Apprenticeships in England have continued, with two recent reviews now having some significant influence on this policy arena. The Holt Review (2012¹⁵) focused on the needs of small-to-medium sized enterprises (SMEs) and recommended further work to raise their awareness of the Apprenticeships as well as awareness among young people to ensure they are seen as a high quality route to (potentially) university level qualifications, and to increase employers' ownership and empowerment within delivery. Similarly, the Richard Review (DfE/BIS 2012¹⁶) promoted employers taking more ownership of training and put the spotlight on quality in Apprenticeships. While Richard was supportive of the programme in general terms, he proposed significant changes to delivery including increased flexibility in delivery and a move away from the current framework which includes functional skills and competency qualifications.

As a consequence of these reviews, there are now ambitions that the majority of Apprenticeships will be delivered at Level 3 (ISCED Level 4; which will return them to the level at which they were delivered in 1990), and that many should allow progression into training that is equivalent to university-level qualifications. However, this shift towards higher quality and higher level training means that Apprenticeship will become less accessible to younger and lower qualified individuals. For this reason, Traineeships have been introduced (from August 2013) which aim to prepare individuals for an Apprenticeship by delivering qualifications in mathematics and English to a minimum of the upper secondary attainment level, combined with work placement experiences in order that young people gain employability skills and attributes. The government hopes that the Traineeships will provide a pathway to Apprenticeships, which will be a key concern of the evaluation of this initiative.

In addition to the changed level of training (and consequent higher requirements), there is significant competition for every Apprenticeship vacancy in England. The National Apprenticeship Service estimates that a minimum of 10 young people compete for each vacancy which means those who have experience and are better qualified are more likely to get on. However, to keep up with demand, the number of businesses involved in apprenticeships must expand and this is a key concern stemming from the Richard Review (2013, *ibid*). Compared to other European countries proportionately fewer employers in the UK are engaged with apprenticeships (IPPR, 2013a¹⁷). Engagement amongst small businesses is seen as crucial seen these offer greatest potential for growth. However, it has been argued that small businesses tend to misunderstand or find the apprenticeship programme inaccessible, and that they need more supportive structures which recognise and compensate for their varying capacities to engage (Work Foundation, 2013¹⁸).

To address this, the Richard Review recommended that employers are put in the driving seat of apprenticeship development and take ownership of the apprenticeship standards (a summary of the training framework for each apprenticeship) and assessment model. To take forward this agenda, Trailblazer networks have been established for eight industries which will pilot approaches to employers collaborating and consulting with their sectors to design the standards for apprenticeship. However, within this agenda the government (HM Government,

¹⁵ BIS (2012d), Making Apprenticeships More Accessible To Small And Medium-Sized Enterprises A Review By Jason Holt, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/34731/12-891-making-apprenticeships-more-accessible-to-smes-holt-review.pdf

¹⁶ DfE/BIS (2012), Future of apprenticeships in England: Richard Review Consultation, Department for Education and Department for Business, Innovation and Skills, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/34708/richard-review-full.pdf

¹⁷ IPPR (2013a), *No more NEETs*. A plan for all young people to be learning or earning'

¹⁸ The Work Foundation (2013) *The road less travelled? Improving apprenticeship pathway for young people*, A Missing Million Policy Paper; http://www.theworkfoundation.com/DownloadPublication/Report/344_Apprenticeship%20policy%20paper%20FINAL.pdf

2013¹⁹) foresees a risk that small businesses may not be adequately involved. Until the Trailblazers are evaluated, it will be impossible to comment on the extent of engagement amongst small firms nor on the extent to which this new approach engenders real change in the English apprenticeship system.

In addition to employers taking ownership of the content of training and assessment, the government is reviewing its funding model for apprenticeship training²⁰. Under the current system, the government provides direct funding training providers to deliver an agreed volume/number of apprenticeships on an annual basis. This funding model has been criticized since employers and apprentices do not understand that value of the training they are receiving. As a consequence, the government has consulted on three models, two of which will lead to fundamental changes in the funding system. The models are:

- **Direct Payment Model:** Businesses register Apprentices and report claims for government funding through a new online system. Government funding is then paid directly into their bank account.
- **PAYE²¹ Payment Model:** Businesses register Apprentices through a new online system. They then recover government funding through their PAYE return.
- **Provider Payment Model:** Government funding continues to be paid to training providers, but they can only draw it down when they have received the employer's financial contribution towards training.

