CEDEFOP
European Centre for the Development of Vocational Training

EN

Financing apprenticeships in the EU

CEDEFOP

Financing apprenticeships in the EU

Luxembourg: Publications Office of the European Union, 2020

Please cite this publication as:
Cedefop (2020). *Financing apprenticeships in the EU.* Luxembourg: Publications Office. http://data.europa.eu/doi/10.2801/36563

A great deal of additional information on the European Union is available on the Internet.
It can be accessed through the Europa server (http://europa.eu).

Luxembourg:
Publications Office of the European Union, 2020

This publication contains UK data and analysis based on research conducted before the United Kingdom's exit from the European Union on 31 January 2020. EU averages or other statistical parameters including the UK reflect the situation in the European Union before 31 January 2020 and should not be considered as representative of the situation in the EU thereafter. In this context 'EU-28' refers to the 28 EU Member States prior to 31 January 2020.

PRINT
ISBN: 978-92-896-3095-5
doi:10.2801/4720
TI-04-20-716-EN-C

PDF
ISBN: 978-92-896-3096-2
doi:10.2801/36563
TI-04-20-716-EN-N

Designed by Missing Element Prague
Printed in the European Union

The **European Centre for the Development of Vocational Training** (Cedefop) is the European Union's reference centre for vocational education and training, skills and qualifications. We provide information, research, analyses and evidence on vocational education and training, skills and qualifications for policy-making in the EU Member States.

Cedefop was originally established in 1975 by Council Regulation (EEC) No 337/75. This decision was repealed in 2019 by Regulation (EU) 2019/128 establishing Cedefop as a Union Agency with a renewed mandate.

Europe 123, Thessaloniki (Pylea), GREECE
Postal address: Cedefop service post, 57001 Thermi, GREECE
Tel. +30 2310490111, Fax +30 2310490020
Email: info@cedefop.europa.eu
www.cedefop.europa.eu

Foreword

During the previous recession, and in its aftermath, policy-makers in the EU often turned their attention to apprenticeships. They saw this as one of the ways to address high youth unemployment and to complement the efforts of the EU Member States to move back to growth. Apprenticeships are undertaken to guarantee faster transitions of young people into jobs, offering the potential to reduce the disparity between skills supply and demand on the labour market that usually characterises school-based VET provision. They seem to escape the marked coordination failures between school-based VET and labour market actors due to shared governance, responsibility and financing between education and labour market.

The Covid-19 pandemic has severely disrupted labour markets throughout the EU and affected apprenticeship provision, as enterprises cut costs to survive. At the same time, a rise in unemployment among young people is looming. Safeguarding provision of apprenticeships and their quality is more relevant than ever; and, more than ever, financing is in focus as part of Member States' support to enterprises to provide apprenticeship placements during and after the crisis.

Work-based learning, and particularly apprenticeship, has been constantly a priority at European level, from the Bruges communiqué ([1]) to the Riga conclusions ([2]) and, more recently, with the Council recommendation on a European framework for quality and effective apprenticeships ([3]). As set out in the recent proposal for a Council recommendation on *A bridge to jobs – Reinforcing the Youth Guarantee* ([4]), this commitment will be reinforced in the years to come. As part of the Cedefop cooperation with the European Commission, Member States and European social partners in making informed policies in the field of apprenticeships through its research and

([1]) https://doi.org/10.2766/13842
([2]) www.izm.gov.lv/images/RigaConclusions_2015.pdf
([3]) https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32018H0502%2801%29
([4]) https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2020:277:FIN

policy learning activities, this study focuses on the crucial aspect of financing of apprenticeships.

Cedefop's online financing apprenticeships database ([5]) provides unprecedented information on financing arrangements for all relevant apprenticeship schemes in EU countries and the UK. It looks at the main costs and who pays for them, the financial flows between the main actors involved (with a focus on the incentives for employers and individuals) and financing mechanisms for collection and redistribution of funds. Drawing on this wealth of information, this study demonstrates the wide variety of ways in which apprenticeships are financed and proposes a typology of financing arrangements for apprenticeships to manage this diversity.

We trust that this publication will contribute to better understanding of the patterns of financing apprenticeships, encourage policy learning and guide future research.

Jürgen Siebel
Executive Director

Antonio Ranieri
Head of department for learning and employability

([5]) www.cedefop.europa.eu/en/tools/financing-apprenticeships

Acknowledgements

This report was produced by Cedefop, Department for learning and employability, under the supervision of Antonio Ranieri.

Patrycja Lipińska and Vlasis Korovilos, Cedefop experts, were responsible for the publication and research conducted under the project *Financing and attractiveness of VET*.

Cedefop would like to acknowledge the consortium led by 3s Unternehmensberatung GmbH, which carried out the research and drafted their findings under the team leader Jörg Markowitsch. The consortium included Visionary Analytics and IKEI.

Thanks go also to the participants of Cedefop's validation workshop *Financing apprenticeships in the EU* for their helpful feedback on the research findings.

The report was reviewed by Ramona David Craescu, Cedefop expert. The work was carried out under Cedefop's service contract No 2016-0126/AO/DLE/PLI/Financing Apprenticeships - dual VET/007/16.

Contents

Tables

Figures

Boxes

Executive summary

The study *Financing apprenticeships in the EU* adds to a series of research and policy activities carried out by Cedefop to support development of apprenticeships and to inform on financing vocational education and training (VET). It presents the first systematic attempt to collect and analyse financing information on all apprenticeship schemes identified in the EU countries and the UK. The results of the study are presented in two forms: the online database ([6]) which provides detailed information on financing arrangements ([7]) for each apprenticeship scheme covered by the study; and this report, which focuses on the main findings, offers comparisons of the financing arrangements for apprenticeships and proposes an analytical typology.

