EuroDuaLE

INTELLECTUAL OUTPUT 2

Analysis of Existing Dual Learning Programmes as Drivers for Employability

STATE OF THE ART OF EXISTING DUAL LEARNING PROGRAMMES

Co-funded by the Erasmus+ Programme of the European Union - 2015-1-IT02-KA203-015386

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Annexes – National reports

1. Introduction

The EuroDuaLE framework wants to establish a dual learning approach where HEIs are at the core. We need to learn from the experience with dual learning programmes in participating countries in order to be able to design a successful framework.
The Intellectual Output 2 of the Erasmus+ project "EuroDuaLE - European cooperative framework for Dual Learning" collects and analyses data on dual learning programmes, in terms of how they are provided, the learning and training modules, the skills which are developed with dual curricula, the organization and administration of the course and the evaluation of the competences acquired.
The dual learning scheme is the key for enhancing youth competences and skills, increasing the possibility of employment and guiding the experience of transnational mobility into effective placement opportunities. Therefore information about the state of art of existing dual learning programmes in Germany, UK and Italy had been collected and the strengths and shortcomings, the critical issues related to the pedagogical, administrative, regulatory and juridical aspects of the dual approach had been identified. These information is summarized in the following report where the focus is based on the dual learning programmes in higher education.
Main aspects of **dual learning programmes of higher education** in Germany, UK and Italy:

Germany	• Important role, especially in VET, long tradition • Increasing in HE: 1.505 programmes (2014) • Challenge: combination of academic education + practical training
UK	• not very common • Apprenticeship programmes, Foundation degrees • New Degree Apprenticeships, employers 'in driving seat'
Italy	• Apprenticeship of higher education and research • Complex legislation

For detailed information see National Reports and Table

2. The relation between the student, the learning agency and the employers, in terms of administrative regulations, employment regulations and support granted and the Experience of students enrolled in dual learning programmes

The experience of the dual learning students was analyzed on the basis of the ongoing dual learning models and pilot projects in the involved countries. The study in Germany was carried on with 431 HE students of the statistic state office of Baden-Württemberg. On the other side, the study in UK was carried on in 2014 by BIS with 801 HE students. Two pilot projects about dual learning in HE were realized in 2005 and in 2008 in Italy in collaboration with universities in Veneto and in Padua, and with the main professional associations. They involved 49 students. The overall satisfaction was very high:

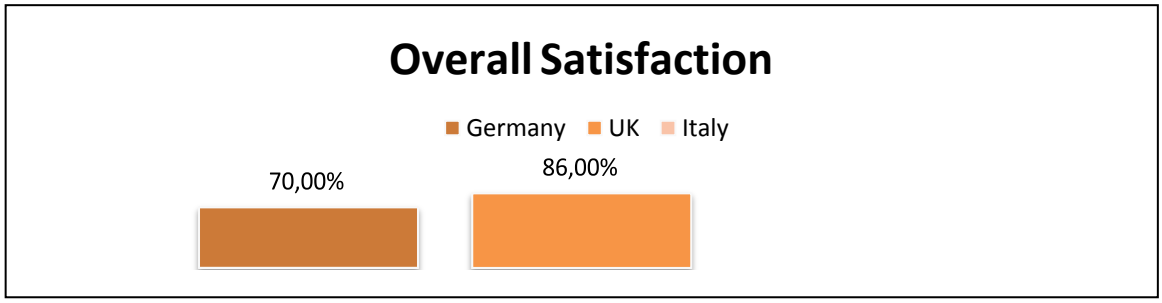

Figure 1: Overall Satisfaction of dual learning in HE in Germany, UK and Italy

In Germany, 16% of the students stated that they were even very satisfied with their training programme. In UK only 8% of the students weren't satisfied with their training programme in HE. This positive response is the result of many aspects. For example, they praised as particularly positive "the importance of the impact of the apprenticeship on a personal level" (87,5%), the "support in the company (e.g. Tutor)" (82,5%) and the "relevance of their training for future jobs" (82,5% in average).

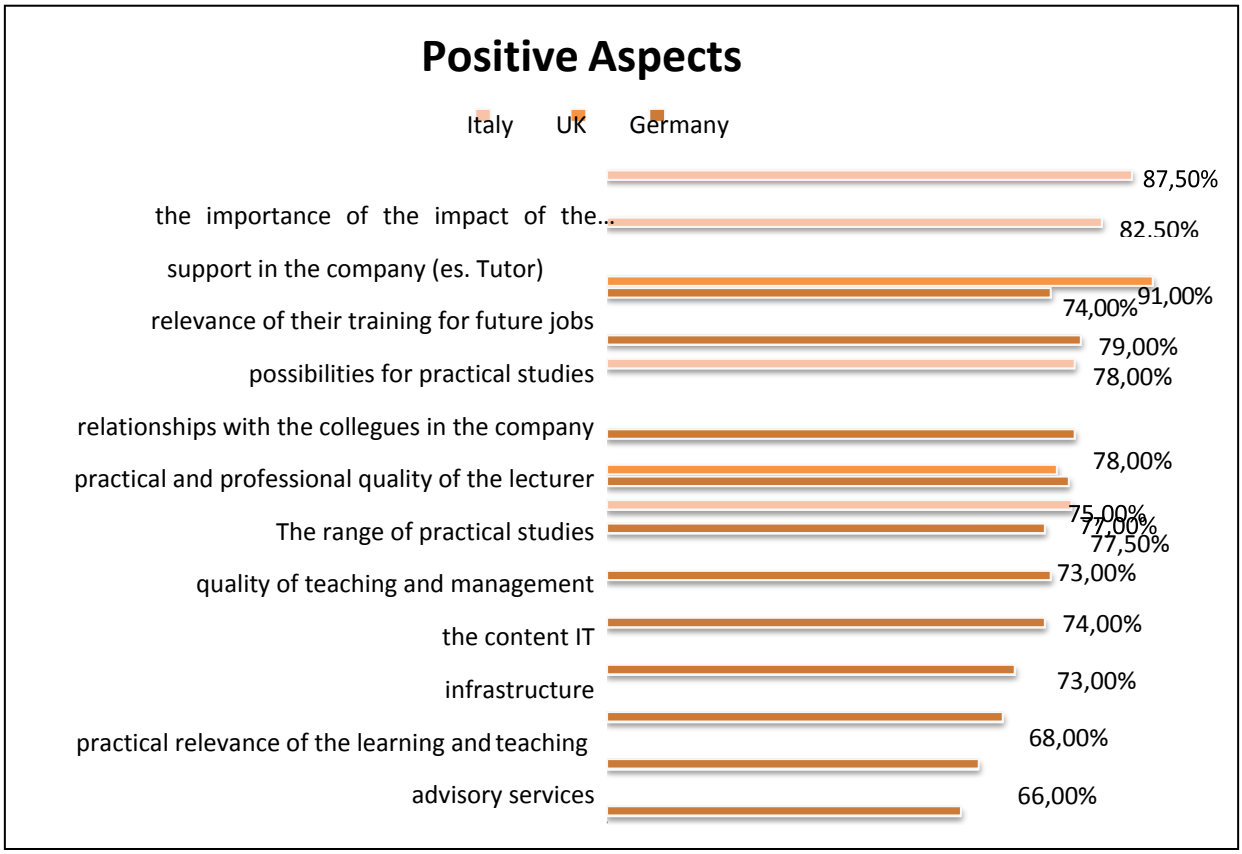

Figure 2: Positive Aspects of dual learning in HE

Among the less positive or improvable aspects, they mentioned the "lack of support from the provider, college or tutor". Further aspects are listed in the table below.

Negative Aspects	Germany	UK	Italy
the possibilities for further learning	■		
the applicability of the study content in the practical studies	■		
lack of support from the provider, college or tutor		■	■
badly organisation of the programme		■	
time frame problems		■	
formal training staging too strict			■
rules sometimes different for the different players			■
Cultural and semantic difficulties to understand the meaning of apprenticeships			■
Too high enrolment taxes			■
the characteristics of the work contract of high apprenticeship			■
the salary			■

Figure 3: Negative Aspects of dual learning in HE

In order to improve the single dual learning programmes and pilot projects, the students formulated some suggestions for improvement already during the study period. The students in Germany stressed the need for more interdisciplinary work and thinking, experiences in human resources, economic thinking, foreign languages and self-organization. Further improvements are seen by the graduates in the application of the study contests in the practical phase, the practical orientation in the theory phase, the framework conditions, the concept of the course offers, consultation relationship during the study phase and the relationship between lecturer and student.
The students of the pilot project in Italy emphasized that the hours of lesson in whole days should not to stop the activities in the company for few hours. Moreover, they stressed the importance of more clarity in the communications regarding the dates and hours of the lessons and suggested the introduction of a downloadable handbook gathering all the information about rights and duties, rules for the filling of modules and registers and the main administrative deadlines. They also wish for the raise of the companies' awareness on the importance of formal learning for the success of the project.
Summing up, the studies about the dual learning in Germany, UK and Italy show a high level of satisfaction of the involved students with their training programme.

3. The employment rate and working opportunities for dual learning graduates

The aim of every apprenticeship programme is the subsequent professional future. For this reason, in this paragraph are mentioned the employment rate after and during the dual learning programme as well as the working opportunities. Please note that the data for UK refer to both HE and VET programmes.

Among other reasons, the students that completed, are completing or would like to complete a dual learning programme made this choice because of:

- Acquisition of work experience while improving skills in line with employers' requirements
- Reduction skills mismatch by being responsive to labor market change
- Recognition qualification for an occupation, certifying possession of a full set of knowledge, skills and competences.

93% of the students in UK confirm these reasons, expressed by the students in Italy. 93% of the students in UK agreed with these reasons from the students in Italy. They say that the dual learning system has provided them with better skills and knowledge for their desired work.

On the other side, the companies regard the dual learning as a good possibility for staff recruitment. 80% of the companies were satisfied with their apprenticeship programme. Among the reason for offering a dual learning programme, the companies mentioned:

- improving recruitment and retention (71%)
- form of training to your own business' (70%).

The most convinced supporters of the usefulness of dual learning are, above all, big companies with 100+ employees (68%), companies with higher volumes of apprentices (68%), worksites that are part of a larger organization (68%), and single site organizations (58%). Moreover, the more university-oriented was the learning programme, the more satisfied were the companies with the students.

If measured according to the Net Present Value (NPV), the apprenticeships programmes in UK gained

£26 and £28 of economic benefits respectively for each pound of Government investment.

Considering these positive results, it is no wonder that most of the apprentices found a job after finishing their apprenticeship.

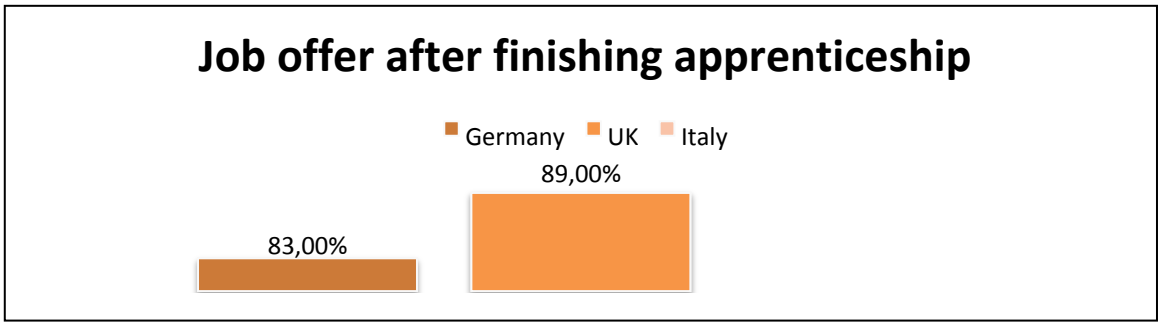

Figure 4: Job offer after finishing apprenticeship

Among 89% of the students, who found a job immediately after finishing the apprenticeship, 71% remained with the same employer they had during the apprenticeship programme. Most of the students who remained were older than 25 (81%), while only 57% of the young students aged between 16-18 stayed in the same company where they completed the apprenticeship.
After finishing the dual programme, 9% of the students in Germany start their PhD. Programme, 2% are self-employed and only 2% are unemployed. 83% of the students that get direct access to a job after finishing their apprenticeship belong to the following areas: mechanical engineering, IT, banking and insurance, automotive engineering, craftwork, trade, electrical engineering, social work and chemistry. It is remarkable that only 4% of them say that they could always use the qualification they earned thanks to the apprenticeship. 30% of them can use them very often, 47% only sometimes, 17% rarely and 2% never. Nevertheless, three months after graduation 25% of the graduates have an income over 50.000 Euro, 60% are having an income between 30.000-50.000 Euro and only
15% of the graduates have a yearly income under 30.000 Euro. Some years after the graduation, 9% of the students are having an income under 30.000 Euro, 52% an income between 30.000-50.000 Euro and 38% are having an income over 50.000 Euro.
To conclude, apprenticeships can offer favorable employability as well as employment outcomes for apprentices, but also for employers, since most of the apprentice stay with their employers.
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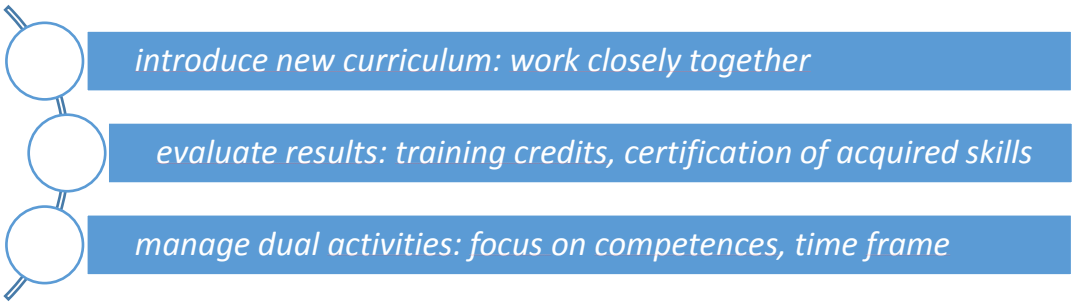
4. Permeability of HEIs to dual learning schemes

The permeability issue is a very complex one and very much because it is still a challenge for HEIs to integrate dual learning in their programmes. For example, in England, the legacy of separate systems of further and higher education and apprenticeships at a higher level are still relatively novel. This might change in the light of a response to the new apprenticeship reforms and HEIs may become more open to the idea of delivery of apprenticeships, however, only time will tell on the open-ness or permeability of HEIs for this form of dual learning.

Success factors for the permeability of HEIs to dual learning schemes:



5. Conclusion and Lessons learnt

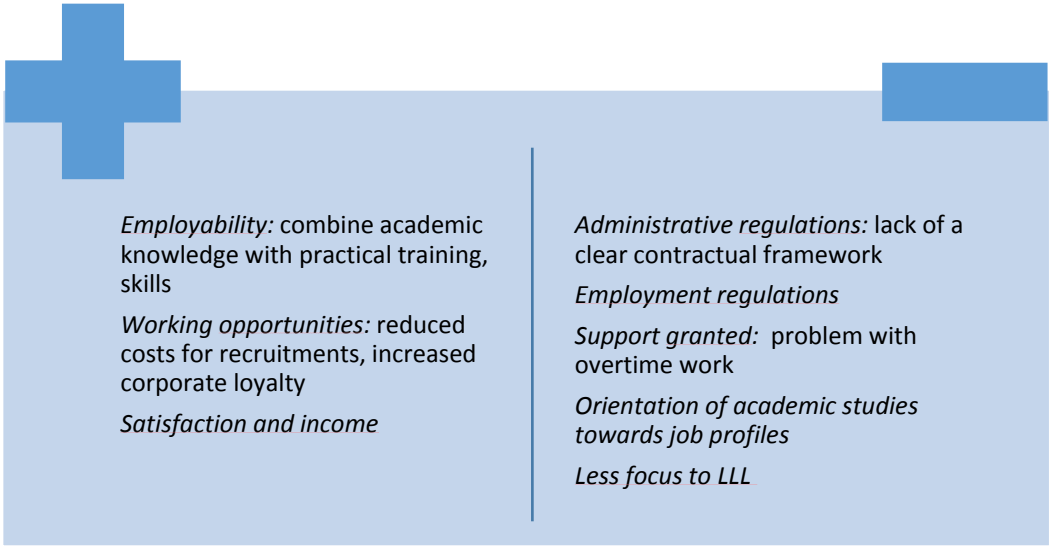
Experiences with dual study programmes in HE differ a lot in Germany, Italy and UK.

In **Germany**, the dual system has a long tradition and companies have wide experience with the provision of dual learning, especially in VET. The development of dual programmes at HE level is still in the initial phase. The state of Baden-Württemberg launched the University of Cooperative Education in 2009. The working fields arise already, but the combination of academic education and practical on-the-job-training in companies is a new challenge.