At the time of writing, it was the PAYE mechanism which received most attention (Newcombe, 2013²²). Several advantages of this were highlighted such that it is based on the pre-existing HMRC²³ system so would not require a new database to be developed, that it could be quickly integrated, and that employers could be rapidly reimbursed (Paul, 2013²⁴). Some disadvantages have also been identified including the difficulty of correctly aligning funding agencies and HMRC, as well as the data protection issues that such alignments raises (Paul, *ibid*). However, the development is also seen as particularly problematic for small businesses, due to the increased paperwork, and their lower capacity for dealing with bureaucracy and logistics (Paul *ibid*). It is worth noting that the Sutton Trust has advocated alternative methods of underwriting apprentice salaries, suggesting the possible options of tax breaks or national insurance (NI) contributions (Sutton Trust, 2013²⁵).

■ Concluding Remarks

Apprenticeships have a long tradition in the UK and continue to be a high policy priority and as such receive considerable support from policymakers. They are seen as the gold standard of work place training and are highly valued by the employers who engage with them. However, the UK system is somewhat different to those viewed as dual systems – such as Germany's – although UK apprenticeships share common features such that apprentices are employed by companies and are trained on and off the job to become fully skilled and productive within the

¹⁹ HM Government (2013) The Future of Apprenticeships in England: Implementation Plan, HM Government, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/253073/bis-13-1175-future-of-apprenticeships-in-england-implementation-plan.pdf

²⁰ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/223919/bis-13-1071-funding-reform-for-apprenticeships-in-england.pdf

²¹ Pay As You Earn – the UK tax system

²² Newcombe, T. 2013 Apprenticeship reforms 'favour' large employers, say training providers. Published on 28/10/2013 on HR Magazine Online. Accessed on 04/12/2013

<http://www.hrmagazine.co.uk/hro/news/1139603/apprenticeship-reforms-favour-employers-training-providers>

²³ The UK's tax authority

²⁴ Paul, J. S. (2013) Using the taxation system for apprenticeship funding. Published on 11/10/2013 on Huffington Post Online. Accessed on 04/12/2013 http://www.huffingtonpost.co.uk/jane-scott-paul/apprenticeship-funding_b_4083054.html

²⁵ Sutton Trust and Boston Consulting Group (2013) Real Apprenticeships: Creating a revolution in English Skills; <http://www.suttontrust.com/our-work/research/item/real-apprenticeships/>



workplace. The history of their development in the UK shows some complexity and some momentum to development and expansion was lost in the transition from a time-served, to a competency based delivery model. Perhaps because of the interest and their high priority within skills policy, they have been subject to significant and continuous change since that time. This process of change is continuing with new developments aiming to lead to greater employer engagement with the programme, through increasing their sense of ownership of the training delivered and assessed. A proposed new funding mechanism aims to increase employers' understanding of the investment that government makes in apprenticeship training. New pilot projects (Apprenticeship Trailblazers) are underway in eight sectors, and aim to provide a route-way to achieving these aims. It will be important that these are monitored in order that future directions for Apprenticeships in the UK can be assessed.

The case studies demonstrate how UK firms are involved in the programme and how they, and their employees, benefit from the delivery of apprenticeships. Expanding the number of firms involved in the programme is amongst the key aims of government. The current drive to increase the quality of apprenticeships, which will be demonstrated through increased opportunities at Advanced and Higher levels are likely to constrain the numbers of 16- to 18-year olds entering the programme. For this reason, Traineeships have been introduced to cater to the needs of this group and prepare them for an apprenticeship. It is this provision that is likely to impact most on young people NEET who often lack qualifications and experience of employment, which means that they fail to compete effectively for apprenticeship places. However, it is notable that some firms see a role for themselves in leading work with this disadvantaged group, as demonstrated in some of the case studies. Making available work-based learning to this group meets with their aspirations to enter work, while also ensures they continue their education to improve their future outcomes.

5. Italy

■ Current Developments and Challenges

Thanks to the new regulation apprenticeship can be defined as an open-ended contract aimed to training young people. It means that at the end of a vocational training period, if neither the employer nor apprentice withdraws from the agreement, the working relationship will continue and be considered open-ended.

After the reform introduced with the Consolidated Apprenticeship Act in September 2011, a new Labour Market Reform has been passed on 28 June 2012, introducing considerable changes to apprenticeship legislation.