The study covers 29 apprenticeship schemes ([8]) in 21 EU countries and the UK ([9]). The amount of data collected is significant compared to what has been previously available. While previous research focused on specific issues, such as cost-benefit of apprenticeships from the viewpoint of employers, this study took a more comprehensive approach by looking at the overall financing arrangements for apprenticeship. It aimed at exploring the main costs of the main actors involved in apprenticeships (employers, apprentices, State, schools and other training providers), the mechanisms

([6]) www.cedefop.europa.eu/en/tools/financing-apprenticeships

([7]) 'Financing arrangement' refers to the whole system of apprenticeship scheme financing; see Annex 1 for more details. Annex 1 also provides definitions of other financing-related concepts used in the study, such as 'cost', 'financial flow', 'financial instrument' or 'apprentice remuneration'.

([8]) The definition and the list of apprenticeship schemes covered by the study can be found in Section 1.2.2 of this report. Where one apprenticeship scheme exists in a given country, mentioning the country is the same as mentioning the respective scheme. Where more than one apprenticeship schemes exists in a given country, mentioning the country is complemented with the name(s) of the relevant scheme(s).

([9]) Six countries are not covered by this study. At the time of research, Czechia had no apprenticeship scheme, in Bulgaria and Latvia apprenticeship schemes were only piloted and their financing models were being developed, and in Lithuania and Slovenia the schemes only marginally complied with the definition of apprenticeship adopted for the purpose of this study. The study also does not cover the schemes with significant regional differences in implementation of the same national law on apprenticeship. Thus, the study does not include Spain where implementation of formación dual varies greatly across regions, which caused difficulty in assessing the scheme's compliance with definition of apprenticeship adopted for this study.

allowing redistribution of financial resources among them (with a focus on incentives for employers and individuals to take up apprenticeship) and the volumes of funding involved.

The data were collected through a literature review and national expert surveys during 2017. The surveys revealed that the data on apprentice remuneration (gross wages or allowances) were available for most of the schemes covered by the study; this was therefore analysed in more depth. The data on social insurance costs were also reported for many apprenticeship schemes. In contrast, some other data concerning on-the-job training, such as costs of instructors/in-company trainers, costs of material/equipment and exam fees of apprentices appeared to be not available/not accessible for most of the schemes. However, the study provides some country/apprenticeship scheme examples for these cost categories to illustrate the level of the costs and by whom they are covered. With regard to the costs of off-the-job training, some data were available and could therefore be presented in the database only for a few schemes: Austria (dual apprenticeship), Denmark, France (apprenticeship contract), Germany, Ireland (apprenticeship, employer-led apprenticeship) and Italy (type 1 and type 3).

The main reason for low availability of data on financing of apprenticeships is that it is not (systematically) collected or monitored by relevant bodies. In addition, some data on financing apprenticeships could not be obtained due to the difficulty in disaggregating the data which was lumped together for different types of education and training, different types of beneficiaries or multiple years.

In most countries, financing apprenticeship is a shared responsibility of the State and employers. In five of the countries analysed (Denmark, Ireland, France, Hungary and the UK) it is not only training companies that contribute to the financing by paying apprentices remuneration and covering other on-the-job training costs; all companies ([10]) contribute to a national training fund which, in turn, covers part of the costs of apprenticeships. For some exceptional apprenticeship schemes the costs (including apprentice remuneration) are covered (predominantly) by public budgets (apprenticeship programmes in Portugal or the supra-company apprenticeship in Austria). Vocational schools and other training institutions providing off-the-job training usually have fixed budgets or budgets depending on input indicators (such as number of students). Only in four countries (Denmark, the Netherlands,

([10]) In the UK, all companies above certain payroll threshold.

Finland and the UK (apprenticeship and degree level apprenticeship), were found cases in which parts of the budget of training providers are allocated based on performance indicators (such as number of graduates and number of apprenticeship contracts with companies).

The level of apprentice remuneration (wage or allowance) ([11]), as set in national regulations (law or collective agreements), varies considerably across countries/apprenticeship schemes even when purchasing power parity is considered and if it is related to pay per hour for on-the-job training. Remuneration may vary also significantly within apprenticeship scheme and depend on apprenticeship year (in most of the countries), trade (mostly in countries with more pronounced apprenticeship traditions, including Denmark, Germany, the Netherlands and Austria (dual apprenticeship)), apprentice age and/or qualification level. In the Netherlands, apprentice remuneration varies across all these dimensions. Only for six apprenticeship schemes (Estonian, Greek, Portuguese, Romanian, Slovak and the Swedish education contract) does remuneration not vary during the whole apprenticeship programme.

Apprentice remuneration is mainly set centrally and the predominant mechanism for remuneration setting is the share of national minimum wage. In some schemes – Austrian dual apprenticeship, German, Finish, Danish, Irish apprenticeship, and Dutch – the wage is set through collective agreements. In the Irish employer-led apprenticeship and the Cypriot scheme apprentice wages are largely based on individual employer-apprentice agreements. The study shows that where collective agreements are used to set apprentice remuneration the variation in wages is high (due to differences in economic sectors) and the average level of remuneration is also high. When apprentice remuneration is set centrally, variation tends to be lower (or there is no variation at all) and the average level of apprentice remuneration tends to be medium or low. Exceptions include the schemes in France, Luxembourg and the UK.

It should be noted that employers' costs related to apprentice remuneration may be reduced through financial support provided by the State through grants (from training funds or general taxation) or tax deduction. These financing instruments may be designed to subsidise the apprentice wage costs specifically, as it is for example in Denmark, where the key role of the national training fund (Employers' training contribution, *Arbejdsgivernes*

([11]) See Section 2.1.1 or Annex 1 for the definitions of wage and allowance adopted in this study.

Uddannelsesbidrag, AUB) is to reimburse the employers the part of the wages paid while the apprentices are at school. Alternatively, the apprentice wage may be only one of many eligible costs. In the Dutch scheme, for example, the State offers some lump sum payments (such as subsidy practical learning, paid to a company per apprentice) which provide general compensation to employers allowing to cover (partly) the costs related to apprenticeship, but the budget is not labelled to any specific cost. Similarly, in the Austrian dual apprenticeship scheme, the State offers companies a lump sum per apprentice ('basic subsidy') which does not refer explicitly to any specific type of costs.