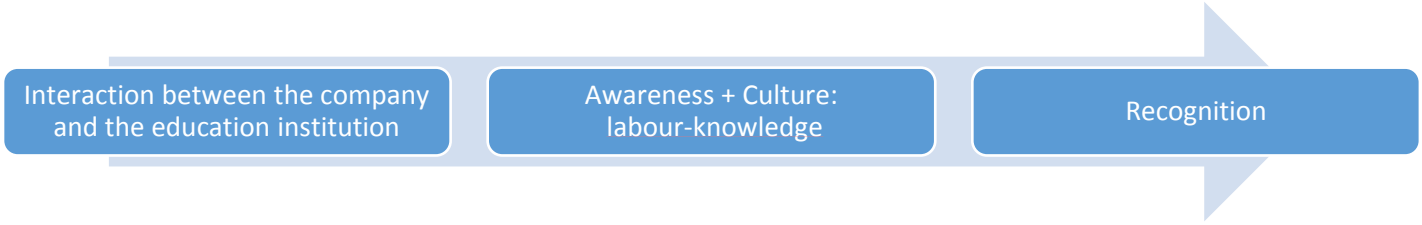
In **Italy**, the dual system is not yet codified and established like in other countries. The two training models connected to work, apprenticeship and internship, although quite similar to a dual model, are not adequately linked to the curricula of the Education System and are often relegated to the vocational system. Because of the complexity of the legislation and the uncertain division of powers among Central Government, Regions and Social stakeholders, in recent years, there has been a limited use of apprenticeship contract.

In **UK**, dual learning programmes are not very common. The UK government has stated its plans to increase the quality and quantity of apprenticeships to help address the nation's skills shortages and stimulate economic growth. The government is committed to increasing the quality and quantity of apprenticeships in England, reaching three million starts in 2020. Apprenticeships are also being promoted as a genuine alternative to university education.

Common **strengths and shortcomings** of dual learning programmes in Germany, Italy and UK:



Key success factors for the implementation of dual learning programmes in HE are: the interaction between the company and the educational institution, the awareness and the recognition of dual learning programmes.



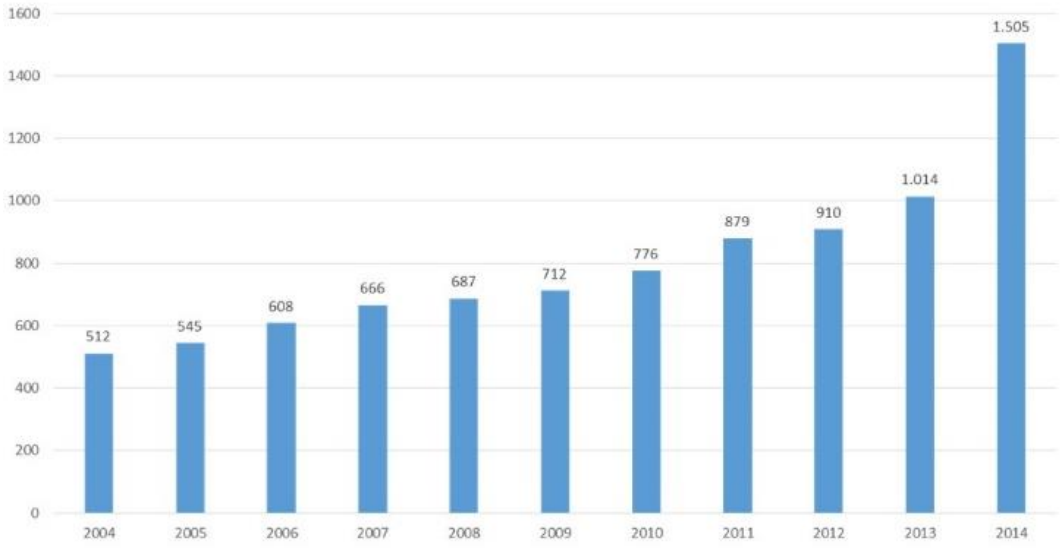
Annexes – National reports

Germany

1. Introduction

Dual learning programmes play an important role in the education system in Germany. They build the core of the so-called dual system of vocational education and training (VET). In Germany, apprentices make up to 5.7% of the regular workers[1].
Dual programmes can be differed into training integrated or practical integrated programmes as a part of the VET education or job integrated or extra-occupational programmes as part of further training[2].

Graph 1: Increasing number of dual study programmes in Germany



Monika Burkhard based on: Bundesinstitut für Berufsbildung: AusbildungPlus, Duales Studium in Zahlen, S. 12

In higher education as well, dual learning programmes are now becoming more common. In 2014 already 1.505 dual study programmes were installed at higher education institutions in Germany. They offer advantages to employers in terms of human resource management, such as reduced costs for recruitments and increased corporate loyalty. As for the students, they are

[1] Bundesamt, 2013, 9.
[2] BDA/ Stifterverband für die Deutsche Wissenschaft, 2011, 10.

more motivated, they learn better how to link practice and theory, and they have opportunities to develop career networks[3].
The most often cited weaknesses of dual learning programmes are the granting of the main responsibility for the training to the companies (and a possible excessive demand), the orientation of academic studies towards job profiles and the neglect of life-long-learning[4].

2. Analysis of the relation between the student, the learning agency and the employers, in terms of administrative regulations, employment regulations and support granted.

a) VET System (Organisation, Funding, Quality and Administration, Role of employers in programme delivery)

Dual learning programmes have a long tradition in German vocational education. The combination of different learning environments, in schools and in companies, is one of the main concepts of the dual system which is implemented in the German vocational education system.
The legal framework for the dual system in VET includes the *Berufsbildungsgesetz* (Vocational Training Act – BBiG) and the *Handwerksordnung* (Crafts Code – HwO). The Federal Ministry of Economics and Technology (BMWi) can, "in agreement with the Federal Ministry of Education and Research (BMBF), grant state recognition to apprenticeships by means of an executive order law and enact training regimes for the apprenticeships. The training regimes set out the goals, duration, content and examination requirements for training in companies"[5].
This federal law sets the requirements and conditions for vocational training that is provided on an in-company basis. The Vocational Training Act applies to companies in trade and industry, the public sector, to training in the liberal professions and in the skilled crafts and trades unless otherwise provided for in the Trade and Crafts Code.
The Federal Institute for Vocational Education and Training (BIBB) is responsible for the development of regulation for the different occupations. Currently 348 apprenticeships exist. The vocational training sector is mainly organized as a dual system. That means a training cooperation between companies and vocational schools. The vocational schools are organized, advised and monitored by regional ministries (Länder) on the basis of the regional school law.
The dual programmes normally last between 2 and 3,5 years. The training in schools provides theoretical knowledge and technical skills (operation planning, technology, technical and business studies) to support the training provided in the company. The training in VET schools normally amounts to 12

[3] Becker 2006, 29 f.
[4] Rothe, 2011, 162.
[5] Cf. BMBF, 2015, 16.

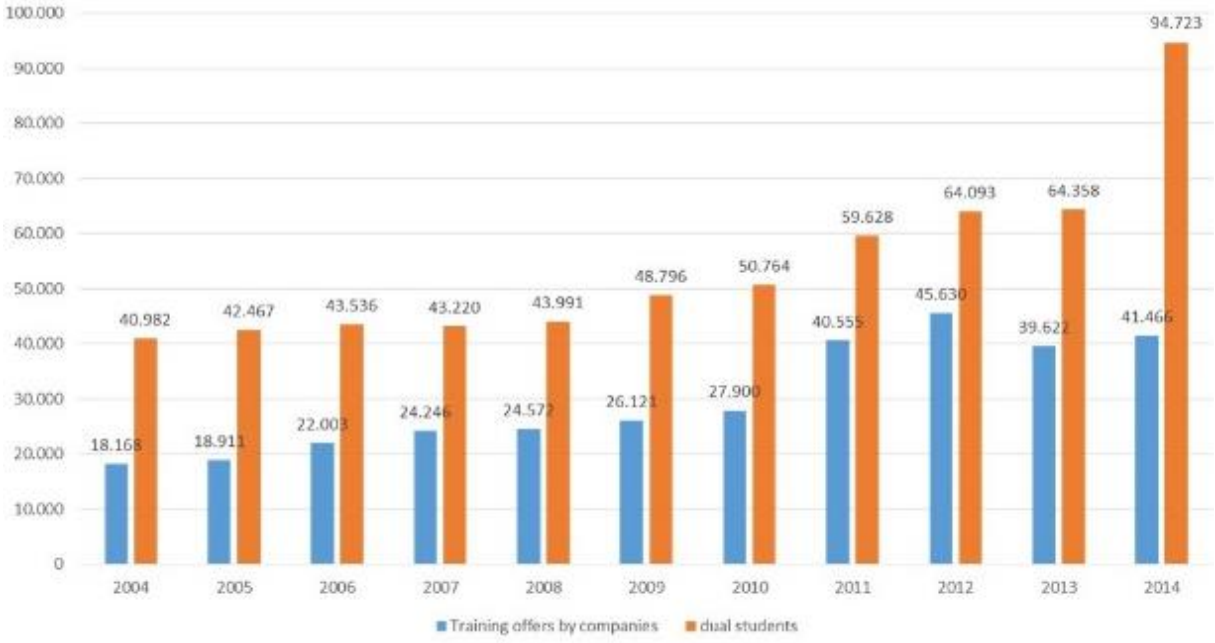
hours per week, of which 8 hours for vocational subjects and 4 hours for general subjects (languages, mathematics, economics, social sciences etc.) The apprentice is trained in companies three or four days a week.
About 22% (2011) of all companies in Germany are involved in dual learning programmes. In companies with more than 500 employees, the involvement is much higher, so 87% of these companies were offering dual learning programes. In small enterprises (less than 10 employees) it was only 14%[6].
In 2011, there were 1.460.700 young people involved in the dual system, 565.800 of them in the first year.
The dual programmes are financed by the state and the companies. Both hand in finances in different ways. But companies also benefit from the work results of the apprentice in the work process as a part of a return on investment[7].
In 2012, about 57.2% of the costs of the VET system were assumed by the state (federal state, regions, local authorities), while the contribution of companies amounted to 42.8%[8]. The average costs for one apprentice is calculated with an amount of 15.288,00 Euro[9].

b) Higher Education (Organisation, Funding, Quality and Administration, Role of employers in programme delivery)

In the field of higher education there are several recent developments concerning dual studies. Institutions such as universities (of applied sciences), the dual institutes of higher education (*Berufsakademien*) and the Universities of Cooperative Education (*Duale Hochschulen*) offer different programmes within vocational and academic training pathways. They prepare their students for future work requiring the application of scientific and practically oriented knowledge through practical training in companies. That these new programmes becomes more and more important for companies can be shown on the development in the last years. 2004 there were 40.982 dual students in companies. In 2014 the number of students increased to the number of 94.723. Especially in the 2014 the development was rapidly.

[6] Bundesamt, 2013, 8.
[7] cf. Eulers, 2013, 43.
[8] cf. Statistisches Bundesamt, 2012, 29.
[9] cf. BIBB, 2007.

Graph 2: Increasing number of dual students training offers by companies in Germany



Monika Burkhard based on: Bundesinstitut für Berufsbildung: AusbildungPlus, Duales Studium in Zahlen, S. 12

Universities of Cooperative Education are education institutions approved by state. Their study programmes last three years and integrate theoretical and practical parts. The cooperation between these universities and companies has an important role in this model. In 2014, 10.010 companies were involved in this cooperation model[10]. In 2015, 34.390 students were enrolled in the Universities of Cooperative Education. In intervals of several weeks, the students are studying in university or learn in companies. Universities of Cooperative Education exist in the region Baden-Württemberg and were created in 2009. The students are enrolled in the university and have a training contract with the company. The A-level and the contract with the company are the basic conditions for an enrollment on the university. Bachelor programmes (with 210 credit points) and master programmes are offered.

As in the VET system, the state finances the studies at the Universities of Cooperative Education and the companies are financially and organizationally responsible for the training in the company.

The dual institutes of higher education offer dual study programmes which lead to a Bachelor degree. These programmes combine academic knowledge with practical training. To achieve this, lecturers usually plan, organize and implement learning programmes together with the company. Dual institutes of higher education exist in Saxony, Berlin and Thüringen, where they are state driven. In Hessen, Niedersachsen, Hamburg, Saarland and Schleswig-

[10] DHBW, 2016.

Holstein, they are private institutions. At the moment there are 46 dual institutes in Germany.
The studies at the dual institutes of higher education are organized and regulated by the dual institutes and can be different in some study courses. 40% of the study programme is delivered by professors. The other courses are trained by lecturers from the practical field or other universities. Thanks to this arrangement, new developments are taken into account very fast. The study course is organized in different modules and semesters. The three months lasting theoretical training parts are combined with practical phases. The practical phases are conducted in companies. A semester takes six months. Courses are provided in social, technical, economical and art fields.
In several regions, dual programmes are also offered at regular universities and universities of applied sciences. The aim is to strengthen the cooperation between universities and industry and make the study programmes at universities more practically oriented.
The study courses at the universities are regulated by the regional education law and by the rules of the education institutions. The apprenticeship in the dual programmes is regulated by the same laws as the VET system. So the students/apprentices get a salary which depends on the occupation, the company and the year of training. Furthermore students have the possibility to apply for BAföG as a supportive funding. As well the social security regulations etc. are the same as in VET system, so student/apprentices underlie the health, social care, pension and unemployment insurance. (§ 25 Abs. 1 SGB III, § 5 Abs. 4a SGB V, § 1 SGB VI). They also have six weeks of vacation a year, which have to be taken during the practical phases.

3. Analysis of the experience of students enrolled in dual learning programmes

a) VET programmes

The DGB provides a yearly training report including a survey with 18.357 young trainees in Germany on the experiences in the dual training programmes. Here are some of the main results of this report 2014:

General experiences

32.1% of the students/apprentices said that they are enrolled in the job they wanted, another 40% at least are in a job which is close to what they wanted. 21.5% do a training in a job in which they never planned to be and 6.3% also said that the job is just a less-than-ideal solution[11].
Most of the apprentices (71.4%) were satisfied with their VET training programme. But the statistics also show that there is a slow negative trend in the last years. So there was a satisfaction rate of 75.5% in 2009.

[11] DGB, 2014, 10.

Experiences with Vocational schools

The satisfaction with vocational schools increases yearly. In 2009, 66.5% of the young trainees still reported that the professional quality is good or very good, in 2014 just 56.2% came to this appraisal. 28.7% said the professional quality is satisfactory and 15.1% said it is fair or poor. The overall satisfaction with vocational schools is greater than the satisfaction with the training companies.

Experiences with companies

The apprentices are mostly satisfied with the professional quality in the companies. 29.3% say that the quality is very good, 42.1% say it is good.
The apprentices also reported some difficulties with the apprenticeship in companies[12]:

- a training plan is not available (34.1%),
- they often have to carry on activities not relevant for training (11.7%),
- lacking attendance of the trainer (10.8%),
- constant overtime work (36.6%), 17.1% also say that they get no compensation,
- problems with overtime work for under 18-years-olds (13.2%).

Experiences with living conditions

Young people taking part in dual programmes mostly still live with their parents (7.3%) or have their own apartment (24.2%). Most trainees are satisfied with this situation (88.1%). The companies normally are in the neighbourhood of their home. 70.3% of the young people need less than 30 minutes to their training company. 22.9% say that they need about 30-60 minutes. Vocational companies are located in a wider rang. Only 52.4% of the young people say that they need less than 30 minutes to travel to the vocational school. 35.5% need between 30 and 60 minutes. The financial situation depends on the region and the training branch. In industry (64.4%) and banking (63.9%), the apprentices say that they come along with the monthly payment. In hotels (33.7%) and the barber trade (30.4%), the situation is more problematic. Especially the travel costs seem to be the biggest challenge. Most apprentices are supported by their family (32.3%), by the state (12.5%) or have an additional job (11.5%).

b) Higher education

At the moment there are only a few studies about the student experiences of dual programmes in higher education. In 2012, the statistic state office of Baden-Württemberg presented a survey of graduates of the Universities of Cooperative Education (4.431 graduates were interviewed). Here are the main results[13]:

[12] DGB, 2014, 7ff.
[13] Statistisches Landesamt, 2012.

General experiences

In general 70% of the graduates were satisfied and 16% very satisfied with the dual studies at the University of Cooperative Education. The preparation for their future job was rated as very good (74%).

Experiences with Universities

The students pointed out that they were satisfied with the advisory services (66&), the IT infrastructure (73%) and the availability of literature (62%). Also the practical and professional quality of the lecturer (78%) and the possibilities for practical studies (79%) were suitable. The practical relevance of the learning and teaching content was good (68%). The possibilities for further learning was rated a little less good (59%).
The graduates think that interdisciplinary working and thinking (56%), experiences in human resources (45%), economic thinking (39%), foreign languages (39%) and self-organization (36%) should be strengthen as part of the study programme in future.

Experiences with companies

The partner companies were rated very positive as well. The range of practical studies (77%) and the content (74%) and quality (735) were rated on a high level. Only the applicability of the study content in the practical studies was beyond the other results again.

Suggestions

Possible improvements seen by the graduates include the applicability of the study contents in the practical phase (56%), the practical orientation in the theory phase (39%), the framework conditions (35%), the concept of the course offers (31%), consultation relationship during the study phase (22%) and the relationship between lecturer and students (12%).

4. Analysis of the employment rate and working opportunities for dual learning graduates, and more in general on the impact of dual learning on employability

a) VET programmes

Apprentices in Germany have good chances to stay at the company where they were trained. In average 61% of the trained apprentices stay at the training company. Especially in companies with more than 500 employees, the chances are very good (75%). Especially big companies see dual study programmes as an important instrument for recruiting future staff, especially in industrial/technical fields as well as in the commercial field[14]. Regional

[14] BMBF, 2015, 54.

studies such as the one from Baden-Württemberg show this situation very well[15]. 67% of the graduates stay in their jobs.