— The Labour Market Reform

In June 2012 the Monti Government introduced a reform of the labour market designed to increasing productivity, economic growth and employment. The reform aimed to creating a more flexible labour market and introduced active labour market policies to help young people entering into their first job. The so called "Fornero Law" (named after the Minister of Labour) aimed to influencing the youth labour market outcomes in a positive ways by eliminating some disadvantages young people face when approaching the labour market and especially when looking for permanent employment. The previous two-tier reforms implemented in recent years in fact, have increased job opportunities for young people, but mainly on temporary basis. In 1997 the Treu Law liberalized for the first time the use of atypical employment (e.g. short-term contacts, temporary works, coordinated and continuous collaboration) without taking into account the covering of the loss of income during unemployment periods. The Fornero law instead, aimed to reduce the cost of permanent employment mainly through removing the restrictions related to dismissing employees imposed by Art. 18 of the Workers Statutes (that applies only to a small number of companies given that involves only firms with

15 or more employees and 90 per cent of Italian firms have less than 10 employees) and by increasing the cost of temporary work by granting workers social security rights.

In order to smooth the school-to-work transition process and enhancing younger people employability by giving them more chance to gain work experience, the labour market reform is in synergy with the recent reform of the apprenticeship that is now seen as the main way to entering the labour market and continues to be promoted as the best way for youth to enter the labour market providing the training that is needed. The introduced changes to apprenticeship legislation are: a minimum duration of six months; enlarged quantitative limits of apprentices in medium and large companies, the requirement to confirm as permanent employees a share of all the apprentices hired in the past three years as a condition to hire new apprentices (firms will not be allowed to hire new apprentices if at least 50 per cent of the apprentices taken on in the previous three years have not shifted to a regular contract).

The new labour market reform expands apprenticeships activity levels and restricts the use of other (more precarious) employment contracts. Therefore, the adoption of apprenticeship contracts is expected to grow in the future in order to fight youth unemployment rate. However, it's not clear if the goal is only the "quantity" of apprenticeships or the quality of training also.

In general, social partners claimed to be satisfied with the agreement and the reform of the labour market that represent a considerable step forward made possible through the collaboration among central government, the regions and social partners. However, the new Letta Government has recently modified again the apprenticeship regulation.

— **The Labour Package**

The Fornero reform has been mainly blamed to be too rigid and discouraging employment. Therefore, the new Italian Government recently approved a "Labour Package" (Decree Law n. 76/2013) in order to introduce economic benefits for the employer when hiring young people, to amend and clarify some provisions of the Labour Reform of 2012 on fixed term contracts and the procedure of dismissal for justified reasons and to amend some provisions on service contracts. In particular, with regard to the apprenticeship regulation the Decree-Law contemplates measures for increased training opportunities for young people seeking to enter the job market and to encourage the use of professional apprenticeships. The Permanent Conference for Relations between the State, the Regions and the Autonomous Provinces of Trent and Bolzano/Bozen was required to adopt guidelines by September 30th, 2013 aimed at regulating and facilitating the hiring of apprentices by micro, small and medium-sized companies for the period ending on December 31st, 2015. These guidelines (pending final approval) might eventually be applied throughout the national territory and include that: the individual training plan is required only in relation to training for the acquisition of specific technical and professional skills; the record of training and of professional qualification for contractual purposes is certified in a document with the minimum contents of the so called "libretto formativo"; in case of companies with more than one office, the employees' training takes place according to the rules of the Region where the company has its registered office.

Even if the new Italian apprenticeship system is inspired by the German model, it is still not linked to the school system and dual principle. It still persists a situation of few links between the educational system and the labour market that is pointed out not only by the lack of apprenticeship, internships and other company training schemas more strongly present in other systems based on the dual principle, but also in the absence of link during the post-graduation period (Pastore, 2012).

■ Concluding Remarks

The importance of the apprenticeship in the Italian labour market is gradually increasing, and this tool has started to be considered as the main recruitment strategy and entering way in the labour market. Despite the positive attempts of increasing in size the adoption of apprenticeship programs within companies, there is an open question related to the quality of educational and training activities offered to apprentices and the value of such training not only inside but also outside the individual company. Is the training received during apprenticeship suitable in the external labour market also? Is apprenticeship a way for improving individual employability? Is there a real match between those offered by one company and those required by others?

Many companies in fact, complain about the difficulties in finding the required skills and abilities in younger employees and also difficulties in managing the entering of the Millennial generation. This is mainly due to the educational systems that is not providing the qualification that employers need. As reported in the last McKinsey Report (Mourshed *et al.*, 2013) in fact, the lack of skills is a serious issue in Italy, with almost half (47 percent) of Italian employers saying that a lack of skills causes significant problems for their business. Moreover, internships are considered limited and ineffective, not providing young people with the skills they need most.