The study analysed the financing instruments supporting employers to cover apprenticeship costs: training funds based on levies (national and examples of sectoral ones); tax incentives and grants for companies (financed from general taxation, outside of training funds); and instruments supporting apprentices, i.e. grants for individuals. The study focused on the major financing instruments in terms of the amount of funds distributed and/or number of beneficiaries (apprentices or companies). Smaller, more specific incentives such as those targeting particular companies or disadvantaged groups of apprentices are underrepresented. Grants for companies were the most frequently reported financing instrument, followed by tax incentives. Support for apprentices was reported for one third of all schemes.

The instruments show large variations in terms of volumes of funding involved, education levels/types supported and target groups addressed. While most training funds and tax incentives for companies included in the study did not solely finance apprenticeship but also other types of education and training (such as continuing vocational training), the majority of the grants analysed (for both companies and individuals) were specifically designed to support apprenticeship training.

Instruments are deeply embedded in national contexts and reflect national traditions of vocational education and training, social dialogue, and the political system. While most of the training funds analysed have a relatively long history, being established in the 1970s-80s, most tax incentives and grants were established in the 2000s or even in the 2010s. Regardless of the length of their operation, instruments witnessed various changes to their financing or governance mechanisms, types and levels of support disbursed to beneficiaries, target groups eligible to receive support, and other characteristics. Continuing efforts to adjust the design of the

instruments reflects countries' endeavours to find the right balance between their strengths and weaknesses and increase their effectiveness.

Financing instruments are the key to effective cost-sharing in apprenticeship schemes. Instruments for companies can alleviate the company financial burden of apprentice wages and social insurance costs, wages of in-company trainers, costs of training material and equipment and various other costs. Individuals also benefit from financial support to their travel and subsistence costs. Still, the study showed that the financing instruments are rarely monitored or evaluated. This deprives governments and other actors of evidence-based data for improving the effectiveness of financing arrangements for apprenticeships, and is a major detriment to comparative research.

Given the huge variety of the financing arrangements across apprenticeship schemes, it is difficult to conduct reasonable international comparisons. Nevertheless, the study tried to develop models and concepts to manage this diversity and work towards a (possible) typology of financing arrangements for apprenticeships. Taking as a starting point a basic model of direct financial flows between the four main actors in apprenticeships (employers, apprentices, State, schools/other training providers), the study suggested distinguishing between three elementary models of financing apprenticeships: a split financing model in which costs for off-the job training are basically paid by the State and costs for on-the-job training by employers; a jointed financing model in which costs are also shared, but in which employers do not just individually but also jointly contribute (including non-training companies) to the financing of apprenticeship via training funds; and a 'single' financing model in which the costs are paid (predominantly) by the State, including apprentice remuneration. The majority of apprenticeship schemes follow the split model, while only three follow the single model: Austria (supra-company apprenticeship), Portugal and Sweden (education contract).

The single model is characterised by a low degree of financial interaction as there are no out-flows from employers. In the jointed model, a higher degree of financial interaction in terms of money collected and reallocated can be observed, not only in relation to the single model but also in comparison to the split model. The funds collected through training levies are reallocated to employers, apprentices or sometimes also to the training providers. In Denmark, the collected funds are used to reimburse employers the costs of wages when the apprentice undertakes the school-based part of the programme. In Ireland (apprenticeship), the National training fund does

not directly provide funding to employers of apprentices, but it covers the 'training allowance' (grant for individuals) paid to their apprentices during off-the-job training periods to support them in their travel, accommodation and living costs. The same fund also covers costs incurred by training providers who are responsible for providing the off-the-job training. The training funds are usually set at national level as the examples of Denmark, Ireland, France, Hungary and the UK show. In the Netherlands, however, several sectoral training funds exist which cover a substantial part of all apprenticeships. In the UK, apart from the national Apprenticeship levy, the sectoral training fund in the construction sector (CITB) is also in place.

The three models served as a basis to arrive at a more elaborated typology or grouping of apprenticeship financing arrangements which also considers apprentice remuneration in terms of its amount, variation and the way it is set. Apprenticeships following the split model (the State pays for off-the-job training, employers pay for on-the-job training) basically falls into two groups: schemes in which apprentice remuneration is relatively high, predominantly collectively set, and varies significantly (Germany, Austria (dual apprenticeship), Finland); and apprenticeship schemes for which apprentice remuneration is medium (Belgium, Estonia, Greece, Malta) or low (Croatia, Poland, Slovakia), centrally set, with little variation (Greece, Croatia, Poland, Slovakia). In apprenticeship schemes which use training funds (the jointed model) apprentice remuneration is either set collectively (Denmark, Ireland and the Netherlands) or centrally (France (apprenticeship contract), Hungary and UK). Irrespective of the pay setting mechanism, apprentice remuneration in this group is also relatively high and shows considerable variations. As expected, apprentice remuneration is low or medium. Centrally set and with little variation for the three (predominantly) State-financed apprenticeship schemes following model 3 in Austria (supra-company apprenticeship), Portugal and Sweden (education contract).

The typology presented above indicates that there is a relationship between the apprentice remuneration levels and the way they are set. Apprentice remuneration negotiated by social partners at sectoral or trade level tend to be higher than the one which is centrally set (and often related to national minimum wages). Apprentice remuneration is also higher and more dispersed in larger, traditional apprenticeship schemes which cover a wider range of trades. Additionally, we may also assume that the existence of national training funds can have a positive impact on the remuneration levels. The data supports this assumption, although Hungary, where apprentice

remuneration is low although the national training fund is in place, seems not fit to this overall picture and deserves more attention in future research.