Abbildung 4: Entwicklung der Übernahmequoten 2000–2010 nach Betriebsgröße in Prozent

Bundesgebiet	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
1 bis 9 Beschäftigte	46	43	46	47	40	48	45	48	48	44	48
10 bis 49 Beschäftigte	57	50	51	52	53	51	56	56	60	56	57
50 bis 499 Beschäftigte	60	61	57	54	57	54	55	63	67	60	64
500+ Beschäftigte	70	70	68	63	62	64	69	70	72	73	75
Gesamt	**58**	**55**	**55**	**53**	**53**	**54**	**56**	**60**	**62**	**58**	**61**

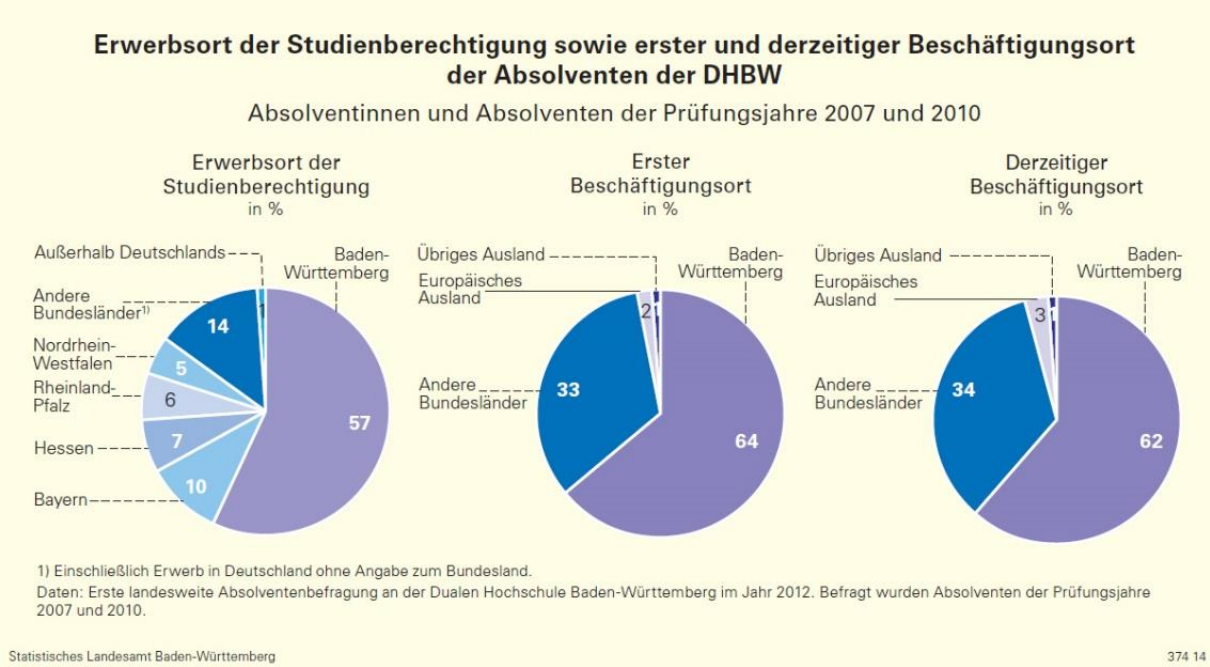
Quelle: IAB-Betriebspanel 2000–2010, vgl. BIBB 2012: 199 | BertelsmannStiftung

In 2011, 28.9% of the graduates were without a job[16]. This was almost 5% less than 2010. And the developments in the following years were almost the same. The height of the risk to earn low wages with a dual programme education depends on the vocational field. The amount of people with a dual programme education is 11% of the men and 26.8% of the women[17]. A good vocational education helps to avoid low wages. Most risks for men are in vocational fields like agriculture, cooking, trade and construction, for women hygiene, cooking, trade, hotel and health. Low risk vocational fields are administration, electrical engineering, industry/mechanical engineering and banking, for women administration and banking.

b) Higher education

The 2012 survey of the statistic state office[18] of Baden-Württemberg showed that three months after the study programme was finished, 83% of the graduates already had a job, 84% of them with an open-ended contract. 9% of the graduates started a PhD. Only 2% were without a job and 2% were self-employed.

[15] IAB, 2014, 33.
[16] BIBB, 2013, 284.
[17] *Ibid*. 289.
[18] Statistisches Landesamt, 2012.



The graduates normally stay in their region of origin (62%). 34% went to another region and 4% moved to another country.
The graduates pointed out that the applicability of the study contents in the job is not always suitable. Just 4% of the graduates say that they always can use their qualifications, 30% say they can use them very often, 47% sometimes, but also 17% rarely and 2% never.
The branches where they are working are mechanical engineering, IT, banking and insurance, automotive engineering, craftwork, trade, electrical engineering, social work and chemistry.
The financial income of the graduates also develops very well. Three months after graduation, 15% of the students had a yearly income under 30.000 Euro, 60% an income between 30.000 Euro and 50.000 Euro and 25% an income over 50.000 Euro. Some years later the development showed already a positive trend: 9% of the students had an income under 30.000 Euro, 52% an income between 30.000 Euro and 50.000 Euro and 38% an income over 50.000 Euro.

5. Conclusions

Dual programmes are important for the German education system. The dual system has a long tradition and German companies have a wide experience with the provision of dual learning programmes. Nevertheless the political agenda asks for a strengthening of vocational education in Germany. The lack of trained people is high in Germany nowadays and the practical oriented education programmes, especially dual programmes, are seen as an essential

part of the solution. As well the dual programmes in the VET system are the best pathway to avoid the risk of low wages.
The development of dual programmes at higher education level is still in the initial phase. In many universities in Germany, dual programmes just started to be set up. Baden-Württemberg launched the University of Cooperative Education in 2009. Several needed development processes for these dual study programmes will have to be set in the next years. The working fields arise already, but the combination of academic education and practical on-the-job-training in companies is a new challenge. The further development of pilot projects, the assessment and adaption of existing programmes and their evaluation will be part of a future policy in the field of dual programmes at higher education level.

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Italy

1. Introduction

1.1. Apprenticeship and Dual System in Italy: Institutional framework

The Italian system consists of three main types of apprenticeship. *The first and the third lead to an education qualification, at upper secondary, post-secondary and tertiary levels*. In this connection, 'they integrate, in a dual system, training and work' (Article 41, paragraph 3, legislative Decree No 81/2015). *The second type of apprenticeship is a vocationally oriented scheme for young adults aged 18 to 29, with a marginal component of formal training paid with public resources*: a maximum 120 hours in three years, to be carried out inside or outside the company. Upon completion, apprentices can become skilled workers by acquiring contractual qualifications, as defined and recognised by collective labour agreements (no education qualification is awarded).

The second type of apprenticeship covers 91% of all contracts. As a consequence, apprenticeships are mainly used to hire young adults rather than youth, especially in recent years: between 2009 and 2014, 15 to 19 year-old apprentices have decreased compared to 25 to 29 year-olds, which traditionally represent the largest component of the apprentice population, together with those 20 to 24 years old.

The main challenge for apprenticeships in Italy remains the education and training function and its quality. In 2013, only one third of all type 2 apprentices were enrolled in formal training activities provided by the regions.

The latest reform tries to expand and strengthen apprenticeship integration within the education system, so mainly concerns types 1 and 3. The reform broadens the spectrum of education qualifications, makes curricula more flexible in terms of duration, and tries to balance salaries with education duties".

The new apprenticeship arrangements also feature three different types, with substantial changes to the first and third type, i.e. the apprenticeships leading to formal qualifications. There now are:

- apprenticeships for attaining professional qualifications and diplomas, the upper secondary school diploma and the advanced technical specialisation certificate (art. 43 of Legislative Decree No. 81/2015);
- apprenticeships for attaining professional skills (art. 44 of Legislative Decree No. 81/2015);
- apprenticeships for higher training and research (art. 45 of Legislative Decree No. 81/2015).

In this report we will focus mainly on the apprenticeship of higher education and research.
At present the apprenticeship of higher education and research is governed by the legislative decree 81 of June 2015, that abrogated the former regulations (D.Lgs. 167/2011) and is integrated in a interministerial decree (MLPS-MIUR-MEF) published on the 21st December 2015, that sets the educational standards and the general criteria for the realization of apprenticeship paths. Within June 2016 the regions will be able to regulate the apprenticeship of higher education and research only for the profiles referred to training.
The first normative provision that introduced the apprenticeship of higher education and research, so called "of the third type", is the legislative decree n 27/2003, that started a new definition of relationships in the job market to enhance safeguards and opportunities for the workers on one side and the companies' productivity on the other, and contributed to Italian economic system development and employment opportunities.
The apprenticeship of higher education and research was then extended also for traineeship purposes and for the selection of young researchers to be hired in companies.
In the agreement between central government and regions, a crucial role is played by the normative framework dealing with professional and educational standards and competences recognition. The university apprenticeship, to be able to deliver an educational qualification for the job market foresees the standard use of a system of public educational standards.
The recent legislation of June 2015 tries to go beyond the implementation and interpretation problems of 10 years of "new" apprenticeship, trying to solve the complexity of circulars and interventions on the text of the law.
At the present the apprenticeship contract is the only contract with educational and training goals.
The main difficulties to the adoption of the apprenticeship depend on the small dimension of Italian companies, limits of the legislation and implementation problems. The complexity of the legislation risk to scare the companies and to discourage them in the use of apprenticeship contracts, while the intention of the legislator was to invest in research and innovation and support companies, spin off with excellence human capital.
ISFOL - Istituto per lo sviluppo della formazione professionale dei lavoratori (institute for workers professional development and training) – monitored the normative situation of apprenticeships from 2003 to 2013 and divided its history into 3 periods: testing (2003-2008); application (2008-2011); new reform (2011-2013).
The period from the second half of 2008 to September 2011 can be considered as transitional with the goal to apply the system of apprenticeship of higher education and research. After completing the testing on the 30th of June 2008, the regions used the know how acquired in local normative legislation. In particular Piemonte, Veneto, Lombardia, Emilia Romagna e Trentino Alto Adige were very active in this approach.

The regions' main interest was on 1st and 2nd level post-graduation degrees; only later on and very slowly their interest moved to bachelor and master degrees.
In 2008 the national legislator promoted the apprenticeship of higher education and research through the Decree Law n. 112/2008, modifying the original text of the article 50 of legislative decree n. 276/2003, including PhDs in the list of qualifications that can be accomplished with a contract of apprenticeship. Secondary, it was established that, where no regional regulations are available, the implementation of the apprenticeship of higher education and research has to be made through specific agreements between employers and universities or HEIs.
ISFOL monitoring report 2008-2009 shows that many big companies took advantage of these normative news to sign agreements with universities, for example Telecom Italia run a project "The Day Before" that involved 400 students in higher education.
Both the government and the regions financially supported the implementation of the apprenticeship. For example the Ministry of labor and social policy supported the project Formazione e Innovazione per l'Occupazione Scuola e Università - FIxO S&U with 6.000 € for each apprentice hired with a full time contract and 4.000 € for a part time contract. In 2012 and 2013 145 companies received the funding.
ISFOL XIII report states that even though more regions are involved, the apprenticeship of higher education and research is not so used: in may-june 2012 only 234 apprentices were hired with a contract under art. 5 of legislative decree. n. 167/2011.
In 2014 more agreements were made in Piemonte, Lazio, Abruzzo, Emilia Romagna. The agreements mainly involve university degrees. In the end, 10 regions issued calls for funding and implementation of apprenticeship of higher education and research: Piemonte, Lombardia, Veneto, Emilia Romagna, Sicilia, Marche, Toscana, Abruzzo, Basilicata e Sardegna.
8 regions actually implemented the apprenticeship of higher education (Piemonte, Lombardia, Veneto, Emilia Romagna, Marche, Sicilia) and research (P.A. Trento and Marche), while in Bozen since 2003/2004 there's a dual programme of university studies (bachelor degree) and on job training in companies.

Table 1: Types of apprenticeship in the agreements art. 5, legislative decree 167/2011

Regions	**High school degree**	**Post secondary vocational education (IFTS)**	**Special schools of technology (ITS)**	**Bachelor degree**	**Master Degree**	**1 and 2 level post graduation degree**	**PhD**	**Research activity**
Piemonte			x	x	x	x	x	

Valle D'Aosta								
Lombardia	x	x	x	x	x	x	x	
Bolzano				x				
Trento	x		x	x	x	x	x	X
Veneto			x			x	x	
Friuli Venezia Giulia								
Liguria				x	x	x	x	
Emilia Romagna				x	x	x	x	
Toscana							x	
Umbria								
Marche			x	x	x	x	x	x
Lazio			x	x	x	x	x	x
Abruzzo	x	x	x	x	x	x	x	x
Molise								
Campania								
Puglia	x		x	x	x	x	x	x
Basilicata	x		x	x	x	x	x	
Calabria				x	x	x	x	
Sicilia				x	x	x	x	
Sardegna	x		x	x	x	x	x	

1.2. Stage and Internship/traineeship in Italy: a common framework and a pedagogical approach

In addition to ***apprenticeships*** there are other regulated forms of ***work-based learning*** that can also be linked to one another, namely ***school-work alternance*** and various types of workplace training.

"School-work alternance" is a learning model combining upper secondary school education and vocational education and training. It consists in alternating classroom teaching and periods of workplace training. The primary target group of this model are students aged 15 or more interested in participating in this learning path. The recent educational reform law extended to and made it compulsory for all students attending the last three years of upper secondary schools to take part in a *school-work alternance* scheme for at least 200 hours in the case of "*licei"*, and 400 hours in the case of technical schools.

Traineeship may be classified, together with apprenticeship, as the main work integration instrument for young people, a sort of bridge that closes the gap

between schools and enterprises and includes curricular traineeships, summer traineeships and orientation traineeships.
In Italy *traineeship* (tirocinio or stage) consists of a period of guidance and training on the job with a public or private employer. Traineeships are not an employment relationships and, according to their aims and beneficiaries, may be divided into the following main types:
1) non-curricular traineeships: recently they have been regulated by the Regions and Autonomous Provinces according to the "Guidelines on traineeships", approved by the agreement among State and Regions on the 24 January 2013 (see Legislative References/Regulations below).
Guidelines approve three types of non-curricular traineeships:

a) training and guidance traineeships, for people who have held an educational certificate for no more than twelve months. These are aimed at facilitating professional choices and employment for young people, and last no more than six months;
b) job placement/re-entry traineeships, for the unemployed (including those on unemployment benefits). These are aimed at facilitating the placement of jobless people or re-entry of the unemployed, and last no more than twelve months;
c) guidance and training traineeships or placement/re-entry traineeships for the disabled, disadvantaged people, asylum seekers and beneficiaries of international protection. These traineeships last no more than twelve months; in the case of disabled the total duration of the traineeship may be as long as twenty- four months.

However some Regions have established maximum limits of duration different from those required by the Guidelines, in particular regarding job placement/re-entry traineeships. For this type of traineeships some Regions consider a maximum period of six months instead of twelve.
2) curricular traineeships: these are for young people enrolled in an educational or training programme (students of Vocational and Educational courses, high school students, University students, etc.) and aim at enriching and integrating the learning and training process, thanks to a direct experience in the employment world;
3) summer traineeships: these are organised for adolescents and young people enrolled in any kind of University or high school programme and are held between the end of each school or academic year and the beginning of the next.
In addition there are also other types of traineeships: traineeships for regulated professions; transnational traineeships, for example those organised by European education and training programmes; traineeships for non-EU citizens promoted according to the entry quotas.

2. Collection and analysis of data on dual learning programmes, in terms of how they are provided, the learning and training modules, the skills which are developed with dual curricula, the organization and administration of the course, the evaluation of the competences acquired

2.1. The Governance of the System

The Italian system of Services for employment, training, education and guidance is, from the legislative point of view, shared out between the State and the Regions. The rules governing contracts and employment relationships fall under the exclusive responsibility of the State, while the rules governing education and vocational training fall under the responsibility of Regions, pursuant to art. 117 of the Constitution, in accordance with the indications of the reform of Title V1.
The first and the third apprenticeships are aimed at "training"; they are structured in such a manner as to be organically integrated "in a dual training & work system" and, as such, represent the Italian version of the German model. In the case of type 1 and 3 apprenticeships, the training institution, with the involvement of the enterprise, designs the training plan. Furthermore, the general tasks of the national collective bargaining have been downsized: this is now responsible for the overall regulation of the system and no longer of the minimum duration, illegitimate dismissal and contract withdrawal, which are all defined within the regulation.

2.2. The different level of governance in Italy

State Level:
- National framework, fixing rights and duties of the enterprises and apprentices
- Main features of the apprenticeship contract

Regions/Autonomous Province
- Local regulation, mainly related to the training aim of the contract
- Length of the vocational training (key skills)
- Supply of vocational training courses
- Social Partners (Collective Bargaining)
- Length/duration of the apprenticeship contract
- Length/duration and contents of the professional vocational training
- Provision of on the job training and further vocational training.

Considering ***the role and the benefits of enterprises*** within the Italian Apprenticeship system we can highlight them as following:
The enterprise is responsible for the on and off the job training
- draw up the training plan;
- ensure the apprentice training, as provided in the training plan;
- ensure the presence of a company tutor;

- ensure the company tutor's training

The main benefits are as following:

- lower wage for apprentice
- reductions in welfare and social security contributions for the entire length of apprenticeship contract – (No contribution for micro enterprises)
- technical and operative support, offered by Bilateral Bodies, for:
  - drawing up training plans
  - accomplishing on the job vocational training
- Voucher for accomplishing vocational training, provided by special national programmes or local Authorities.

2.3. The vocational education and training system in Italy – National level/Ministry of Education

1) **Technical education** (*Istruzione Tecnica*) is provided by state- run Istituti Tecnici (Technical Schools), five years, and leads to the award, following a State examination, of the high technical school diploma; the certificate also allows university entrance or entry into post-secondary education.