However, another issue is that the younger people who are entering in the labour market represent a new generation of employees not previously represented within the company and in the workforce. They hold a new set of values and assumptions as well as different preferred leadership, feedback, communication and motivational styles, triggering managerial challenges and intergenerational conflict that need to be properly managed (for an overview Lazazzara, *forth.*). Are managers and employers aware of the cultural change that are going to face with the entering in their companies of the Millennial generation? Are they applying the right training and evaluation styles with them? This is going to become an hot issue in the next future.

Finally, it is important to take urgently actions addressing the NEET category in order to turn their disengagement trend and exploit a large pool of brains and skills currently underemployed that could make a difference in the Italian and European future.

Conclusion

Unsurprisingly, employment among the young is a problem for all the countries in the study. Although understandably the modalities of their training systems differ, the contribution made by apprenticeship training and dual education to help develop employability among the young is now considered as essential. This is the first conclusion of the study which confirms what was already evident.

Although among the practices observed in each of the countries, many appear to be productive and innovative, they should not be considered as exemplary and therefore systematically applicable in the other countries, since education is by definition a domain in which culture, socio-economic aspects, and traditions impact heavily - in positive and negative ways - on concepts and practices. What is more, there is no evidence that in each country apprenticeship and dual vocational education should be developed in a uniform manner. We should avoid the trap of seeking to standardise things that do not require it: it is possible to be good Europeans in a spirit of solidarity while maintaining a diversity of practices. And such diversity in practices may even be a necessity.

However, through the information presented in this study we believe it is possible to draw some joint conclusions regarding apprenticeship and dual vocational education on our continent at the beginning of the 21st century. They concern the following aspects:

■ **The dual teaching approach in apprenticeship training is the method of excellence**

It is possible to teach techniques and technologies within the confines of a school. But testimonials bear witness to the limits of such an approach: when it comes to developing professionalism in young people - especially without experience - it is indispensable for them to be confronted with the reality of the job. Although it is possible to attain a technical qualification in the absence of any real work experience evaluated on the basis of an observable and measurable output - something which is far from negligible - there still remains the need to acquire professionalism. Such professionalism is defined as the ability to use an acquired technique in a designated work context, but one which always differs because it involves working with people and is subject to changing conditions.

The definite advantage of the teaching approach used in the dual education system is that it is based on the alternation between an instructional period in a school or apprenticeship centre and another instructional period in a work situation in a company (and more generally with an employer). Since these two periods are combined and coordinated, clearly what is at stake for each country is the ability to develop efficient manners of applying a dual education teaching approach as presented in this study while respecting the culture of that country. Although the reproduction of models may not be systematically relevant, there is value in exchanging and comparing different practices. This study clearly demonstrates this.

■ **Dual Education, Cooperation between Teaching Establishments and Companies**

The different practices described above clearly demonstrate that there may be many different ways of organising dual education systems (timing, periodicity, responsibilities of the parties, teaching tools) but they all require a commitment on the part of the training centre, the employer and the apprentice to cooperate in an organised and effective manner. It is not enough for the partners to do what they think is best in their respective corners, they must work together. The verb to “co-operate” (from the Latin *opera*) expresses clearly the notion of working together. The objective in this instance is for the learner to have acquired professional competence at the end of the apprenticeship, but this can only be achieved through a collective effort.

Such cooperation can not be decreed, it can only come from a shared commitment of the learner, the instructor and the employer; something which benefits all the parties concerned. Cooperation is not an act of charity, it requires a mutual understanding of the parties' interests: what I give will be to my benefit. All the teaching methods, resources provided, and the administrative or legal provisions will come to nothing if there is no cooperation between those concerned.

■ **Training young people in 2014 who will retire towards 2060**

A comic once said, “making predictions about the future is the hardest thing to do”. A sign of the times is a significant increase in life expectancy, and as a consequence an extension of working life. However, economic uncertainty and cognitive issues relating to work make predictions more difficult. To rely on initial training to prepare the learner for a designated job without taking into account the job's transient nature and the future employability of the learner is clearly to take a short-term approach. Yet, employers when recruiting young people expect them to be immediately employable (at least as quickly as possible). Therefore an apprenticeship must seek to achieve two objectives: it must help apprentices adapt to their designated jobs and give them a general culture enabling them to have a critical understand of the changes and emerging issues that affect their work. An essential asset of a professional mindset is not so much the ability to know what will happen but the ability to be attentive to what will happen and seek support to develop skills and opportunities in line with one's professional aspirations. The capacity to quickly perceive changes in one's profession (due to information systems, clients' needs, or geopolitical context) is becoming an essential transverse competence for all professional people today and apprenticeship training must prepare learners to acquire this skill.