The proposed typology should be perceived as an explorative endeavour and subject to continuous refinement. For example, to make the typology more reliable, the data on actual remuneration (as opposed to the regulated one which the typology is based on) and more detailed information on variation in remuneration could be collected and analysed. Further, additional financing aspects could be considered, such as the overall amount of financial support provided to employers and apprentices via financing instruments. The typology could also benefit from giving due attention to financing off-the-job training (separate from on-the-job training) given the overall public resources involved in apprenticeship programmes. To do so, financing concepts and theoretical models could be further developed, and efforts put into collecting detailed information on off-the job training. Using smaller samples of countries could aid such an exercise and allow for more in-depth study. Alongside financing aspects (which the current typology is exclusively based on), other factors, potentially explaining the differences in financing arrangements/indicators, could be considered for apprenticeship classification purposes. For example, composition of target group (young people or adults) could be taken into account to explain differences in the level of apprentice remuneration. As a further development, it would also be worthwhile to look at the links between financing and governance aspects, particularly the role of social partners in managing, (co)determining and proving funding for apprenticeship.

CHAPTER 1.

Introduction

1.1. Background

Vocational education and training (VET) in form of apprenticeships has gained much attention in recent years, in Europe and globally. In Europe apprenticeships have mainly been seen as a policy tool to tackle some of the socioeconomic challenges that the European Union faces, in particular high youth unemployment ([12]), as well as mismatch between the skills developed through the education system and those expected by employers. Well-established apprenticeship schemes with close links between the education system and labour market have been associated with the relatively low youth unemployment rates observed in some EU Member States such as Denmark, Germany, the Netherlands and Austria. Nevertheless, apprenticeship systems in Europe have faced various challenges, as recent research shows.

Due to demographic developments, the number of young people entering apprenticeships has decreased in the last decade, as seen in Germany, Hungary and Austria. In Germany, the target group for apprenticeship is shrinking as the number of school leavers has been steadily declining. The world economic crisis in 2008 has had a negative impact on the number of enrolments, for instance in Ireland or the Netherlands, because apprenticeships are more volatile as regards economic cycles.

A negative image or lack of attractiveness of some apprenticeship schemes has been seen, while enrolment levels increased in other parts of the education system. For example, in Denmark, due to the perceived low reputation of IVET over time, fewer young people have opted for it as their first choice on leaving lower secondary education (compulsory schooling). In countries without a strong or well-developed vocational education and training, apprenticeship pathways suffer from a lack of parity of esteem (OECD

([12]) The issue has been addressed in a number of EU documents and financing instruments: the EU communications on *New skills for new Jobs* and *Rethinking education*, the 2020 flagship initiative *Agenda for new skills and jobs*, the Bruges communiqué, *Youth on the move* initiative, the 2012 Youth employment package, the 2013 *Youth employment* initiative, *Erasmus+* 2014-20, activities developed by the European alliance for apprenticeship (EAfA), etc.

and ILO 2017, p.13). Also, there is a shift from VET (including apprenticeship) towards higher education as the academisation debate in Germany shows.

However, a reduction in apprentices is not solely related to shrinking numbers of applicants but also to a lack of apprentice places offered. Undersupply of apprenticeship places in relation to demand has been reported for Denmark, Germany, France, the Netherlands and Austria. This may relate to occupational matching problems: there are increasing unfilled training places in certain occupations and, at the same time, increasing young people unable to find a suitable training place and therefore left without an apprenticeship (Department of Education et al. 2017, p.83).

And now apprenticeship will face new challenges in relation to the Covid-19 pandemic crisis, as a new recession is on the horizon.

Given these challenges and the very high expectations placed on the positive labour market outcomes of apprenticeship provision, it may be that an increase in shared funding approaches for apprenticeships across Europe has occurred. These are important as they may have an influence on the reconciliation of different interests through the distribution of costs and benefits of apprenticeships; further, well-designed financing incentives can help attract learners, create value for employers, and support economic growth. This is also reflected more recently, by the European framework for quality and effective apprenticeships, which has been brought forward as part of the 2016 *New skills agenda* for Europe, also contributing to the European pillar of social rights. Among the 14 criteria set out to define quality and effective apprenticeships, the framework refers to cost sharing arrangements between employers and public authorities; and to financial and/or non-financial support that should be provided, particularly for small, medium-sized and micro-companies.

Initial discussions around the revival of apprenticeships in the aftermath of the financial crises focused on the supply of apprenticeships and the diverse forms of provision, for instance: more school-based or company-based? See, for example, the OECD thematic studies on work-based learning in vocational education and training (VET) ([13]). This has been complemented by a new focus of the discussion on governance and financing of apprenticeships (Cedefop, 2016). While this has resulted in an improved understanding and first clarifications of different modes of the governance and financing of

([13]) See http://www.oecd.org/education/skills-beyond-school/work-based-learning-and-apprenticeships.htm

apprenticeships, research on the financing issue at the international level has not progressed very far. There are examples of cross-country cost-benefit analysis using small samples of countries (e.g. UEAPME 2016, Department of Education et al. 2017), overviews on financial incentives for apprenticeship (e.g. Kuczera, 2017b) and handbooks for policy-makers and social partners on financing work-based learning (e.g. ETF, 2018). However, there has been no systematic analysis of different financing models and instruments across all apprenticeship schemes in the EU. Further, comparative studies on financing arrangements are limited. This can be explained by at least two reasons: publicly available information on financing of apprenticeships is very limited (Section 1.4) and data collection practices across countries differ a lot which limits comparability.

The Cedefop study *Financing apprenticeships in the EU* aims to help to fill the identified research gap. The results of the study are presented in two complementary formats:

(a) the online database https://www.cedefop.europa.eu/en/tools/financing-apprenticeships which provides detailed information on:
   (i) financing arrangements for apprenticeships at system level, including the main sources of funding and financial flows, the characteristics and the level of some apprenticeship costs (such as apprentice wages/allowances, social insurance costs) and the volumes of funding involved;
   (ii) descriptions of the main financing instruments in place to incentivise employers to provide apprenticeship places and encourage individuals to take on apprenticeship training. These include training funds based on levies, tax incentives for companies and grants for individuals and companies (outside of training funds);

(b) the present report, which focuses on the main findings and offers comparisons of the financing arrangements across apprenticeships schemes including their preliminary typology.