2) **Vocational education** (*Istruzione professionale*) is provided by State-run Istituti professionali (Vocational schools, e.g. in agriculture, industry and crafts, services sectors) and leads to the award of the degree of professional qualification, three years. The diploma can be used to enter the working world, to continue on to the post- certificate courses, two years, also run by Vocational Schools or to attend the higher level vocational training courses run by the Regions (IFTS).

2.4. Other forms of vocational education and training institutions – Regions

The three years courses of "Istruzione e Formazione Professionale". The qualification allows to enter the labour market or to access to post-qualification courses leading to the award of an upper secondary vocational diploma. This diploma is required for entry into Istruzione e Formazione Tecnica Superiore (IFTS - higher technical education and training) or, after attending a supplementary year, to entry into universities. *"IFTS" – Higher Technical Education and Training is a post-secondary non-university training* programme, in discontinuity with the secondary school. It is an integrated channel between schools, vocational training, universities and employers, aimed at young adults and graduates to meet the demand from average/high technical knowledge, placed in the productive sectors that are affected by deep changes in technology and professionality.

1) The diplomas and qualifications acquired by "*school-work alternance"* or "*apprenticeship"*. Two main types of apprenticeship: for young people

aged between 15 and 18 and for young people aged 18 to 29, which is for the award of higher qualifications.

2) Higher technical education and training - IFTS to train senior technicians. Entrance requires upper secondary certificate or certifiable skills acquired from previous education and training courses and from work. On completion, students obtain a certificato di specializzazione tecnica superiore issued by the regional authorities and recognized nationally. An Accreditation of Prior Learning is forecast and can give credits in training path.
3) ITS (Istruzione Tecnica Superiore): the law n. 40/2007 introduced also a further degree, "Special school of technology ", a new cannel of tertiary education, parallel to academic paths. They prepare high-level technicians in technological area considered as strategic ones for economic development and competitiveness. They are built in the form of a Foundation, that includes the four Italian educational agencies: Schools, Vocational training centres, Universities, enterprises and local authorities.

Main innovative issues:

- The role of Universities, that are partners in a network, including Schools, Vocational Training Centres, association of business owners or enterprises, all included in the Scientific Committee, that decides both the teaching programmes, both the appraisal of prior learning
- The assessment of competencies at the beginning of the training path
- The assessment of competencies in progress and at the end of the training path
- The taylorisation of the path, finalized to the empowerment of individual's competencies
- The possibility to move from one training path to others (to Technical Schools, to IFTS and ITS, to University, giving credits deriving not only from the training path, but also from the job experience)
- The certification of acquired skills has been receiving growing attention in Italy in recent years, in order to ensure that pathways are transparent and to enable competence transfers in a context of lifelong learning. The agreement between the National Government, Regions and Local Authorities of October 2004 pinpoints some key components of the certification system.
- Focus on competences in order to make education and training pathways transparent, takes training credits into account and helps the flexibility and the passages between the two channels
  1) Devising tools such as certificates and procedures as regard this
  2) Drawing up minimum competence standards
- IFTS (higher technical education and training) is a significant example, as it is based on an education/training model of an integrated type, which is flexible and personalized, using principles such as modularity, competence-based learning and credits. The IFTS standards, organized as competence units, are sets of certifiable skills that can be recognized as training credits and used to enter other pathways, under agreements

between the various training agencies working together within the IFTS system.

The entry accreditation system, based on similar pilot schemes in other European countries, for instance VAE (Validation des aquis de l'expérience) in France or APL (Accreditation of Prior Learning) in Great Britain, has functions of:

- Support/guidance, so that individual training needs can be pinpointed in an informed way;
- Assessment, with the production of a personal dossier and certification/recognition by means of a formal document enabling entry into or the recognition of credits within a training pathway.

2.5. Implementation of the apprenticeship of higher education and research in Italy

Usually the agreement specifies the duration, the staging, the training requirements, the individual training programmes, the competences recognition, the supporting actions for the testing of the programmes, the activities governance

All the agreements specify the **duration** and the **staging**. Usually the training component of the contract of apprenticeship of higher education can't last longer than the educational curriculum and can be extended for no more than 12 months.

The agreements define specific regulation for the **training requirements** of the apprentices, allowing them to get the contract only if they acquired a certain number of credits or if they achieved specific degrees.

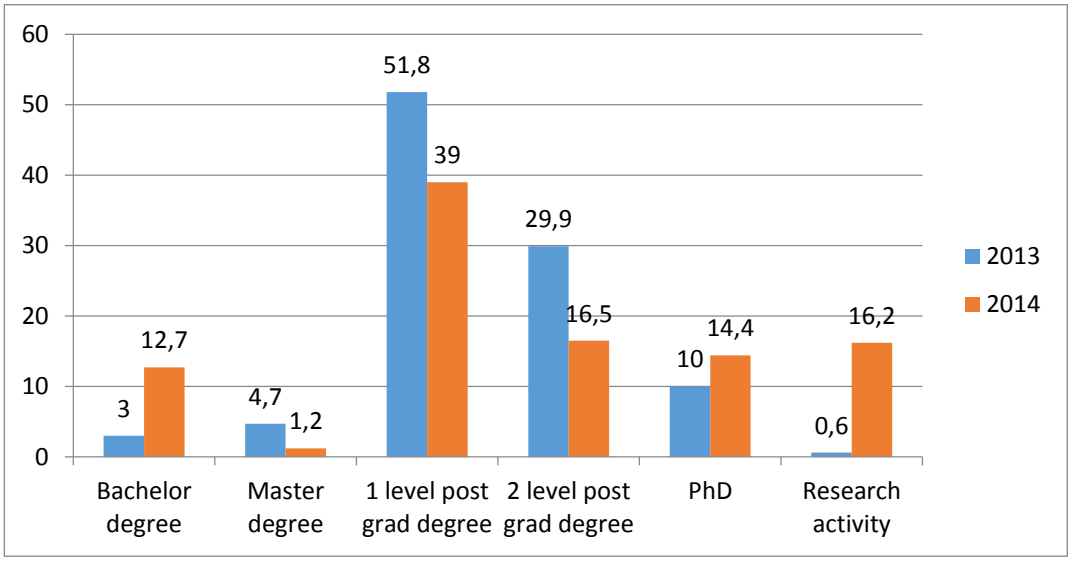
The company and the institution share the goals and the coordination of the training and prepare an individual training programme (Piano formativo individuale – PFI) for each apprentice, where they describe the contents of the training.

In the ISFOL's XV report on Apprenticeship, for the apprenticeship of research there are 3 participants, 1 in Trento and 2 in Marche region.

In 2013, 52,3% of the apprentices were enrolled on a first level post graduation degree (master di I livello), 30,2% on a second level post graduation degree, 10,1% on a PhD course, 4,2% on a master degree, 3% on a bachelor degree, 0,6% on research activities.

In 2014 the number of apprentices who planned to enroll on a bachelor degree increased (from 3 to 12,7%), as well as the number of apprentices for research activities (from 0,6% to 16,2%) and PhDs (dal 10,1% al 14,4%), as shown in the figure below.

Figure 1: number of apprentices in apprenticeship of higher education and research in 2013 and planned for 2014



Regarding the organization of the courses here are some examples of how different courses can be structured:

Post-graduation degree: to acquire the 60 credits necessary to get the degree:

- 150 hours in classroom
- 150 hours of distance learning, individual study
- 150 hours of training in the company
- 150 hours devoted to a project work

The duration can be shortened in the case of recognition of credits acquired during previous training or professional experiences.

PhD degree:

training activity:

- the training activities are decided together by the company and the professors
- part of the training is delivered in the university classroom
- compulsory attendance for basic training (50 university credits, 250 hours of lessons, in the first 2 years);

research activity:

- the subject and the implementation of the project are decided together by the company and the professors
- part of the research activity has to be done in the company, in the department or in both
- there are 2 tutors (one for the university and the other for the company)
- in case of the need of additional resources or equipment the activities can be regulated by specific agreements between the university and the company.

As long as **competences recognition** is concerned, the educational institution gives credits for the work activities, evaluates the university credits and the competences acquired in the company, even if the apprentice doesn't get the final degree. The degree is released by the HEI, after passing a final exam. The final degree released by the University is the final certification of the course. The employer recognizes the professional competences, that can be also certified by the regions or by autonomous provinces.
The duration can considerably differ from region to region, from a minimum of 6 months to a maximum of 4 years (in Marche region).
As stated in the XV ISFOL report, only the autonomous province of Trento and Marche, Abruzzo and Lazio regions disciplined the contract of apprenticeship of research: This contract is not aimed at a degree achievement and allows companies to hire apprentices for research projects and represents a strategic leverage to promote research and development.
The companies can promote the apprenticeship of research to develop new projects or to support projects already started. The companies will provide internal training, not less than 150 paid hours per year
At the end of the activities, the apprentice together with the company tutor and the trainer writes a final research report.

2.6. How traineeships are implemented in Italy[1]

In Italy, two types of documents are required in order to get a traineeship: the agreement, signed by the traineeship promoter and the traineeship provider, and the training project, signed by the provider, the promoter and the trainee. The
traineeship may be carried out with any type of public or private company/institution and
the rights of the trainee are indicated by the training project.
Trainees have the right to:

- be supervised both by a company mentor, whose task is to "train" the intern, and by a promoter supervisor, whose task is to supervise the traineeship, guaranteeing its success;
- be insured by the promoter against workplace accidents with Inail (National Institute for the Insurance against Industrial Accidents) and third party liability through an appropriate insurance company;
- acquire an adequate training and information about health and safety in the workplace.

Trainees must:

- perform the activities provided by the training project, respecting the established time schedule and company rules;
- follow the instructions of the two supervisors and report to them for any organisational issue or other requirements;

[1] ISFOL, *Ismene Tramontano, Traineeship in Italy*, Euroguidance, December 2014.

- comply with the obligations of confidentiality related to the production processes and products of the company;
- comply with workplace hygiene, health and safety regulations.

2.7. Some examples of school to work transition projects implementation

Cases of ITS, Higher Technical Institute in Emilia Romagna

1) DESI Project Emilia Romagna[2]

Dual education in Italy: successful start for social project of Audi subsidiary in Ducati and Lamborghini "DESI" Project will allow 48 trainees to achieve technical qualifications trough superior on-field training Young people start their practical training in three occupations.

Ducati and Lamborghini open modern training centres.

Ducati and Lamborghini, Italian companies part of Audi AG group, have celebrated a milestone with their joint social project "Dual Education System Italy", which has been created in cooperation with the Volkswagen Workforce Foundation, the Italian Ministry for Teaching, Universities and Research, and the Ministry of Education of the region Emilia Romagna. The two companies are enabling young Italians, largely from socially disadvantaged families, to take the next important step of their dual education and training based on the German system. Following the first component of education in a college, the young people are now starting their practical training. For this purpose, Lamborghini and Ducati have set up modern training centres in their plants.

Since September 2014, Ducati and Lamborghini have been developing a new process for education and training in Italy. In cooperation with the two colleges Fioravanti Belluzzi and Aldini Valeriani in Bologna, the companies have established a two-year-joint education and training plan for 48 young people, in order to establish a dual concept between college and company. The programme is primarily aimed at socially disadvantaged young people. At the start of the first practical phase at the Ducati and Lamborghini plants, the Board of Management Member for Human Resources at AUDI AG, Thomas Sigi, and the Board of Management Member for Sales and Marketing at AUDI AG, Luca de Meo, visited the new classrooms accompanied by Ducati Motor Holding CEO Claudio Domenicali and Lamborghini President and CEO Stephan Winkelmann.

In advance of the practical phase, AUDI AG first locally trained eleven Italian trainers and project employees for their tasks, including the technical, didactic and pedagogical aspects. All of the participants in the social project are able to work on the current Ducati and Lamborghini models during their training. The young people are currently training for three occupations: car

2 http://www.ducati.com/news/desi_project____dual_education_system_italy/2015/03/26/3630/index.do.

mechatronic, motorcycle mechatronic and CNC mechanic, which has a focus on metalworking. After two years, they receive their official college certificate and a certificate from Ducati or Lamborghini, as well as state recognition of the programme from the regional administrative office of Emilia Romagna.
Ducati Motor Holding CEO, Claudio Domenicali, stated that the dual training had a fundamental role in the Corporate Responsibility strategy of the company and of the Ducati Foundation: «DESI programme is an important part of the path that sees Ducati committed with sustainable training tools for young people. With this innovative dual system of education we set up new standards in Italy und create various opportunities for the participants. The social programme completes our innovative training concepts, such as the degree in Mechanical Engineering with Motor Vehicle specialization or our successful "Fisica in Moto"-laboratory».
Automobili Lamborghini President and CEO, Stephan Winkelmann, commented: «The DESI Project is part of a broad Corporate Social Responsibility strategy implemented in the last few years. Based on three pillars, economy, society and environment, it puts the accent on professional training. DESI, including our apprenticeship programmes and our relationships with nearby schools and universities, develops the professional competences of socially disadvantaged juveniles by integrating them into a company's organization and culture. Training means gaining a competitive advantage; a benefit for both the individual and the company».
The Volkswagen Employees' Foundation invested €2 million in the "Dual Education System Italy" project, with another €1 million from the Audi Group with its subsidiaries Ducati and Lamborghini.

2) VET@work[3], European project

VET@WORK project looks at one of the main challenge of the Europe 2020 Strategy: to reduce Early School Leaving (ESL) to less than 10% and contribute to increasing attainment in tertiary education to at least 40% by 2020.
Completing upper secondary education is recommended as the minimum entrance qualification when making the crucial transition from education to the labour market.
Schools and especially VET Institutions play an important role in addressing ESL but they cannot and should not work in isolation. Comprehensive approaches that focus on the root causes of ESL are required to reduce ESL.
The following EU key policy messages identify the critical conditions for successful policies against ESL:

- Support schools to develop a supportive learning environments that focus on the needs of individual learners;
- Promote strong commitment from all stakeholders in efforts to reduce ESL;
- Enable staff to provide differentiated learning support to learners in an inclusive and personal way;

[3] Project VET@WORK, www.vetatwork.eu.

- Strengthen guidance to ensure that young people are aware of the different study options and employment prospects available to them.

The aims of the project

To reinforce the motivation of learners and prevent ESL, the EU strongly fosters the commitment to offer them the opportunity and to have new flexible approaches based on Personal Learning Plans (PLPs) elaborated by VET staff (teachers, coaches, trainers, tutors) in cooperation with Enterprises staff and recognize the experience in their formal curriculum. This is in the line with most EU countries educational policies which by law promote School-Work Alternation and/or Dual Systems paths aimed at supporting the stay in the educational context. VET@WORK project represents a reply to the above mentioned problems as it is inspired by the following factors:

- Develop flexible pathways which connect the VET formal school curriculum to Work Based Learning;
- Enrich the learning gained at school level with the acquiring of professional skills to facilitate the entrance to the labour market;
- Foster the implementation of ECVET principles and tools;
- Reinforce a NA and EU Network of VET schools/providers, enterprises and social parties to allow the active participation in the School-Work Alternation or in the frame of the Dual system.

Further, taking into account that schools (especially VET) are no longer the only place of learning but part of a set of more or less formal contexts in which the learners acquire and enhance their skills, VET@WORK project enlighten the need of developing new approach aimed at:

- Tailoring educational interventions on the characteristics of the learners;
- Adopting innovative teaching methods based on working experiences at NA and EU level;
- Designing flexible PLPs by improving the skills of VET and Enterprises staff;
- Implementing the PLPs in the formal learners/students Curriculum;
- Training VET staff at EU level on implementing ECVET in the PLPs.

3) SWORD Project[4], European project

The connection and transition from school to labour market constitute a crucial element to reach the goal of the inclusion of young people in productive contexts which are able to answer to requests of the enterprise system, constituted mainly by SMEs, and to providing them with a more complete professionality that meets the requirements of the labour market in consequence of the ongoing changes and innovation levels. In the whole of Europe, there is evidence of the skill gap problems of young people who completed their training.

Project SWORD's focus is on the transition from school and training pathways – particularly technical ones – and the labour market, in order to get school and training systems to guide their activity and to provide an adequate

[4] http://www.swordproject.provincia.tn.it/Il_Progetto/.

response to the demand of professionalism expressed by the economic and productive world and to the strategies and perspectives of local development.
An essential reference at a European level for the school to labour market transition is represented by the Dual Learning System: Because of this many countries are rethinking/reorganising their school and training pathways in the perspective of the Dual Learning and of the gradual acquisition of elements of this system.
SWORD project starts from the observation that in countries where the Dual Learning model is not yet developed, the school and training system is not taking so much care about the transition of young people from school to labour market, or, when it is, it doesn't manage to obtain significant results.
At the same time, SWORD project starts as well from the fact that even in the countries where there is a working Dual Learning System there are some critical issues, particularly in the relationship between the school-training system and school-to-labour market processes (often not adequately connected).
In this respect, it is important to gain an insight into the role played by the vocational training school in the preparation and management of the school-to-labour-market transition and at the same time in connection with the involvement of the school system in this activity avoiding risks about outsourcing the process of this transition, which could put this phase out of control of the school system.
SWORD Project aims at carrying out a careful analysis of the Dual Learning Model and at reaching a new, shared European approach to Dual Learning, which can allow the countries already using it to cope with existing critical issues and the countries willing to adopt it to be able to do so.
Furthermore the project aims at identifying a Dual Learning model in which the school-to-labour-market transition can happen in an international context, promoting international mobility processes which can strengthen the school-to-labour-market transition.