■ **Apprenticeship training - especially dual education - provides opportunities for meeting people in a professional context**

In conventional approaches, when training is given exclusively in dedicated establishments (schools or training centres) opportunities to meet employers or their representatives in real work situations are rare and even exceptional. As a result opportunities for “the supply to meet the demand” rarely occur. However, recruitment is the result of a meeting between people who, at a given moment and for reasons that are not only rational, decide to work together. The advantages of the dual system is that it enables an employer to meet an apprentice and for the two to get to know each other. This allows the apprentice to become familiar with the profession, the job, the working community, and the employer's reality. For the employer it is a means of shifting from a theoretic, ideological, and often summary view of the reality of young people to gain a concrete understanding of it and of their naivety as well as their potential. This is how the co-opting process, which is necessary part of professional insertion, is made possible. It does not always work but each meeting is instructive for both parties.

These phases of apprenticeship are extremely important: How many careers have been determined by meeting the right person at the right time and in the right place? The importance of such meetings - including informal encounters - which contribute to professional integration is often underestimated and they need to be considered as an integral part of the apprenticeship.

— **There can be no apprenticeship without mentors**

To learn is to take a distanced view of one's practice or knowledge and to transpose it into another context. Taking such a distanced view (concretely and methodologically) does not come spontaneously, neither does implementing at work what has been learnt at the training centre. Apprentices are not necessarily able to implement alone the "best practices" taught to them when they find themselves in a working environment; they may not even know which ones are relevant.

This is where the mentor has a key role to play; and this role may take a variety of forms. The mentor is essential because he or she provides a connection between theory and practice and the different ways of doing things, thus helping the apprentices to construct their ways of doing things and to grasp the relevance for the work place of what is learnt at school. Conversely, because of the importance of this connection, in the absence of a mentor a dual system cannot work and of course the quality of the mentor (from the professional, human, and pedagogical standpoints) has a direct impact on the development of the learner's professional qualities. The quality of a mentor (therefore his or her selection) makes it possible to accurately assess the real implication of the company in the dual education process. It is also possible to measure the training centre's capacity to consider the work situation as a useful complementary training ground through its willingness to inform the mentors of its actions and to consult them.

— **Apprenticeship automatically leads to certification**

A striking aspect revealed by this study is that although modalities differ, the need for official recognition (by the State, the region, the professional sector, and of course, the training centres and companies) is the same everywhere. This may be explained by the fact that all the labour markets, albeit in varying degrees, need their research and their choices to be validated by "objective" criteria concerning qualifications.

Of course the solution in a European study would be to rationalise the different qualification systems. The approach referred to in France as L.M.D. (Licence in 3 years, Master's in 5 years, and Doctorate in 8 years) has already greatly contributed to achieving this ambition. Technical training and apprenticeship programmes (for the most part still designed for levels below graduate level) would benefit from rules more clearly defined within Europe for their official recognition (a system the Swiss could adopt freely!).

Because of the dual nature of apprenticeship training which is the fruit of cooperation between a training centre and a company, it is legitimate to expect the composition of the juries issuing the diplomas or certificates to reflect this duality. It should be noted that this is generally not the case.

— **In all the countries apprenticeship is moving into higher education**

From an objective standpoint this is good news. For too long apprenticeship training had been reserved for jobs focused on production and the execution of tasks. Therefore, the fact that the dual education system is gaining ground in institutions of higher education is a genuine sign of progress. However, such an engagement should not remain limited to the administrative or financial dimensions. It is necessary to make clear to all concerned that apprenticeship training and the dual education system are teaching methods with specific rules that must be implemented and complied with.

Due to the increasing number of highly qualified jobs in European countries, initial and continuous higher vocational training will grow in the industrial and service sectors and will become a key factor of competitiveness. This is why the European countries concerned should compare their respective approaches, practices, and programmes to progress as a group and establish common rules. The dimension of the labour market for these types of jobs is already European and this trend will continue to grow. Therefore, the training supplied - especially apprenticeship and dual training - is also bound to become European.

As a general conclusion, given the qualification opportunities that an Erasmus-style apprenticeship would provide, one can only hope to see such a system develop. This would allow apprentices and learners to benefit from the positive and increasingly necessary experience of expatriation and it would enable these different systems within Europe to mutually enhance one another through all of the stakeholders comparing and exchange their experiences, to the benefit of European companies, citizens, and workers.

This study is the result of the shared findings of European experts:

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