1.2. Objectives, scope and structure of the study

1.2.1. **Objectives**

The main objectives of Cedefop's study on financing apprenticeships in the EU are:

(a) to provide an overview of financing arrangements ([14]) for apprenticeship schemes identified in the EU Member States;
(b) to analyse and compare the financing arrangements of the identified apprenticeship schemes and develop their typology.

1.2.2. **Scope**

To achieve these objectives, it is necessary to ascertain the following:
(a) what apprenticeships schemes can be found in the EU Member States and the UK?
(b) what are the cost categories related to the identified apprenticeship schemes and which of those should be covered by the study?
(c) what are the key features of the financing arrangements in the identified apprenticeship schemes: who pays for particular costs and which are the main financial flows between actors involved? What are the key financing instruments used to incentivise employers and individuals and which of those should be included in the study?

1.2.2.1. *Apprenticeship schemes*

Defining 'apprenticeship'

There are numerous international definitions of 'apprenticeship' (by Cedefop, Eurostat, ETF, European Commission, ILO, OECD) in addition to different national understandings of this term. The task of identifying apprenticeship schemes to be included in this study builds on the results of another Cedefop study, *Apprenticeships – a cross national overview* (Cedefop, 2018). For the purpose of this study, those schemes are included which fully or partially comply with Cedefop's definition of 'apprenticeship' (Cedefop, 2014, p. 25): 'Systematic, long-term training with alternating periods at the workplace and in an educational institution or training centre. The apprentice is contractually linked to the employer and receives a payment (wage or allowance). The employer assumes responsibility for providing the trainee with training leading to a specific occupation.'

The schemes that comply with at least four out of six operational criteria set on the basis of the above definition (Annex 2) are identified as

([14]) Financing arrangement refers to the whole system of financing of apprenticeship scheme; see Annex 1 for more details. Annex 1 also provides definitions of other financing-related concepts used in the study, such as 'cost', 'financial flow' and 'financial instrument'.

'apprenticeship schemes'. The schemes covered by the study generally feature the following: there is a systemic alternation between training in a company and learning at school/training provider or compulsory learning and/or working in a company, in combination or not with learning at an education and training provider ([15]); apprenticeship leads to formal qualification; apprentices are contractually linked to the employer; apprentices receive payment in the form of wages or allowances ([16]).

Apprenticeship schemes included in the study

Some 29 apprenticeship schemes (that fully or partially comply with Cedefop's definition) covering 21 EU countries and the UK are included in this study (Table 1) ([17]).

Bulgaria, the Czechia, Latvia, Lithuania and Slovenia are not included. At the time of this research, Czechia had no apprenticeship scheme; in Bulgaria and Latvia apprenticeship schemes were only piloted and their financing models were in the process of being developed; and the apprenticeship schemes in Lithuania and Slovenia only marginally complied with Cedefop's definition.

Nor does the study cover the schemes where there are significant regional differences in implementation of the same national law on apprenticeship. In Spain, implementation of *formación dual* differs greatly across regions: for example, in some regions employers need to pay apprentice wages/allowances but in other regions this is not obligatory. Due to difficulty in assessing compliance with definition adopted for this study, Spanish scheme is not analysed.

However, the study covers regional apprenticeship schemes in a given country if they could be considered as sufficiently distinct in terms of origin, and governance, as with apprenticeship schemes in Wallonia and Flanders.

The study also distinguishes the apprenticeship schemes which have distinct financing arrangements. For example, Austria could be seen as just one apprenticeship scheme: apprentices receive the same qualification in the supra-company apprenticeships as in the traditional dual apprenticeship.

([15]) In some schemes the alternation may be not compulsory but, in practice it takes place.

([16]) There are some exceptions: e.g. in Portugal the contract is signed between the training institution and the company (and not between trainee and the company), in Austrian (supra-company apprenticeship), training can also take place in workshops and there is no legal requirement that it has to be at a company.

([17]) The definition applied in the study may differ from national understanding of 'apprenticeship': some apprenticeship schemes may be missing and some may be included against what countries understand as 'apprenticeship'.

They have to pass the same examination and there is just one Vocational Training Act but there are two distinct financing models. However, it could equally be argued that there are two different apprenticeship schemes with different target groups and different financing models. This report takes the latter view, despite the fact that many would recognise it as a single apprenticeship training. The question is what can be considered as the main model for an apprenticeship scheme and whether different apprenticeship schemes are to be considered when different modes of financing are in place.

Table 1. **Apprenticeship schemes covered in the study**

No	Country/ scheme code	Apprenticeship scheme
1.	AT 1	Dual apprenticeship (*Lehre/duale Ausbildung*)
2.	AT 2	Supra-company apprenticeship – safety net of dual apprenticeship (*Überbetriebliche Lehre*)
3.	BE-fr	Dual training (*Formation en alternance*)
4.	BE-fl 1	Apprenticeship for SMEs (*Leertijd*) Remark: the analysis focuses on alternation training contract
5.	BE-fl 2	Part-time vocational secondary education (*Deeltijdsberoeps Secundaironderwijs*) Remark: the analysis focuses on alternation training contract
6.	CY	New modern apprenticeship (*Νεα Σύγχρονη Μαθητεία*)
7.	DE	Dual VET (*Berufsausbildung*)
8.	DK	Apprenticeship (*Lærlingeuddannelser*)
9.	EE	Work-place based learning (*Töökohapõhineõppevorm*)
10.	EL	EPAS apprenticeships (*ΕΠΑΣ Μαθητείας ΟΑΕΔ*)
11.	FI	Apprenticeship training (*Ammatillinen perustutkinto*)
12.	FR 1	Apprenticeship contract (*Contrat d'apprentissage*)
13.	FR 2	Professionalisation contract (*Contrat de professionnalisation*)
14.	HR	Unified model of education (*Jedinstven model obrazovanja*)
15.	HU	Apprenticeship – dual vocational training based on the apprenticeship training contract (*Tanulószerződésen alapuló duális szakképzés*)
16.	IE 1	Apprenticeship
17.	IE 2	Employer-led apprenticeship