3. Analysis of the relation between the student, the learning agency and the employers, in terms of administrative regulations, employment regulations and support granted

Learning standards and Learning process (Ministry of Labour and Social Affaires, Decree 12 October 2015)

Ministry Decree set up the:

a) Technical and structural capacities of enterprises, as well as the training competences, included the availability of the mentor.
b) Duration of apprenticeship contracts
c) Training standards (already set up by previous laws and rules at national or regional level) and individual learning plan.

The governance of the process is usually regional (like for example in Piemonte, Veneto, Lombardia, Liguria) or owned by a technical regional

management (like for example in Emilia Romagna, Marche, Toscana) or by a technical committee (like in Sicilia), that can be composed by a representative for each signer of the agreement. These task forces give recommendations and directions for the testing, they monitor the situation and try to assure the complete implementation of the apprenticeships.
Universities have a leading role in the phases of promotion, planning and fulfilment of apprenticeship courses. Also companies are actively involved in each of these phases. In particular, the universities match the candidates with the requirements specified in the public regional announcement and the companies interested in hiring, they plan and start curricula and mentoring activities and recognize the training activities on the job through university credits, they evaluate and certify credits and competences acquired.
It is very important that the university and the company work closely together to assure the effectiveness of the formal training, the work related learning and the job. The learning process is built to guarantee the integration of knowledge and competences acquired on the job and those acquired in the university.

The role of the tutor and the mentor (Ministry of Labour and Social Affaires, Decree 12 October 2015)

Agreement between State, Regions and Autonomous Provinces (Trento and Bolzano) 24 September 2015
The tutor and the mentor will cooperate in the design of the training plan. They will support the progressive autonomy of the young worker with respect to the process of practice analysis, leading him to analyse experience on his own: "learning to learn".
The tutor will

- Support the self-evaluation process before, during and at the end of the path;
- Support the individual in the process of abstracting from the context and generalising as well as the analysis of practical experience, both as an analysis of the work experience and an analysis of "what has been learned".

The mentor will

- Identify and set up difficult and/or problematic professional situations, which are both new and consistent with the aims of skill development;
- Support the contextualisation of knowledge, capacities and skills to a specific professional situation;
- Set up and animate the social and organisational experiences with colleagues;

Where no regional rules are available it is necessary to sign a specific agreement between the employer and the education institution or the research institution that specifies the duration of the training on the job, the credits that can be recognized for the activities in the company for each apprentice. The agreement is based on a decree of the Ministry of labor and social policy.

The XV ISFOL report shows that Piemonte, Lombardia, Veneto, Emilia Romagna regions and more recently Marche, Sicilia, Toscana, Abruzzo, Basilicata e Sardegna have published specific announcements for the funding and the implementation of the apprenticeship curricula. Most of the announcements involve PhDs and post graduation degrees while only 5 regions involved the bachelor and the master degree and only Abruzzo all the degrees listed in the art. 5 of the legislative decree 167/2011.
The integration between the work related competences and the university competences is possible also thanks to the collaboration between the university tutor and the company tutor, that together support and help the apprentice in his/her path. In all the announcements the **interaction between the company and the education institution** is considered the fundamental component for the success of the training process.

4. Analysis of the experience of students enrolled in dual learning programmes

An analysis of the apprenticeships shows that the time to enter the job market was shortened, with significant results for the apprentices in terms of autonomy and professional achievements.
In 2005 the University of Padova was leading proponent in the testing of training paths of apprenticeship of higher education and research in Veneto region, together with other universities in Veneto (IUAV, Ca' Foscari) and the main professional associations (Confindustria Veneto, Ance Veneto, Confcommercio Veneto, ACRIB, Confartigianato Veneto, Federveneto API, CNA Veneto, Confesercenti Veneto, OBR Veneto). The curricula proposed for the acquisition of a post-graduation first level degree referred to the following profiles:

- Expert in planning and control
- Expert in product research and development
- Expert in production and logistics
- Tender expert in construction sector.

These curricula were planned to be highly flexible and were made of modules of formal, non formal and informal training, based on the integration between the training in the company and the training in the university.
The degree was released after 1500 hours of teaching and 60 university credits.
Each curriculum was made of 300 hours of formal training in 24 months, 600 hours of individual study and 600 hours of non-formal training in the company, for the production of an innovative project work, as agreed between the university and the company tutor.
In the beginning the apprentices were 49, 38 finished the training path, acquiring the degree and continuing their contract in the company.
at the end of the experience the apprentices answered an evaluation questionnaire.

The judgments on the subjects of the four curricula are overall very positive.
The coherence between the subjects of the curriculum and the general objectives defined at the beginning of the experience was particularly appreciated.

Professors and tutors

The professors obtained fully positive judgments, not only for their lessons in the classroom, but also in other phases of the training, for example the individual training in the company or the one in small groups.
The clarity and the ability to raise interest were particularly appreciated.
Also the judgments on the tutors are overall positive, even if some apprentices would have appreciated more support during the training (especially from the company's tutor).

The company

Most of the apprentices (78%) were satisfied of the relationships with the colleagues in the company.
They felt supported in the working activities and accepted by their colleagues and superiors despite the hours absence to attend the lessons in the university.

Some difficulties were reported

- The formal training staging was too strict
- The rules were new and sometimes different for the different players (university, region, etc.)
- There were no tutors for the classroom activities, the professors had to take care of the registers and had some problems in handling this task
- Cultural and semantic difficulties of the graduates to understand the meaning of apprenticeships of higher education and research.
- The enrolment taxes were a problem for some graduates
- The employers had some difficulties in recognising the added value of the apprenticeship of higher education and research
- The announcement may be too rigid to regulate a work relationship.

In the end, all the apprentices had to develop an innovative project work related to the company's activities.
Most of the apprentices appreciated and positively judged the project work realization.
They felt involved in the definition of the project and they felt that their competences and professional experiences were adequately appreciated.
The degree of cooperation between university and companies in the implementation and development of the project work was sufficient, but it can be improved.
In general the experience made by the University of Padova in 2005 was successful and appreciated by apprentices and companies. The employers particularly appreciated the fiscal benefits of the contract and the innovative approach of the apprentices.

The apprentices gave some suggestions on organizational and bureaucratic aspects, for example to concentrate the hours of lesson in whole days, not to stop the activities in the company for few hours.
Another suggestion refers to the clarity and the rapidity of the communications regarding the dates and hours of the lessons. The planning should be done in advance and the calendar defined and communicated to the apprentices to let them organize their working activities in the companies.
A downloadable handbook gathering all the information about rights and duties, rules for the filling of modules and registers, main administrative deadlines could be useful
Il could also be useful to develop a website of the project, containing the materials of the lessons.
In the end it would be important to raise the companies' awareness on the formal learning which is part of the contract and that the apprentices need extra time to study and attend lessons.
University of Padova and University Ca' Foscari of Venice have been involved in a second experience for Veneto region in 2008.
The structure of the project was similar to the first edition. It involved graduates, living in Veneto, less than 29 years old with at least a bachelor degree. The final degree was a post-graduation first level degree and the apprentices had a 2 years contract with a company in Veneto.
Specifically two post-graduation degrees were activated: the first about the field of technology at the University of Padua, called "post-graduation degree in Methods and technologies for product innovation and process"; the second about the field of organizational policies - strategic, called "post-graduation degree in Innovation strategic" at the University of Ca 'Foscari University of Venice.
Considering the level of dropout, 23 students are accountable for the post-graduation degree in "Strategic Innovation" and 16 students for the post-graduation degree in "Methods and technologies for product innovation and process" at the end of the project.
Feedback of students, business and scientific responsible tutor was collected at the end of the training activities.
Generally, the feedback of the students are positive for the quality of teaching and management with an average score of 3,1 on a scale of 1 to 4. As far as concerns the quality of teaching the most appreciated aspects are: the punctuality of teachers; the individual training interventions.
Students also evaluated positively the company where they were employed with a vote of 3,3 on a scale of 1 to 4. The most satisfying aspects are: the availability of company to the needs related to study, frequency of the course and the project work; the support received from the scientific manager.
Students evaluated positively the path of dual learning in general and recognized them a very valid experience of dual learning. Specifically, students expressed a high evaluation (3,5 on a scale of 1 to 4) about the importance of the impact of the apprenticeship of higher education experience on a personal level. On the other hand, students are not satisfied with the characteristics of the work contract of high apprenticeship and the salary.

59,3% of the respondents confirmed that after the end of the experience will be hired in the company and that their contract will be transformed into a permanent contract while only the 11,1% of the students stated they will not remain in the company. 14,8% of the students did not know whether or not to remain in the company at the time of filling in the questionnaire, while the remaining 14,8% did not answer. More than half of these respondents (56,3%) will continue to carry out the same duties, 6,3% will carry out different tasks while the 18,8% will have only in part the same tasks and the remaining 18,8% did not answer.
From the point of view of the companies, tutors evaluated positively this project. The objectives of the course were judged appropriate by a vote of 3,3 on a scale of 1 to 4, and the contract of apprenticeship in higher education is considered in general a powerful tool for companies (vote 3,7 on a scale of 1 4). Generally, companies relating have a positive impression about the preparation of the apprentices, specifically at the end of the training programme, emphasizing the growth achieved by the apprentice (score 3,5 on a scale of 1 to 4).
Also the project work reached good evaluations (grade 3,2 on a scale of 1 to 4). The Scientific Director is deemed appropriate to his role as well as the grade of communication with this role and fixed objectives of the project work.
Scientific supervisors represent the central element of dialogue and collaboration between the university and the company. Scientific supervisors consider positively both students (grade 3,3 on a scale of 1 to 4) and the path of apprenticeship in higher education (3,4 rating on a scale from 1 to 4). Very positive feedback on the skills acquired by the apprentice and the importance of the project work itself for the company as a development and competitiveness tool (3,7 rating for both ratings on a scale from 1 to 4). Positive feedback also for the validity of the dual learning path because of the high quality of the learning experience. Scientific supervisors underlined the importance and validity of the individual specialist training interventions for the development of the project work, too.

5. Analysis of the employment rate and working opportunities for dual learning graduates, and more in general on the impact of dual learning on employability

Work Based Learning approach

CEDEFOP strongly supports the Work Based Learning approach for different reasons:

a) Combine study and work, allowing individuals to acquire work experience while improving their skills in line with employers' requirements.
b) Help reduce skills mismatch by being responsive to labour market change.

c) Offer a stepping-stone into the labour market; apprentices receive a recognised qualification for an occupation, valid across workplaces, and certifying possession of a full set of knowledge, skills and competences to perform that occupation.
d) May result in a job offer from the company where the training was completed.

Hereunder, some important data and information are listed:

- During the decade 1998-2008: the number of students which took advantages of apprenticeship is redoubled (+ 87%); a variable growth in the different national macro areas, including in a range that goes from 64% in the northern area to the 110% for the southern, and up to 143% in the Centre.
- During the year 2007: the number of employees with a contract of apprenticeship raised more than 600,000 units, reaching an annual average of 638,807 units. A growth of +8.4% was registered from the previous year 2006.
- During the year 2009: the number of young people (15-29 years old) employed with a contract of apprenticeship remained static at 17%
- Graduates with a contract of professional apprenticeship are 3,4% in the North-West; 7,8% in the North-East, 3,4% in the Centre and 1,3% in the South and Islands.
- In 2007, contracts of high apprenticeship were the 0.6% of the total.

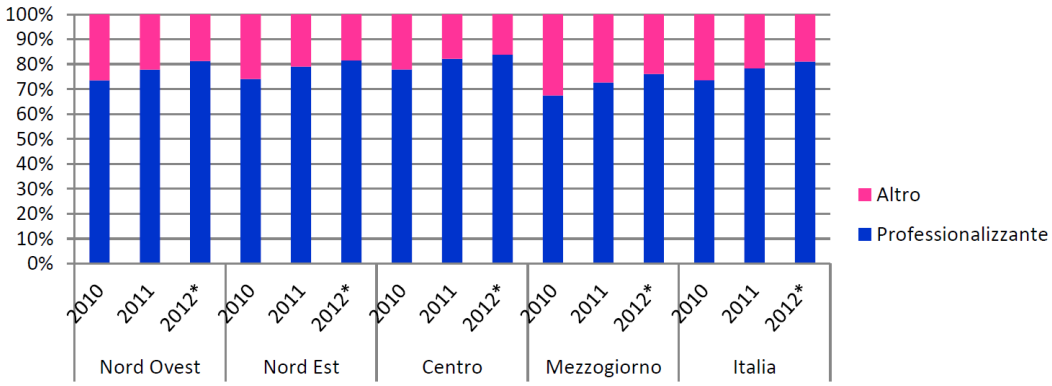
Law 183/2011 (legge di stabilità 2012) introduced a special incentive for apprenticeship contracts signed during the period from 1/1/2012 to 31/12/2016 (art. 22) in order to promote youth employment. Such kind of incentive is aimed to provide advantages for employers which hired up to 9 employees. Thanks to this incentive employers could benefit from a contributive tax break during the first 3 years of the contract (are excluded employees with an apprenticeships contract who are enrolled in mobility lists). Since 2013, contribution for social insurance of 1.61% (ASPI) is left out from such kind of facilitation.

In statistical analysis showed below, referring to the period 2010-2012, apprenticeships are classified into two categories:

- Training for professional qualification apprenticeship. Such kind of contract was already provided by former legislation (Legislative Decree no. 276/2003) and was substantially confirmed by TUA;
- "Other" category, includes both contracts referring to Law 196 of 1997 and other kind of contracts referring to Legislative Decree 276/2003 and Legislative Decree 167/2011, art. 3 and art. 5 (apprenticeship for higher education and research)

In both categories for the year 2012 are also included all the contracts had benefited from the aforementioned total contribution referring to Law 183/2011 art. 22 (in total are 12.9% out of the total of the average number of apprenticeships started in 2012 and they are less than 60,500 contracts).

Figure 2: % composition of the average number of apprenticeship contracts (professional/other type): comparison N-W, N-E, Center, South, Italy; years 2010-2012



* provisional data

Source: INPS monthly retribution statements archives (Emens)

In 2012, 81.1% of apprenticeships contract falls in the first category (Training for professional qualification apprenticeship) with the highest percentage in the Centre area (83,9%). This rate raised throughout 3 year period (2010-2012): in 2010 was at 73.7%, while in 2011 was at 78.3%.
Only during the end of the year 2012 the growth of Training for professional qualification apprenticeship has stopped with a slight decrease (-1.3%) while the other kind of contracts continued to decrease substantially (-16.6% last year), especially in the North West (-19.6%).

Table 2: Average number of apprenticeship contracts for type of apprenticeship and geographical allocation, years 2010-2012

Geographic allocation	Absolute values (annual means)						% variation on the previous year			
	2010		2011		2012*		2011		2012*	
	Profes.	Other	Profes.	Other	Profes.	Other	Profes.	Other	Profes.	Other
North	215.033	76.300	214.316	58.979	213.123	48.603	-0,3%	-22,7%	-0,6%	-17,6%
N-W	*113.139*	*40.569*	*110.967*	*31.651*	*110.777*	*25.450*	*-1,9%*	*-22,0%*	*-0,2%*	*-19,6%*
N-E	*101.894*	*35.731*	*103.349*	*27.329*	*102.346*	*23.153*	*1,4%*	*-23,5%*	*-1,0%*	*-15,3%*
Center	106.484	30.172	105.044	22.781	100.882	19.366	-1,4%	-24,5%	-4,0%	-15,0%
South	67.632	32.563	66.422	24.948	66.901	20.980	-1,8%	-23,4%	0,7%	-15,9%
Italy	**389.149**	**139.034**	**385.782**	**106.708**	**380.906**	**88.949**	**-0,9%**	**-23,3%**	**-1,3%**	**-16,6%**

*provisional data

Source: INPS monthly retribution statements archives (Emens)

6. Conclusions and Lessons learnt

6.1. Benefits for young people and enterprises

As regards the young, the dual system should be the right occasion for:

- familiarising with the entrepreneurial world via a real employment relationship;
- learn transversal, technical and operational skills in a context that is different from school and allows the contextualisation of knowledge;
- facilitate and reduce the time for access to the labour market;
- gain income already during training;
- obtain a formal qualification identical to that of full-time path attendees, while working.

The enterprises should:

- train the young people according to their own needs;
- cut down on hiring costs;
- acquire new and updated skills (e.g.: computer science, languages, etc.) that are taught in school and that can benefit the company.

6.2. Strengths

Because of the complexity of the legislation and the uncertain division of powers among Central Government, Regions and Social stakeholders, in recent years, there has been a limited use of apprenticeship contract in our production and economic system.

This state of affairs is a pity, because apprenticeship contract is characterized by several strengths:

1) **Considering the finance for business and other incentives**, the Law n. 81/2015 allows to improve the fiscal conditions of employers and introduce new forms of incentives*:*
   - Economic incentives: it is foreseen the possibility to place the employee until 2 levels under the normal standard of payment or, whenever an equal payment level is in place it is possible to correspond to the employee a lower remuneration, with a reduction of 20%. In addition, social security contributions are greatly reduced, with a reduction of one-third of the ordinary contributions.
   - Regulatory incentives: even if it is classified as a permanent contract is foreseen to withdraw from it at the end of the training period. In addition, it is possible to hire 3 apprentices for every 2 specialized employees who are previously hired in the company. Apprentices are not counted as employees, in order to respect numerical obligations in the framework of existing law.

2) **Training on the job:** Italian legislation, according with Region laws, mainly promote training carried out directly in the workplace. Collective bargaining has the chance to define duration and conditions of training to be deliver.
3) **Quality Assurance:** Proper arrangements should be in place to receive young people during their working periods. It is particularly essential that the hosting institutions provide mentoring support to young people in order to help them integrate better into the host environment. The new law n 81/2015 introduce principles and criteria to guarantee high quality in guidance, support and tutoring of young people.
4) **Integration between knowledge, school education and working experience:** the Law n 81/2015 intends to promote the re-launch of the apprenticeship in school and the pedagogical approach Alternance School-Enterprise.
5) **Terms and conditions of contracts** are clearly stated.

Finally, the reform Law introduces and reinforces measures to reach disadvantaged groups, so that they may also benefit from the opportunities of Apprenticeship contracts.

The greatest success of this "patchwork" of several experimentations is the possibility to have collected a number of best practice for the cooperation between higher education institutes and business world. A new way of cooperating is started, based first of all on 'listening and mutual recognition of training competences'.

6.3. Areas for improvement

Problems and opportunities

In Italy, the dual system is not yet codified and established like in other countries. The two training models connected to work, apprenticeship and internship, although quite similar to a dual model, are not adequately linked to the curricula of the Education System and are often relegated to the vocational system. This is expressed in the system's ability to perform an adequate action of general orientation and employment of young people.

Social, economic and cultural Barriers

- Lack of good dialogue between the training and education bodies and the employers and enterprises;
- Culture of labour versus culture of knowledge;
- Difficulty in finding companies to hire all the young people potentially interested in apprenticeships;
- Lack of commitment by the enterprises to support training, mainly in small-sized companies;
- Lack of cooperation between trade unions, industrial associations and public authorities to ensure the feasibility of compliance with the quality standards in training and final assessment

- Post-graduation degree and PhD: spread the knowledge of apprenticeship in order to increase the recourse to this contract, although it should be used mainly for projects or specific areas of research.
- Bachelor and master degrees: it is crucial the promotion of dual learning paths through a more effective recognition of job training as university credits.

6.4. Weakness

1) Italy is in a transitional phase after the adoption of the Law n 81/2015 which abolished the earlier laws and some hundreds of national contracts are now in a confused situation.
2) Legislative Decree further limits the role of social partners in the 3 different types of apprenticeships: Training for professional qualification, Apprenticeships and Apprenticeships of higher education and research.
3) Considering the cooperation between E&T organisations and Enterprises we stress the lack of special agreement and protocols needed to launch the implementation phase as well as the lack of strategic partnership in training needs analysis.
4) Considering the link between labour market and competences supply, the new law rethinks the "levelling procedure" linking the qualifications and diplomas and professional standards.
5) Considering the Quality Assurance, Learning Agreement and Training path have to be improved: in the previous Contracts the Learning Plan was the compass of the Individual Training and Learning path, with the Law n.81/2015 it seems a purely bureaucratic exercise.
6) Furthermore, considering the matching between the young people and the host organisation, the Law n 81/2015 does not strengthen the placement system linked to the Apprenticeship: this is because the underlying concept is the apprenticeship contract rather than the match between demand and labour supply.
7) Concerning the follow-up, the apprenticeship contract must be appropriately recognised and validated in terms of both formal and non-formal learning. The System for the recognition of competences, diplomas and professional qualifications (intra-EU mobility) should help to solve this problem.
8) Finally a monitoring and evaluation system should be implemented in order to guarantee the quality of the Apprenticeship reform.

An assessment of experimentations carried out until now, and an analysis of poor regional regulations about apprenticeship suggest that the most probable reason of the little success of this kind of apprenticeship should be found in cultural unpreparedness of regional institutions, training agencies which are not be able to design and operationalize a particularly innovative frame of dual learning. Dual learning aimed to overcome the rigid separation,

still dominant today, between the vocational education and training and the labor market.
It would be no surprise, therefore, the few initiatives that started and came to a conclusion, are mostly limited to the design of mere university post-graduation degrees. Nevertheless, some few important exceptions are exempt which aim to the implementation of much more challenging apprenticeship paths included in degree courses.
The logic of university credits is less restrictive in post-graduation degrees and Doctorates paths, enabling them to have a better degree of flexibility e more room for action. While university degree paths do not benefit of the same flexibility. This is obvious in Piemonte legislation and in other similar regional arrangements. In this regard, the Protocol between the Piemonte Region, Social Partners and Italian Universities states that: "the high-apprenticeship courses are addressed to students who have already achieved: normally between 80 and 140 CFU in the case of Bachelor Degree course; 60 CFU in the case of Master Degree course." It is remarkable, companies do not support design of whole training process near-graduate, except for the last part of university course.
The result of such a stiffness is almost paradoxical. Apprenticeships for higher education are very limited experiences, and the number could even decrease because it is easier to activate it with post-graduation degrees and PHD students which are clearly numerically reduced. The use of apprenticeship in higher education could not be properly promoted under the current constraints which weight on Bachelor and Master degree courses.
After ten years of experimentation in apprenticeship for higher education we have only collected a fragmented regulatory framework, even more deficient than in the case for professional apprenticeship.
The consequence is quite clear. A quick and straightforward legislation as Art. 50 of Legislative Decree n. 276/2003 is, it was stopped by inertia of the Regions and by the excessive lack of framework of legislation standards that should facilitate those enterprises, universities and training institutions interested in establishing truly innovative paths of apprenticeship for higher education – as happen in the best international experience -.
Once again, only the sensitivity of the local and, in particular, the regional institutions actors could make easier the passing from a mere piloting phase to a well-structured regime. You should take into account a second important obstacle: lack of a clear contractual framework for students included in higher education apprenticeship. XIII ISFOL Report clearly shows that the activism of the Regions has not been followed by a similar activism of Social Partners. Indeed, only a fifth of the national labor contracts (CCNL), provides regulation about apprenticeship for higher education, and when it happens it is a merely reference to the second level bargaining, blocking the entire system.
Feedbacks and information collected after ten-year experience of apprenticeship for higher education are really articulated and do not enable to assess the experience clearly. Italian regions express a positive commitment and interest about regulatory and financing matters. Adaptability and contract security are critical to improve and promote the use of apprenticeship. To

create a lasting and stable system to support the apprenticeship institute it is necessary to take into account all aspects involved. We should still wait for the results of the recent Leg. 81 and its inter-ministerial decree of December 2015. We genuinely hope they will lead to a more effective regional regulation and give a new stimulus for the promotion of use of apprenticeship without introducing new obstacles.

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United Kingdom

Overview

Dual learning programmes that enable the learners to combine study and work (in a related area) are not very common in England[1]. The opportunities for combination of work and study is limited in the general and academic routes of education, whereas vocational pathways include programmes that enable students to combine work and studies. There has been a long standing preference towards general and academic learning pathways and vocational education remains the less preferred form of study and continues to hold low esteem in England.

UK suffers from a low skills base and there have been persistent calls from the businesses to improve work ready skills of new entrants to the workforce. The results from the OECD show the position of England and Northern Ireland in the bottom four countries for literacy and numeracy skills among 16-24 year olds[2]. The UK holds a poor position on intermediate professional and technical skills, and is forecast to fall to 28th out of 33 OECD countries for intermediate skills by 2020[3]. The weaknesses in the skills base are known to have contributed to its longstanding productivity gap with France, Germany and the US. In 2015, the current UK government published its plans for addressing the productivity problems in the UK in Fixing the Foundations[4] and introduced a series of responses to help improve the productivity of the nation.

One of the approaches for driving productivity is through raising the level of skills available in the economy through education and training. The UK government aims to respond to the calls of businesses for work ready skills and particular emphasis has been placed in developing high quality training routes to help the learners in developing skills tailored to a particular sector or industry while they learn.

The UK government has stated its plans to increase the quality and quantity of apprenticeships to help address the nation's skills shortages and stimulate economic growth[5]. The government is committed to increasing the quality and

[1] Skills and learning are devolved policy areas in the UK, and this paper focuses on programmes in England.
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[4] Fixing the Foundations, Creating a more prosperous nation, July 2015. https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/443898/Productivity_Plan_web.pdf.
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quantity of apprenticeships in England, reaching three million starts in 2020. Apprenticeships are also being promoted as a genuine alternative to university education. This is particularly important when work readiness of university graduates is being debated and degree apprenticeships are offering a debt free means of achieving degrees.

1. The student, learning agency and the employers

1.1. Types of dual learning programmes

Dual learning in England predominantly takes place though the Apprenticeship programmes at lower as well as higher education levels. At higher education levels it can be argued that some Foundation degrees can facilitate dual learning as they enable students to study and be employed in related areas and students can gain credits for work based learning.

Foundation degrees are sub-degree level qualifications (NQF level 5) that can be completed in two years on a full time basis and students can progress to an Honours degree by studying for a top-up year. Foundation degrees, first introduced in 2002-03, were designed to integrate academic and vocational learning through close collaboration between employers and higher education providers. They were intended to equip learners with the skills and knowledge relevant to their employment, therefore meeting the needs of employers and employees. Inputs from employers, sector and professional bodies was expected to be an integral part of the design of Foundation degrees as was linking learning and work and providing students with students with work based learning opportunities (QAA, 2014). Foundation degrees, in particular, those delivered on a part time basis allow students to link learning with work and this is more so the case where students are funded and supported by their employers for upskilling or re-skilling purposes (Saraswat et al, 2015). However, foundation degrees are also studied by students who may not be in employment and full time foundation degrees are studied by school leavers to develop a career in their chosen area of work or profession. Such students undertake work placements which may or may not be paid.

Apprenticeships are a genuine example of dual learning as they offer apprentices a specified route to study as part of their employment contract. An apprenticeship is first and foremost a job and includes learning that often takes place with a training provider. Unlike foundation degrees, apprenticeships can be at HE level (4-7), however most apprenticeship programmes in England are at levels 2 and 3. In 2014/15, there were 499,900 apprenticeship starts in England, the highest number of apprenticeship starts was for Intermediate apprenticeships (Level 2) with 298,300 starts, followed by 181,800 Advanced (Level 3) and 19,800 Higher (Level 4 and above) apprenticeships. Higher apprenticeships represented only

4% of all starts, as opposed to 60% for Intermediate apprenticeships[6]. A large majority (73%) of all starts were concentrated in three sectors: Business, Administration & Law; Health, Public Services & Care and Retail & Commercial Enterprise.

Apprenticeships are currently undergoing a major reform in England[7] and it is anticipated the number of apprenticeship starts will grow year on year. As part of these reforms, the existing apprenticeship frameworks will be replaced by the new employer-led apprenticeship standards that are being developed by groups of employers called Trailblazers. An apprenticeship framework is a document which covers all the statutory requirements for an Apprenticeship programme and includes the names of all qualifications and what each qualification is worth. Over the course of the parliament the volumes of apprenticeship starts are expected to significantly increase on apprenticeship standards and to decrease on apprenticeship frameworks, with a significant shift to apprenticeship standards by 2017 to 2018.

As part of the new standards, new Degree Apprenticeships are being introduced that will allow apprentices to attain a Bachelor's or Master's degree as part of their apprenticeship. These were introduced in 2015 and they are still in their early stages of development. Few Degree Apprenticeships have been approved and others are in development. Degree apprenticeships will be at NQF levels 6 and 7 for Bachelor's and Master's degrees respectively. Therefore, apprenticeships are available at the following levels:

- Intermediate apprenticeship (level 2, equivalent to 5 GCSE passes at grades A* to C)
- Advanced apprenticeship (level 3, equivalent to 2 A level passes)
- Higher apprenticeship (levels 4-7, equivalent to HNC level and above)
- Degree apprenticeship (levels 6-7, equivalent to Bachelor's or Master's degree)

Under the current system, there are over 200 different types of apprenticeships (known as frameworks) available in thirteen broad sector subject areas. Apprenticeships are available in a range of subject areas, such as, Engineering, Computing and IT, Health and Social Care, Business and Management, Construction and Building Services, Hospitality.

A recent briefing paper from the House of Commons library suggests that at present 140 trailblazers involving over 1,200 employers are developing new apprenticeship standards. A total of 129 standards have been published as of August 2015, of which 45 are Higher and Degree Apprenticeships and more than 220 new standards are in development[8].

In addition to apprenticeships, traineeships can also provide dual learning opportunities to students. If the learners are not ready for an apprenticeship, they may be able to start with a traineeship which is an education and training programme with work experience that helps young people prepare for

[6] Briefing paper Apprenticeship Statistics England: (1996 -2015) Number 06113, 5 January 2015.

[7] Owing to the transitionary phase, this paper covers both the frameworks as well as the new standards.

[8] Briefing paper Apprenticeship Policy, England 2015, Number 03052, 8 March 2016.

work or an apprenticeship. A traineeship is designed for young people (16-24 years old) who want to get a job and the skills and experience to boost their career prospects. A traineeship can be particularly relevant for those who have been unsuccessful when applying for an apprenticeship or other job due to a lack of skills and experience. A traineeship can last up to 6 months and provides the essential work experience, work preparation training, and English and maths support (if needed) to secure an apprenticeship or other employment. While a traineeship provides a learner with a work experience placement and help with English and maths (if needed), a trainee does not earn a salary but may be given expenses towards travel and meals.

1.2. Dual aspect of the programmes

Apprenticeships are real jobs and all apprentices earn a salary. There is a requirement that the apprentices are paid at least the national minimum apprentice wage, although in reality a number of employers pay significantly higher salaries. The current national minimum wage for an apprentice is £ 3.30 per hour. Apprentices are also entitled to 20 days paid holiday per year in addition to bank holidays in England.

There is a requirement that the apprentices work for at least 30 hours per week and depending on the level of apprenticeship and the industry sector, apprenticeships can take between 1 and 5 years to complete. Most of the apprenticeship training is delivered in the workplace, so the apprentices can learn the skills that are relevant to their jobs and in line with the employer need. The rest of the training is given by a training organisation, either at the workplace, at a college or via e-learning.

The qualifications taught as part of the current apprenticeship frameworks (please see section on teaching and learning below for details) include competency as well as technical knowledge qualifications. The frameworks also include qualifications for functional skills in English, Maths (and ICT), as well as a focus on 'soft skills' such as creative thinking and team working through Personal Learning and Thinking Skills (PLTS).

It is a requirement that the technical knowledge qualification that is part of the apprenticeship is underpinned by National Occupational Standards (NOS); and be approved by the relevant Sector Skills Council (SSC) or Sector Body. NOS are statements of the skills, knowledge and understanding needed for effective performance in a job role and are expressed as outcomes of competent performance and form the key component of many qualifications. NOS define good practice in the performance of individuals in the workplace based on the functions they perform and specify the standards of performance that people are expected to achieve in their work, and the knowledge and skills they need to perform effectively.

Sector Skills Councils are employer-led organisations that cover specific industries in the UK. There are 16 Sector Skills Councils and 5 Sector Skills Bodies and the Federation for Industry Sector Skills and Standards represents, promotes and supports these 21 Sector Skills Councils (SSCs) and

bodies. Sector Skills Councils and Bodies advise employers about the qualification that are best suited for the apprenticeship and have available a list of training providers that can deliver those qualifications. Whereas the Federation for the Industry Sector Skills and Standards has the responsibility for providing the final apprenticeship certificate and for quality assurance of the apprenticeship process with and on behalf of the Skills Funding Agency, the National Apprenticeship Service and Employers.
The dual aspect of the apprenticeships programmes is maintained through the engagement and involvement of the various industry and employer focussed bodies. The new standards that are currently being developed will further position the dual aspect at the core and place the employers 'in the driving seat'. This will also be accompanied with a change in the manner in which apprenticeships will be developed, delivered and funded (outlined in the section below).

1.3. Funding

Apprentices do not pay the costs of training or assessment and are not charged student fees for their apprenticeships. There are two funding models in place while the Frameworks arrangements run in parallel with the new Standards. Under both the models, the apprenticeships will be funded by the government and the employers. For higher level apprenticeships, learners are not eligible to take out student loans (that other students studying the same technical qualifications – Higher National Certificate/Higher National Diploma/Foundation degree take out as they fund their HE studies) because apprentices are not expected to fund their apprenticeship themselves.
As part of the frameworks arrangements, apprenticeships are funded or part-funded by the government for learners less than 24 years of age. Learners still completing their apprenticeship on the existing frameworks will continue to do so, on their agreed funding arrangements. Generally, the training organisation provides the apprentice's training and receives the funding. The funding varies based on the age of the candidate:

- aged 16 to 18 – all of the course costs up to advanced level apprenticeship qualifications, eg higher diplomas or A-levels
- aged 19 to 23 – half of the course costs
- 24 years and older – may only get a contribution

The employer may receive an apprenticeship grant of £1,500 apprenticeship if:

- they have less than 50 employees
- their apprentice is aged 16 to 24[9]

[9] At present, the age grant aims to support businesses, who would not otherwise be in a position to do so, to recruit individuals aged 16 to 24 into employment though the apprenticeship programme. Employers with fewer than 50 employees, who are new to apprenticeships or haven't enrolled a new recruit or existing employee onto an Apprenticeship programme in the previous 12 months.