No	Country/ scheme code	Apprenticeship scheme
18.	IT 1	Type 1: Apprenticeship for vocational qualification diploma, upper secondary education diploma and high technical specialisation certificate (*Apprendistato per la qualifica e il diploma professionale*)
19.	IT 2	Type 3: Higher education and research apprenticeships (*Apprendistato di alta formazione e ricerca*) Remark: The analysis focuses on apprenticeships that refer to higher education (and not to research)
20.	LU	Apprenticeship contract (*Contrat d'apprentissage*)
21.	MT	MCAST apprenticeships
22.	NL	Dual pathway (*BeroepsbegeleidendeLeerweg*)
23.	PL	Vocational preparation of young workers (*Przygotowanie zawodowe młodocianych*)
24.	PT	Apprenticeship programmes (*Cursos de apprendizagem*)
25.	RO	Apprenticeship at the workplace (*Ucenicia la locul de munca*)
26.	SE([1])	Apprenticeship in upper secondary schools (*Gymnasial lärlingsutbildning*). Remark: Only the scheme with the education contract is analysed in this study.
27.	SK	Dual education and training (*Systém duálného vzdelávanie*)
28.	UK 1	Degree level apprenticeships (England)
29.	UK 2	Apprenticeships (England)

([1]) In the scheme 'education contract' apprentices have the status of a 'student' and are not employed.
Source: National expert surveys.

1.2.2.2. *Cost categories*

Most previous research dealing with financing of apprenticeships has been conducted from the point of view of costs for employers. Studies which investigate/measure the costs for multiple actors involved (employers, apprentices, schools, states or regional authorities) are missing so far. This study aimed at analysing the financing of apprenticeship from a holistic perspective, exploring the main costs of the main actors involved in apprenticeships. However, such a comprehensive approach also has to set limits in terms of the type of costs covered to be feasible. The first expert survey round revealed that data were limited or not available for several cost categories across the schemes. Therefore, the study focuses on those categories which could be considered as the main costs (in terms of amounts) and costs that are likely to be accessible in terms of data. Opportunity costs

are usually not covered in national or corporate accounting systems and so are not covered in the study due to data availability and accessibility issues. Table 2 below specifies the potential costs of apprenticeship (by type of the main actor) and the costs covered in the study.

Table 2. **Cost categories**

Type of actor	Potential costs based on literature review	Costs covered in the study
Training costs for employers	**Personnel costs for apprentices** Apprentice wages; compulsory social insurance contributions, fringe benefits ([1])	Gross apprentice wages/ allowances Costs of social insurance Fringe benefits may be included
	Labour costs of in-company trainers In-company trainers (wages and social insurance contributions); external instructors (fee)	Gross wages of instructors/ mentors/ tutors/ in-company trainers. Fees in case of external instructors may be included
	Facility and equipment costs Workplace, tools and working clothes, training workshops	Costs of material/equipment (e.g. related to maintenance of the workplace; tools and working clothes, etc.)
	Travel and subsistence costs for apprentices	Covered
	Other costs Learning material and textbooks, administration, selection and recruiting costs, costs for assessing graduates (exams)	exam fees of on-the-job training
	Indirect costs (apprenticeship for adults) Foregone productive work (during training)	Not covered
	Contributions to external funding (national/regional/sectoral training funds)	Covered
Training costs for apprentices / households	**Living / subsistence costs** (accommodation, food, other small expenses)	Not covered
	Training fees Tuition fees, exam fees	Exam fees of on-the-job training
	Travel costs / subsistence allowance	Travel and subsistence costs of on-the-job training
	Other costs: Books and other training materials (e.g. computers), working clothes, etc.	Not covered
	Opportunity costs (e.g. lost income while training and not working)	Not covered

Type of actor	Potential costs based on literature review	Costs covered in the study
Training costs for VET-schools and other training institutions	Teacher, instructor and supporting staff wages	Teacher wages (2)
	Costs for training teachers	Not covered
	Costs of infrastructural materials, utilities, maintenance and repair	Not covered
	Costs of buildings, equipment, furniture	Not covered
Training costs for State/region/ municipality	Personnel costs as well as travel and subsistence costs for apprentices	On-the-job training costs (gross apprentices' wages/allowances; costs of social insurance; travel and subsistence costs)
	Administration costs related to VET-schools and other training institutions.	Administration costs (2)

NB: (1) An extra benefit supplementing an apprentice wage; for example in Austria apprentices receive wages 14 times a year.
(2) As data on off-the-job training was not available and/or easily accessible for the majority of apprenticeship schemes covered, this specific cost category could not be explored.

Source: Cedefop.

1.2.2.3. *Financing arrangements and financing instruments*

The study aims at exploring how the costs of apprenticeship are covered/ shared by the main actors involved in apprenticeships – employers, apprentices, State, schools and other training providers – and what are the mechanisms allowing redistribution of financial resources among these actors. The analysis focuses on financing instruments incentivising employers and individuals to take up apprenticeship and covers training funds based on levies, tax deductions for companies (18) and grants for individuals and companies financed from general taxation (outside of training funds based on company levies). The study investigates the 'main' financing instruments, where 'main' is defined in terms of amount and/or number of beneficiaries (apprentices or companies). As a consequence, smaller, specific financial incentives such as those targeting particular companies (such as SMEs) or disadvantaged groups of apprentices are underrepresented in the study. Some of the main financing instruments identified during the first phase of the research were not analysed due to insufficient available and/or easily accessible data (Chapter 3, Table 7).