The employers can currently claim support for up to 5 apprentices. Employers can apply for funding to cover the costs of their apprentice's qualification if they provide their formal study as well as being their employer.
The new apprenticeship standards will be funded by an apprenticeship levy in England that will be introduced in April 2017. The levy will apply to all employers in both the private as well as public sectors and it will be payable on annual pay bills of more than £3 million and less than 2% of UK employers will pay the levy. Employers with an annual pay bill of less than £3 million will not pay the levy. These employers will continue to have access to government funding to support apprenticeships.
Individual employers' funding for apprenticeship training in England will then be made available to them via a new Digital Apprenticeship Service (DAS) account. Employers will be able to use this to pay for training for apprentices. The service will also support employers to identify a training provider, choose an apprenticeship training course and find a candidate.
The government funding for the new standards will be based on contributions of total agreed price, up to a cap, with employers contributing the other third in cash, all paid to the lead provider in a payment schedule agreed with the employer. In addition there are three available employer incentive payments (for taking on a 16- to 18-year-old, for small businesses and for successful completion). All standards are allocated to one of the five funding caps – for the highest cap, government will contribute up to £18,000 based on an employer cash contribution of £9,000.

1.4. Quality and administration

Apprenticeships at levels 2 and 3 include technical and competence qualifications that are mainly subject to quality assessment by Office for Standards in Education, Children's Services and Skills (Ofsted). Higher apprenticeships that include a HE qualification recognised by the Higher Education Funding Council for England (HEFCE) are subject to quality assurance by the Quality Assurance Agency (QAA). As noted earlier, the Federation for the Industry Sector Skills and Standards has the responsibility for providing the final apprenticeship certificate and for quality assurance of the apprenticeship process.
As part of the new standards arrangement, the government plans to establish a new independent body – the Institute for Apprenticeships – led by employers, to regulate the quality of apprenticeships. The institute will have a small board made up primarily of employers and business leaders to ensure employers continue to drive up apprenticeship quality and an independent chair will lead the board. It is expected that the Institute for Apprenticeships will put in place transparent mechanisms for the approval of apprenticeship standards and assessment plans, and maintain clear quality criteria so that only standards that are valued by employers will be approved and funded[10].

[10] The future of apprenticeships in England: Guidance for Trailblazers, December 2015.

New mechanisms such as the Register of Assessment Organisations and Register of Training Providers are also being put in place that will help to improve quality further. Furthermore, in order to ensure that professional recognition is embodied within the process where required in a particular sector trailblazer groups are working closely with professional bodies throughout the process of designing and developing new apprenticeship standards and assessment plans.

1.5. Role of employers in programme delivery

Employers have a crucial role to play in the delivery of apprenticeship programmes. A number of employers ranging from SMEs to large employers employ apprentices and apprentices can be new or current employees.
When taking on an apprentice, employers are expected to check the apprenticeships frameworks at a suitable level that relates to their industry followed by registering their interest with the National Apprenticeship Service. Employers are then required to find a training organisation that offers apprenticeship for the chosen industry as the training organisation takes the lead responsibility for the training, qualification and assessment of the apprentices. The training organisation advertises the apprenticeship vacancy and after selecting a suitable apprentice, the employer prepares an apprenticeship agreement with the apprentice.
Employers who are interested in employing an apprentice but cannot commit to the length of time needed for a full apprenticeship, can benefit from working with an apprenticeship training agency (ATA). Apprenticeship training agencies recruit, employ and arrange training for apprentices on behalf of employers.
While the content of apprenticeship training is informed by the employers through their inputs in the design and developmental stages of frameworks and when identifying the programmes and units, employers become more involved in the structure, content and delivery during the actual delivery of apprenticeship. A survey with employers on evaluation of apprenticeships suggested that only half of employers (49%) who had received provider training said they were able to influence the structure, content, delivery and duration of the apprenticeship prior to its commencement, whereas 58% indicated that they were able to influence the training during the apprenticeship. Just over a quarter of employers (28%) indicated that they would have liked to have changed something about the content, structure, delivery or duration of their apprenticeship training (BIS, 2014a).
As noted earlier, employers are absolutely central to the development of the new apprenticeship standards. As part of the new apprenticeship standards, employers have been tasked with taking the lead in developing the new apprenticeships standards and assessments. New apprenticeship standards are being developed by employers through employer led trailblazers to ensure the standards they develop are suitable for both large and small organisations

within their sector. Each Trailblazer group is required to include a wide range of employers (at least 10) committed to being involved in the development of the apprenticeship standard.

1.6. Role of providers in programme delivery

Apprenticeships are delivered by a range of further education (FE) colleges in England. Delivery has conventionally been focussed on level 2 and 3. A number of alternative/ private providers that deliver work based training also deliver a wide range of apprenticeships. Apprenticeships are also delivered by employers where they are responsible for both employment and training of apprentices.

Education and training providers work in conjunction with the employers and are often fully responsible for the education and training aspect of the apprenticeship. The providers have the lead responsibility for both the technical and competence qualifications, teaching, learning and assessment, working collaboratively with quality assurance agencies and in reporting the learner data.

As part of the frameworks arrangements, providers could draw funding per learner from the government and minimise the administrative burden on the employers. In many instances, providers assist the employers in the process involved in recruiting the apprentices.

Providers play a crucial role in promoting apprenticeships to learners, parents and employers and they have a responsibility for providing appropriate Information, Advice and Guidance (IAG) to prospective learners. Upon recruitment, colleges are at the heart of ensuring that the programme is flexible to accommodate the learner and employer needs. This may include additional training and support for those who require it, using flexible delivery models including evening, block mode and online models. Colleges/providers also ensure that good quality learning resources in a range of formats are made available to students to suit different learning styles and needs. The providers have the critical role in ensuring that the tutors/trainers are experienced staff who have a good understanding of the subject as well as the practical industry needs.

In addition to teaching and learning, providers need to ensure appropriate assessment techniques are in place. Providers often recruit assessors who are trained to assess apprentices in their workplace.

1.7. Teaching, learning and assessment

As noted above, apprenticeships in England are predominantly delivered at levels 2 and 3, higher level apprenticeships are fewer and degree level apprenticeships are a very recent development. Apprenticeship frameworks vary based on the level of apprenticeship and the sector to which the apprenticeship relates. However, each recognised English framework is

expected to meet a set of minimum requirements as specified in the Specification of Apprenticeship Standards for England (SASE) (BIS, 2015a). Compliance with the SASE is a statutory requirement of the Apprenticeships, Skills, Children and Learning (ASCL) Act.

For intermediate level apprenticeships, each framework must include details on the qualifications related to the sector, functional skills, Employee Rights and Responsibilities (ERR), Personal Learning and Thinking Skills (PLTS) and Guided Learning Hours (GLH) for on-the-job and off-the-job training.

Qualifications included in the framework identify the competencies qualification which must be achieved by the apprentice to qualify for an Apprenticeship certificate, and which is the qualification required to demonstrate competence in performing the skill, trade or occupation to which the framework relates. The competencies qualification for an intermediate apprenticeship must be at Level 2 of the Regulated Qualifications Framework (RQF); underpinned by National Occupational Standards (NOS); and be approved by the relevant Sector Skills Council (SSC) or Sector Body.

An Intermediate Level Apprenticeship framework must identify a technical knowledge qualification which must be achieved by the apprentice to qualify for an Apprenticeship certificate. A technical knowledge qualification is the qualification required to demonstrate achievement of the technical skills, knowledge and understanding of theoretical concepts and knowledge and understanding of the industry and its market relevant to the skill, trade or occupation to which the framework relates. The technical knowledge qualification must be underpinned by National Occupational Standards (NOS); and be approved by the relevant Sector Skills Council (SSC) or Sector Body.

The specification suggests that the Intermediate Level Apprenticeship framework must identify either a competencies qualification at Level 2 and a separate technical knowledge qualification or an integrated qualification at Level 2 which combines competence and technical knowledge elements in which each element is separately assessed.

The frameworks must also include a Functional Skills qualification in English to either Level 1 or Level 2 (or equivalent); a Functional Skills qualification in Mathematics to either Level 1 or Level 2 (or equivalent); and where mandated in the framework a Functional Skills qualification in Information and Communications Technology (ICT) to either Level 1 or Level 2 (or equivalent)[11].

The specification also requires that an apprentice must achieve the standards of attainment set out in the Employee Rights and Responsibilities (ERR) national outcomes. This includes knowledge and understanding of the range of employer and employee statutory rights and responsibilities under Employment Law. Furthermore, level 2 frameworks must specify that an apprentice achieves the standards of attainment set out in the Personal Learning and Thinking Skills (PLTS) national outcomes which includes

[11] Specification of Apprenticeship Standards for England (SASE) 2015 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/465572/bis-15-572-specification-of-apprenticeship-standards-for-england-SASE.pdf.

demonstration of the six skills, namely, independent enquiry, creative thinking, reflective learning, team working, self-management, and effective participation.

An Advanced Level apprenticeship framework has the same requirements for PLTS and ERR required for Intermediate Level apprenticeship framework. Similar to intermediate framework, there is a requirement for technical and competence qualifications (or an integrated qualification) however these qualifications are at Level 3 of the RQF. The functional skills requirements in English and Maths (and where mandated in the framework for ICT) are at Level 2 (or equivalent).

Higher apprenticeship frameworks (at levels 4-7) require a competencies qualification at Level 4 and a separate technical knowledge qualification or. an integrated qualification at Level 4 which combines competence and technical knowledge elements which are separately assessed or an integrated qualification at Level 4 which combines the assessment of competence and technical knowledge elements. Unlike frameworks at levels 2 and 3, there is no requirement to include PLTS or ERR components.

As noted earlier, the existing frameworks are in the process of being replaced by the new employer-designed standards. The new standards are written by employers and it is anticipated that the new standards will help simplify the apprenticeship system and reduce the bureaucracy for employers. The new standards are short and easy to understand and are generally two pages in length. They describe the skills, knowledge and behaviours that an individual needs to be fully competent in an occupation. The new standards provide a specification of what the apprentice needs to be able to demonstrate at the end of their apprenticeship to show that they are a fully competent professional. There is one new standard per occupation and the standards and assessment plans are written by the employers and agreed by the Government before they are published.

At present, Sector Skills Councils and Bodies are responsible for ensuring that the correct evidence for each qualification is verified in order to enable the issue of a valid apprenticeship certificate. Each framework has includes a qualification and successful completion of the set qualifications is mandatory for completion of an apprenticeship.

However, as part of the new standards it is not mandatory for apprenticeships to include technical or competence qualifications. Every apprenticeship must have an end-point assessment which will test the apprentices against the standard to confirm whether or not they are fully competent. Employers and professional bodies have been granted a high degree of freedom to set out what should be assessed, how it should be assessed and by who at the end of the apprenticeship to meet the needs of their occupation. Some of the approaches to end point assessment include involving Professional Bodies or other employers in the end point assessment process, practical trade tests, extended projects, professional interviews or University-style vivas and more (BIS, 2015c).

2. Experience of students

Performance indicators[12] referred to as 'FE choices: performance indicators', relating to further education (up to level 3) in England are made available by the Skills Funding Agency. This information is intended to provide clear and comparable information to help learners and employers make informed choices about post-16 further education and training. These indicators draw on learner satisfaction surveys that focus on learners' satisfaction with their experience at a college/training organisation as well as employer satisfaction surveys that gather information on employers' satisfaction about the service and training they receive for their staff.

The performance indicators include information about further education colleges and other organisations that receive government funding and offer education and training to people over the age of 16 and organisations that offer academic and vocational subjects, apprenticeships and training on and off the job. Therefore the indicators[13] provide information for all individual providers on learner satisfaction and employer satisfaction and include information on apprenticeships programmes at levels 2 and 3. Whilst these indicators can offer information on specific programmes at individual institutions and enable some comparisons between institutions, the purpose of this data is not to evaluate student experience for apprenticeships.

Experiences of students studying on apprenticeships programmes have been evaluated in research commissioned by BIS in 2014 (and prior evaluations in 2012 and 2013). While the surveys in 2012 and 2013 captured the views of apprentices at levels 2 and 3 only, the survey in 2014 sought views of apprentices at all levels and 5,021 apprentices training at Levels 2 and 3, and 801 Higher apprentices took part in the survey (BIS, 2014).

Key findings from the survey include:

- Satisfaction levels with apprenticeships amongst apprentices at levels 2 and 3 was very high. Nine in ten (89%) reported being satisfied with their apprenticeship which was consistent with the results found in previous surveys;
- Those who reported they were very satisfied with their apprenticeship overall, apprentices on frameworks in Business, Administration and Law (74%) and Retail and Commercial Enterprise (73%) rated their training the highest;
- The lowest level of satisfaction with a specific aspect of an apprenticeship was found for the amount of training received and over three quarters (77%) were satisfied with this;

12 https://www.gov.uk/government/statistical-data-sets/fe-choices-performance-indicators.

13 https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/314508/FEC422_201213_FEChoices_Organisations_SectorSubjectArea_SuccessRates.csv/preview.

- The greatest variation was found in attitudes an employer's support during the apprenticeship; younger learners (16-18 years old) were more satisfied than the older apprentices (86% against 79% aged 25+);
- Eight in ten (81%) were reported that they would speak highly of the apprenticeship;
- 6% said they were dissatisfied and the main reasons for this are a lack of support from a provider, college or tutor (45%), the apprenticeship being badly organised (36%), problems with the time frame or the management of time (21%) and a feeling from the apprentice that they did not learn anything new (21%);
- 88% of level 2 and level 3 apprentices reported that they were satisfied with the relevance of their training, although a smaller proportion of apprentices (77%) indicated that they were satisfied with the amount of training they received;
- Similar patterns were noted for higher apprentices- seventeen in twenty (86%) were satisfied overall with their training with Accounting apprentices being more satisfied than the Non-accounting learners (93% vs 83%). Around one-in-twelve (eight per cent) were dissatisfied with their apprenticeship. Although the base size was small, the data mirrored the Level 2 and 3 apprentices with lack of support from the provider, college or tutor, the programme being badly organised and problems with the time frame as reasons for dissatisfaction. A similar proportion (84%) of higher apprentices were reported that they would speak highly of their programme;
- 91% higher apprentices reported that they were satisfied with the relevance of their training, whereas similar to level 2 and 3 apprentices, 75% higher apprentices were satisfied with the amount of training that they received each week (BIS, 2014).

Overall it appears from the evaluation that apprentices at all levels viewed their programmes favourably and perceived that their training was relevant. The survey also captured some additional views of the survey respondents on the impact and benefits that their apprenticeships had offered to them, these are summarised in the next section.

3. Employability outcomes

The apprenticeship programmes are beneficial for both employers and apprentices. On the one hand, they can equip the apprentices with the skills required for their chosen careers and offer a genuine alternative to going to University or even an opportunity to combine an apprenticeship with higher education. On the other hand, employers gain from access to an efficient and effective means of developing the skills of their workforce.

A recent study on measuring the Net Present Value (NPV) of further education in England found that apprenticeships at level 2 and level 3 deliver £26 and £28 of economic benefits respectively for each pound of Government investment and level 3 apprenticeships deliver the highest value, in terms of

both Net Present Value per qualification started and the return on government investment (BIS, 2015b).

The apprenticeship evaluation leaner survey found that the development of work related skills and career development are the main reasons that underpin the choices of apprentices to pursue apprenticeships (BIS, 2014b). For level 2 and level 3 apprentices- over a quarter (27%) suggested the main reason to enrol on an apprenticeship programme was to gain a qualification and nearly half (44%) cited a reason related to developing work-related skills: 23% indicated that they want to enter into or progress in a specific career and 21% cited that it is a good way to develop work-related skills. Higher apprentices offered the same main reasons for choosing as those at Level 2 and 3. However, achieving a promotion was cited by more higher apprentices (27%) than those on lower-level training (20%) (BIS, 2014b).

The study found that apprentices at all levels were very positive about the impact an apprenticeship had on their work situation. For level 2 and 3 apprentices who were currently training- their apprenticeship was reported to give them more appropriate skills and knowledge for their profession or trade (88%) and provide them skills and knowledge to use in a range of jobs and industries (85%). Level 2 and 3 apprentices were also positive about improvements in their competency. Higher apprentices also reported positive impacts: 93% of completed higher apprentices believed that the apprenticeship had provided them better skills and knowledge for their desired work, compared with 82% of those who were in the process of completing their apprenticeships.

Apprenticeships are also recognised to provide valuable opportunities for those who are not in employment, education or training (NEET). The BIS study confirmed that apprenticeships can provide an important route out of unemployment with one in five apprentices (19%) aged 16 to 24 confirmed they were not in education, employment or training (NEET) for three consecutive months prior to starting an apprenticeship. However, the data also suggested that apprentices at levels 2 and 3 are also more likely to find themselves out of employment after completion of apprenticeship if they were NEET prior to enrolment (BIS, 2014b).

Furthermore, the learner evaluation study found that a large proportion of apprentices are employed by their employers after completion of their apprenticeships. Nearly 89% of level 2 and 3 apprentices that had completed their apprenticeship were in either full or part-time employment and 71% of these were with the same employer with whom they completed their apprenticeship. Women (73%) were more likely to stay with the same employer than men (67%) and mature people were also found to be more likely to stay with the same employer (81% of those aged 25 or more) in contrast with 57% of those aged 16 to 18 (BIS, 2014b).

Another large-scale study was commissioned by the government that evaluated the apprenticeships from an employer’s perspective (BIS, 2014a). The study reported findings from a survey that explored the views and experiences of 4,030 employers whose employees had finished an Apprenticeship. Two-thirds (65%) of employers said that all of their

apprentices who finished training between 12 and 18 months from the time of the survey were still working for them. 13 per cent stated that some of their apprentices were still with them, whilst 20% of employers stated that their apprentices had left the work (BIS, 2014a). In other words, 78% employers had all or some of their employees staying with the companies, which suggests that apprentices tend to stay with the employers for at least one year post-completion of the apprenticeships.