(18) The study focuses on tax allowances and tax credits (Kuczera, 2017a, p. 44). Social insurance exemptions are also considered.

Financing instruments identified in the study include shared funding instruments, where costs are shared among the various actors involved in apprenticeship schemes and where contribution by beneficiary (company or apprentice) is required; and instruments that do not require joint financing by beneficiary (which covers almost all grants for individuals, see Chapter 3).

Some types of non-financial support that companies provide to vocational schools and other training institutions (training materials, facilities, instructors/mentors/tutors/in-company trainers) are also considered ([19]).

1.2.3. **Structure**

The report is structured as six chapters. Chapter 1 presents the study objectives, scope and methodology. Chapter 2 analyses selected costs of on-the-job apprenticeship training, particularly apprentice remuneration. Chapter 3 examines in-depth financing instruments implemented to incentivise companies to provide apprenticeship places and encourage individuals to take up apprenticeship. The analysis covers training funds based on company levies, tax incentives for companies and grants for companies and individuals/apprentices. Chapter 4 provides some insights into off-the-job apprenticeship training, particularly the mechanisms for allocation of funds to schools and other training providers. Chapter 5 presents the basic analytical model for describing financial flows related to apprenticeship. Based on this and the findings of the analysis from the previous chapters, different models/types of financing arrangements for apprenticeship schemes are identified, and preliminary typology developed. The final chapter provides conclusions and recommendations for future research on financing of apprenticeships.

1.3. Methods and data

To collect the data, a literature review and two online surveys (Table 3) were carried out in collaboration with national experts in EU countries and the UK (Annex 7). A mapping survey aimed to identify apprenticeship schemes according to the operational definition (Annex 2), collect basic information on their characteristics, identify the main financing instruments that support their implementation and assess data availability/accessibility. Building on

([19]) Other forms of non-financial support (such as information campaigns, intermediaries enabling pooling of training resources) are not covered by this study.

the mapping survey, a detailed survey was conducted for countries where apprenticeship schemes were identified (Table 1). The detailed survey aimed at collecting country detailed information on the identified financing instruments and apprenticeship scheme specific contextual information.

The data were collected throughout 2017. In December 2017, an expert workshop was held in Vienna [20] which aimed at validating the results of the detailed survey and discussing different models of financing arrangements for apprenticeship.

Based on the findings of the comparative analysis of the collected data and workshop outcomes, a typology of financing arrangements for apprenticeships was developed (Chapter 5).

Table 3. **Main features of study surveys**

Type of survey / Feature	Mapping survey	Detailed survey
Objective	1. Map apprenticeship schemes; 2. Identify major costs and main financing instruments relevant for apprenticeship schemes; 3. Assess data availability and accessibility; 4. Based on information collected, define/finalise the scope of the study.	Collect comprehensive information for the online database and for the comparative analysis: 1. Detailed information on characteristics and performance of financing instruments relevant for the identified apprenticeship schemes; 2. Scheme-specific contextual information; 3. Country-specific contextual information.
Type of information collected	Objective (evidence-based); Limited number of expert assessments.	Objective (evidence-based) Subjective: experts' assessments/ estimations (supported by their explanations/ justifications).
Sources of information	National experts (country coordinators)	National experts (country coordinators); Relevant officials involved in VET governance/ financing of apprenticeship schemes contacted by national experts.

Source: Cedefop.

[20] A total of 17 experts (among others, education and social researchers, economists) from 11 countries (AT, BE, DE, EL, ES, IE, LT, NL, PL, RO, UK) attended the workshop. More information on the event is available at: www.cedefop.europa.eu/fr/events-and-projects/events/workshop-financing-apprenticeships-eu

1.4. Data limitations

Comparing financing of apprenticeship schemes in Europe (and beyond) is a complex issue; financing-related data are generally not easily available and accessible. Further, each country has its own data collection practices as well as data categories used. This poses certain limitations for comparative study.

As the detailed survey revealed, gross apprentice wages/allowances and social insurance costs of apprentices are available for most of the apprenticeship schemes covered in the study; data on apprentice wages/allowances are particularly available ([21]).

In contrast, data on on-the job training, such as costs of instructors/in-company trainers, costs of material/equipment and apprentice exam fees, appear to be not available/not accessible for most of the apprenticeship schemes. These cost categories are usually not systematically documented by employers. Some examples of these cost categories (illustrating the level of the costs and by whom they are covered) are presented in Section 2.2.

Costs for off-the-job training were also not available in most cases. Only for a few schemes, including Danish, German, Irish, French, Italian (type 1 and type 3) and Austrian (dual apprenticeship, were some data available and accessible ([22]). Because of the general lack of data, the costs for off-the-job training are not explored in detail in this report, though some information is provided in the database: www.cedefop.europa.eu/en/tools/financing-apprenticeships. In addition, Chapter 4 discusses the mechanisms that are used to fund off-the-job training.

The detailed survey also provided insights into data availability and accessibility in relation to different financing instruments supporting the development of apprenticeship. The survey showed that information on the basic characteristics of the instruments (such as legal basis, year of implementation, recent/planned changes, objective(s), bodies involved in the governance) as well as information on the eligible group, type of education and training eligible, was mostly available and easily accessible. In comparison, data gaps were identified regarding results of the financing instruments. It was particularly difficult to obtain monitoring/evaluation data, such as the number of individuals/companies benefiting, the volumes of

([21]) For both Italian apprenticeship schemes the data were provided for one economic sector (trade sector).
([22]) For details see www.cedefop.europa.eu/en/tools/financing-apprenticeships

private funding involved through the financing instruments or the rate of benefiting companies'/individuals' withdrawal (or discontinuation) from the supported apprenticeship scheme(s).

There are recurring reasons for data unavailability. The most common is that relevant data are not (systematically) collected or monitored by respective bodies. In some cases, the data for school year 2015/16 and/or 2016/17 were still not published at the time of data collection, so data for the previous years were used. These differences in the reference years pose a challenge for comparative analysis.