Some of the key findings from the survey include:

- Employers were asked to provide an overall satisfaction rating for the Apprenticeship programme and overall, 80% of apprentice employers were satisfied with their main Apprenticeship programme. Three in five (62%) rated it more highly (scoring it at 8-10) including 32% who offered it an especially high rating (score of 9-10), indicating they were very satisfied.
- An analysis based on the different types of employers suggested that :
  - Larger organisations (with 100+ employees) had a higher proportion of 'very satisfied' employers (68%);
  - Also, employers with higher volumes of apprentices were significantly more likely to be very satisfied (68% of those with 10 or more apprentices rated their programme a score of 8-10);
  - Worksites that were part of a larger organisation were also significantly more very satisfied (68% for Head offices *and* branches) whereas fewer single site organisations were very satisfied (58%);
  - Those with level 3 apprentices only were more likely to be very satisfied than those who only offered Level 2 (67% compared with 59%). Likewise, employers who had Level 4 apprentices were more likely to be very satisfied (70%) than those offering Level 2 only.
- Employers were not necessarily aware that the training they were offering was an apprenticeship. 62% employers who were aware that at least some of their trainees had been doing an Apprenticeship offered reasons for why they had opted for Apprenticeships, relative to other forms of training available. The most common reason was business relevance (indicated by 25%) whereas the least common reason was apprenticeships being low cost or free (indicated by 13%).
- Different reasons for providing Apprenticeships were associated with different levels of overall satisfaction. The two reasons that were associated with the highest levels of satisfaction were 'offering Apprenticeship training because it is the best way of improving recruitment and retention' (71% of these employers were very satisfied) or because it is 'the most relevant form of training to their business' (70% were very satisfied).
- These two reasons for providing apprenticeships were reflected in anticipated and achieved benefits. The most commonly anticipated benefit was 'maintaining or improving future skill levels in the business'

(95%), followed by 'improving product/service quality and improving productivity' (mentioned by over 80% of the employers).

- Almost 90% of employers who had anticipated benefits received them. The most 'successful' was 'improving staff morale' (91% of those hoping to achieve this indicated that it was realised), 'improving or maintaining future skills levels' (89%), 'improving productivity' (89%) and 'improving product or service quality' (86%).

The above suggests that apprenticeships can offer favourable employability outcomes for apprentices and both the learner and employer evaluation of apprenticeships suggests that apprentices are likely to stay with their employers. The impact of apprenticeships for the recruiting employers also appears to be positive with improvements in staff morale, productivity and quality.

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Responsibilities

	Germany	England	Italy
Vetnet	the Berufsbildungsgesetz (Vocational Training Act – BBiG) and the Handwerksordnung (Crafts Code – HwO).	It is a requirement that the technical knowledge qualification that is part of the apprenticeship is underpinned by National Occupational Standards (NOS); and be approved by the relevant Sector Skills Council (SSC) or Sector Body	the rules governing education and vocational training fall under the responsibility of Regions, pursuant to art. 117 of the Constitution
	Federal Ministry of Economics and Technology (BMWi) can, "in agreement with the Federal Ministry of Education and Research (BMBF), grant state recognition to apprenticeships by means of an executive order law and enact training regimes for the apprenticeships	Apprenticeships at levels 2 and 3 include technical and competence qualifications that are mainly subject to quality assessment by Office for Standards in Education, Children's Services and Skills (Ofsted).	type 1 and 3 apprenticeships, the training institution, with the involvement of the enterprise, designs the training plan
	federal law sets the requirements and conditions for vocational training that is provided on an in-company basis	Federation for the Industry Sector Skills and Standards has the responsibility for providing the final apprenticeship certificate and for quality assurance of the apprenticeship	State Level • National framework, fixing rights and duties of the enterprises and apprentices • Main features of the apprenticeship contract Regions/Autonomous Province • Local regulation, mainly related to the training aim of the contract • Length of the vocational training (key skills) • Supply of vocational training courses

	Federal Institute for Vocational Education and Training (BIBB) is responsible for the development of regulation for the different occupations	When taking on an apprentice, employers are expected to check the apprenticeships frameworks at a suitable level that relates to their industry followed by registering their interest with the National Apprenticeship Service	Ministry Decree set up the A. Technical and structural capacities of enterprises, as well as the training competences, included the availability of the mentor. B. Duration of apprenticeship contracts C. Training standards (already set up by previous laws and rules at national or regional level) and individual learning plan
		providers have the lead responsibility for both the technical and competence qualifications, teaching, learning and assessment, working collaboratively with quality assurance agencies	The governance of the process is usually regional or owned by a technical regional management or by a technical committee,. These task forces give recommendations and directions for the testing, they monitor the situation and try to assure the complete implementation of the apprenticeships
		each recognised English framework is expected to meet a set of minimum requirements as specified in the Specification of Apprenticeship Standards for England (SASE) (BIS, 2015a	Universities have a leading role in the phases of promotion, planning and fulfilment of apprenticeship courses. Also companies are actively involved in each of these phases
		apprenticeship must be at Level 2 of the Regulated Qualifications Framework (RQF); underpinned by National Occupational Standards (NOS); and be	

		approved by the relevant Sector Skills Council (SSC) or Sector Body	
		The technical knowledge qualification must be underpinned by National Occupational Standards (NOS); and be approved by the relevant Sector Skills Council (SSC) or Sector Body	
HE	studies at the dual institutes of higher education are organized and regulated by the dual institutes	Higher apprenticeships that include a HE qualification recognised by the Higher Education Funding Council for England (HEFCE) are subject to quality assurance by the Quality Assurance Agency (QAA).	At present the apprenticeship of higher education and research is governed by the legislative decree 81 of June 2015, that abrogated the former regulations (D.Lgs. 167/2011) and is integrated in a interministerial decree (MLPS-MIUR-MEF) published on the 21st december 2015, that sets the educational standards and the general criteria for the realization of apprenticeship paths
	study courses at the universities are regulated by the regional education law and by the rules of the education institutions		
	apprenticeship in the dual programmes is regulated by the same laws as the VET system		

Dual study HE

	Germany	**England**	**Italy**
Nr.	2014 already 1.505 dual study programmes	19,800 Higher (Level 4 and above)	Bozen since 2003/2004 there's a dual programme of university studies (bachelor degree) and on job training in companies
	2004 there were 40.982 dual students in companies 2014 the number of students increased to the number of 94.723	Higher apprenticeships represented only 4% of all starts	In 2013, 52,3% of the apprentices were enrolled on a first level post graduation degree (master di I livello), 30,2% on a second level post graduation degree, 10,1% on a PhD course, 4,2% on a master degree, 3% on a bachelor degree, 0,6% on research activities.
	In 2014, 10.010 companies were involved in this cooperation model. In 2015, 34.390 students were enrolled in the Universities of Cooperative Education		In 2014 the number of apprentices who planned to enroll on a bachelor degree increased (from 3 to 12,7%), as well as the number of apprentices for research activities (from 0,6% to 16,2%) and PhDs (dal 10,1% al 14,4%), as shown in the figure below
			Figure 1: number of apprentices in apprenticeship of higher education and research in 2013 and planned for 2014
			beginning the apprentices were 49, 38 finished the training path

mix. Educ.	lecturers usually plan, organize and implement learning programmes together with the company	Foundation degrees can facilitate dual learning as they enable students to study and be employed in related areas and students can gain credits for work based learning	
	The practical phases are conducted in companies	Higher apprenticeship (levels 4-7, equivalent to HNC level and above) Degree apprenticeship (levels 6-7, equivalent to Bachelor's or Master's degree)	
	students are enrolled in the university and have a training contract with the company		
Partners	universities (of applied sciences), the dual institutes of higher education (Berufsakademien) and the Universities of Cooperative Education (Duale Hochschulen 46 dual institutes	An apprenticeship is first and foremost a job and includes learning that often takes place with a training provider	
	regular universities and universities of applied sciences		
Durantion	last three years	Fondation: two years on a full time basis	

skills	Courses are provided in social, technical, economical and art fields	An Advanced Level apprenticeship framework has the same requirements for PLTS and ERR required for Intermediate Level apprenticeship framework. Similar to intermediate framework, there is a requirement for technical and competence qualifications (or an integrated qualification) however these qualifications are at Level 3 of the RQF. The functional skills requirements in English and Maths (and where mandated in the framework for ICT) are at Level 2 (or equivalent)	
		Higher apprenticeship frameworks (at levels 4-7) require a competencies qualification at Level 4 and a separate technical knowledge qualification or. an integrated qualification at Level 4 which combines competence and technical knowledge elements which are separately assessed or an integrated qualification at Level 4 which combines the assessment of competence and technical knowledge elements. Unlike frameworks at levels 2 and 3, there is no requirement to include PLTS or ERR components	

hours school	40% of the study programme is delivered by professors		Post-graduation degree: to acquire the 60 credits necessary to get the degree: • 150 hours in classroom, • 150 hours of distance learning, individual study • 150 hours of training in the company • 150 hours devoted to a project work
	The study course is organized in different modules and semesters		The degree was released after 1500 hours of teaching and 60 university credits
	A semester takes six months		300 hours of formal training in 24 months, 600 hours of individual study and
	three months lasting theoretical training parts are combined with practical phases		
hours company			600 hours of non-formal training in the company
finanzing	state finances the studies at the Universities of Cooperative Education and the companies are financially and organizationally responsible for the training in the company	learners are not eligible to take out student loans	
		• aged 19 to 23 - half of the course costs • 24 years and older - may only get a contribution	

Diplom level	Bachelor programmes (with 210 credit points) and master programmes	Foundation degrees are sub-degree level qualifications (NQF level 5) Honours degree by studying for a top-up year	Most of the announcements involve PhDs and post graduation degrees while only 5 regions involved the bachelor and the master degree
		NQF levels 6 and 7 for Bachelor's and Master's degrees	
		apprenticeships can be at HE level (4-7),	
Salary	get a salary which depends on the occupation, the company and the year of training		
	students have the possibility to apply for BAföG as a supportive funding		
	student/apprentices underlie the health, social care, pension and unemployment insurance		
	have six weeks of vacation a year, which have to be taken during the the practical phases		

Apprenticeships VET

	Germany	**England**	**Italy**
Nr.	348 apprenticeships exist	2014/15, there were 499,900 apprenticeship starts (Level 2) with 298,300 starts, followed by 181,800 Advanced (Level 3)	may-june 2012 only 234 apprentices were hired
	22% (2011) of all companies in Germany are involved in dual learning programmes companies with more than 500 employees - 87% small enterprises (less than 10 employees) - 14%	200 different types of apprenticeships	8 regions actually implemented the apprenticeship of higher education (Piemonte, Lombardia, Veneto, Emilia Romagna, Marche, Sicilia) and research (P.A. Trento and Marche
	2011, there were 1.460.700 young people involved in the dual system		In 2012, 81,1% of apprenticeships contract falls in the first category (Training for professional qualification apprenticeship) with the highest percentage in the Centre area (83,9%). This rate raised throughout 3 year period (2010-2012): in 2010 was at 73.7%, while in 2011 was at 78.3%. Only during the end of the year 2012 the growth of Training for professional qualification apprenticeship has stopped with a slight decrease (-1.3%) while the other kind of contracts

			continued to decrease substantially (-16.6% last year), especially in the North West (-19.6%).
mix. Educ.	organized as a dual system	apprenticeship programmes in England are at levels 2 and 3	three main types of apprenticeship The first and the third lead to an education qualification, at upper secondary, post-secondary and tertiary The second type of apprenticeship is a vocationally oriented scheme for young adults aged 18 to 29, with a marginal component of formal training paid with public resources: a maximum 120 hours in three years, to be carried out inside or outside the company
		• Intermediate apprenticeship (level 2, equivalent to 5 GCSE passes at grades A* to C) • Advanced apprenticeship (level 3, equivalent to 2 A level passes)	The second type of apprenticeship covers 91% of all contracts

		Most of the apprenticeship training is delivered in the workplace	school diploma and the advanced technical specialisation certificate (art. 43 of Legislative Decree No. 81/2015); • apprenticeships for attaining professional skills (art. 44 of Legislative Decree No. 81/2015); • apprenticeships for higher training and research (art. 45 of Legislative Decree No. 81/2015).
		Employers are then required to find a training organisation that offers apprenticeship for the chosen industry as the training organisation takes the lead responsibility for the training, qualification and assessment of the apprentices	
Partners	training cooperation between companies and vocational schools	workplace, at a college or via e-learning	Technical education (Istruzione Tecnica) is provided by state-run Istituti Tecnici (Technical Schools),
		Apprenticeships are delivered by a range of further education (FE) colleges in England.	2. Vocational education (Istruzione professionale) is provided by State-run Istituti professionali (Vocational schools, e.g. in agriculture, industry and crafts, services

			sectors)
Durantion	2 and 3,5 years	1 and 5 years	Technical education: five years vocational education: three years
skills	theoretical knowledge and technical skills (operation planning, technology, technical and business studies) (languages, mathematics, economics, social sciences etc.)	technical knowledge qualifications functional skills in English, Maths (and ICT), soft skills' such as creative thinking and team working through Personal Learning and Thinking Skills (PLTS)	
		each framework must include details on the qualifications related to the sector, functional skills, Employee Rights and Responsibilities (ERR), Personal Learning and Thinking Skills (PLTS) and Guided Learning Hours (GLH) for on-the-job and off-the-job training	
		technical knowledge qualification	
		Functional Skills qualification in English to either Level 1 or Level 2 (or equivalent); a Functional Skills qualification in Mathematics to either Level 1 or Level 2 (or equivalent); and where mandated in the framework a Functional Skills qualification in Information and Communications Technology (ICT) to either Level 1 or	

		Level 2 (or equivalent)	
		knowledge and understanding of the range of employer and employee statutory rights and responsibilities under Employment Law Personal Learning and Thinking Skills (PLTS) independent enquiry, creative thinking, reflective learning, team working, self management, and effective participation	
hours school	12 hours per week, of which 8 hours for vocational subjects and 4 hours for general subjects	evening, block mode and online models	
hours company	three or four days a week	30 hours per week	
finanzing	dual programmes are financed by the state and the companies	Apprentices do not pay the costs of training or assessment and are not charged student fees	
	2012, about 57.2% of the costs of the VET system were assumed by the state (federal state, regions, local authorities), contribution of companies amounted to 42.8% The average costs for one apprentice is	the apprenticeships will be funded by the government and the employers	Both the government and the regions financially supported the implementation of the apprenticeship

	calculated with an amount of 15.288,00 Euro		
		apprenticeships are funded or part-funded by the government for learners less than 24 years of age	6.000 € for each apprentice hired with a full time contract and 4.000 € for a part time contract 2012 and 2013 145 companies received the funding
		the training organisation provides the apprentice's training and receives the funding • aged 16 to 18 - all of the course costs up to advanced level apprenticeship qualifications, eg higher diplomas or A-levels	
		The employer may receive an apprenticeship grant of £1,500 apprenticeship if: • they have less than 50 employees • their apprentice is aged 16 to 24 The employers can currently claim support for up to 5 apprentices	
		draw funding per learner from the government and minimise the administrative burden on the employers	

Salary	student/apprentices underlie the health, social care, pension and unemployment insurance	minimum wage for an apprentice is £ 3.30 per hour	
	have six weeks of vacation a year, which have to be taken during the the practical phases	20 days paid holiday per year in addition to bank holidays in England	
Diploma			Technical education: high technical school diploma the certificate also allows university entrance or entry into post-secondary education
			vocational education: degree of professional qualification The diploma can be used to enter the working world to continue on to the post-certificate courses, two years, also run by Vocational Schools or to attend the higher level vocational training courses run by the Regions (IFTS).

Opportunities - weekness

	Germany	England	Italy
+	reduced costs for recruitments and increased corporate loyalty	genuine alternative to university education	companies' productivity, Italian economic system development, employment opportunities
	students, they are more motivated, they learn better how to link practice and theory, and they have opportunities to develop career networks	opportunity to combine an apprenticeship with higher education	(a) Combine study and work, allowing individuals to acquire work experience while improving their skills in line with employers' requirements. (b) Help reduce skills mismatch by being responsive to labour market change. (c) Offer a stepping-stone into the labour market; apprentices receive a recognised qualification for an occupation, valid across workplaces, and certifying possession of a full set of knowledge, skills and competences to perform that occupation. (d) May result in a job offer from the company where the training was completed

	recruiting future staff	employers gain from access to an efficient and effective means of developing the skills of their workforce	• familiarising with the entrepreneurial world via a real employment relationship; • learn transversal, technical and operational skills in a context that is different from school and allows the contextualisation of knowledge; • facilitate and reduce the time for access to the labour market; • gain income already during training; • obtain a formal qualification identical to that of full-time path attendees, while working
	A good vocational education helps to avoid low wages		
-	granting of the main responsibility for the training to the companies		small dimension of Italian companies, limits of the legislation, implementation problems
	orientation of academic studies towards job profiles		
	neglect of life-long-learning		

Employment

		Germany	**England**	**Italy**
VETnet		average 61 % of the trained apprentices stay at the training company companies with more than 500 employees - (75%).	78 percent employers had all or some of their employees staying with the companies	During the year 2007: the number of employees with a contract of apprenticeship raised more than 600,000 units
		amount of people with a dual programme education is 11% of the men and 26.8% of the women		· During the year 2009: the number of young people (15-29 years old) employed with a contract of apprenticeship remained static at 17%
	Unemployment	2011, 28.9% of the graduates were without a job		
HE				
		83 % of the graduates already had a job, 84% of them with an open-ended contract		
	Unemployment	2% were without a job		