Estimates were also difficult to produce due to the lack of (sufficient) data as a basis for estimation ([23]). Finally, some data on financing was difficult to disaggregate. In these instances, the data were presented together for multiple years, different types of education and training, and different types of beneficiary.

([23]) The basis for/method of estimation is available in online database: www.cedefop.europa.eu/en/tools/financing-apprenticeships

CHAPTER 2.

Financing the on-the-job component of apprenticeships

The purpose of this chapter is to describe and analyse selected costs of the on-the-job component of apprenticeship, with a special focus on apprentice remuneration, and lay the groundwork for developing the typology of financing arrangements for apprenticeships existing in EU countries (Chapter 5).

2.1. Apprentice remuneration and social insurance costs

Apprentice wages, together with the social benefits that employers contribute for apprentices, represent the largest share of apprenticeship costs to employers (Kuczera, 2017a, p. 25). Apprentice remuneration, both in terms of the amount spent and the way it is paid, is a distinctive feature of apprenticeship financing arrangements (see also Chapter 5).

This section addresses the following key topics:

(a) what are apprentices paid: wages or allowances?
(b) who pays apprentice remuneration?
(c) what are apprentices paid for, considering:
  (i) on- and off-the-job training;
  (ii) share of on-the-job training?
(d) what is the basis of apprentice remuneration, i.e. its setting mechanism?
(e) what is the remuneration variation?
(f) what is the level of remuneration?
(g) what are the social insurance costs and who covers them?

2.1.1. **Apprentice remuneration: characteristics**

This study considers apprentice remuneration as the amount defined in regulations and official documents (law or collective agreements): it does not aim at presenting the actual amounts paid in practice. Typically, the data on actual amounts is either not available (not collected) or not easily accessible.

The actual amounts paid can be higher or lower compared to the remuneration specified in regulations and official documents. For instance, a study about apprentice pay in the UK found that 'non-compliance with minimum wage rates stood at 19%. There was significant variation in the rate of non-compliance, with 48% of individuals in the hairdressing sector suggesting they were paid below the relevant national minimum wage compared to 4-5% in the retail, health and social care and customer service sectors' (London Economics and Conlon et al., 2013). The same study pointed out that 'although there are statutory minimums for apprentice pay in a number of jurisdictions, it is often the case that apprentices are paid significantly more than the legal minimum'.

Cedefop's thematic reviews of apprenticeships in Croatia and Cyprus showed that, despite the law that obliges employers to pay apprentices a centrally regulated amount, not all apprentices receive remuneration (Cedefop, 2019a) (Cedefop, 2019b). However, there is anecdotal evidence that apprentices in some bigger companies are paid more than the minimum amount defined by the State. The survey conducted within this study showed that employers in Estonia have to pay the minimum wage (for the number of hours spent on working in the company), but they may also pay more.

The study distinguishes two categories of apprentice remuneration, 'wages' and 'allowances'. Both terms relate to the reward that apprentices receive for their productive work done during the on-the-job period. 'Wages' are considered as taxable income: fixed amount per hour or other pay period such as month or year. This can include salaries (typically referring to monthly or yearly remuneration), but, for simplicity, only the term 'wage' is used. 'Allowances', are non-taxable income. It should be noted, that in some comparative studies or national contexts, the term 'allowance' may be used in relation to a subsidy received by an apprentice to cover living, travel and subsistence costs or other costs. In this study, such subsidies are named 'grants'.

The research results show that, in the majority of schemes, apprentices receive wages (Figure 1).

In Sweden, as of July 2014, students attending apprenticeship education in upper secondary school may be hired by employers on an employment contract. They have the status of employee and receive wages (the costs of which are shared between the employer and the State/municipality). However, at the time of this research, an upper secondary apprentice employment was relatively rare in practice: there were only around 40 apprentices hired as

Figure 1. **Type of remuneration paid to apprentices**

(*) Apprentices with an alternation training contract (which is the focus of this report) receive allowances. Apprentices with an ordinary part-time employment contract receive wages.
(**) No wage is paid to apprentice by employer in relation to apprenticeship with 'education contract' (apprentices are 'students') which is covered by this study. Instead, apprentices receive a State subsidy ('apprentice compensation') which may be classified as an 'allowance' but also as a 'grant' (according to the terminology of this study) as it can cover travel and meal expenses.

Source: National expert surveys.

employees. For this reason, this arrangement is not included in this study. All apprentices that are not employed are regarded as 'students' and receive an allowance which is paid by the State. The study covers this arrangement. In seven apprenticeship schemes, apprentices receive allowances (Figure 1). In case of the Austrian supra-company apprenticeship, Portuguese scheme and Swedish education contract, the allowances are paid by the State; in case of the two Belgian-fl, Croatian and Hungarian schemes, the allowances are paid by employers (Figure 2). In other apprenticeship schemes, apprentices receive wages.

The wage costs, are fully covered by employers or shared between employers and the State. The latter reimburses employers the wage costs using different financing mechanisms such as tax incentives, grants (from general taxation) or national training funds. The financing instruments may be designed to subsidise the apprentice wage costs specifically, as in Denmark, where the key role of the national training fund (Employers' training contribution (AUB)) is to reimburse employers the part of the wages paid while the apprentices are at school. For other financial instruments, apprentice wage may be only one of many eligible costs. For example, in the Dutch dual pathway scheme, the State offers lump sum payments (such as 'subsidy practical learning' or 'stage fund healthcare') which provide general compensation to employers allowing to cover (partly) the costs related to apprenticeship, but the budget is not labelled to any specific cost. Similarly, in Austrian dual apprenticeship, the State offers lump sum 'basic subsidy' which does not refer explicitly to any specific type of costs. Another example

is the corporate tax in Germany which provides that all business-related expenses are tax-deductible. This includes apprenticeship-related costs such as apprentice wage. Six countries (Cyprus, Estonia, Finland, Ireland, Italy, UK) did not report on any financing instrument allowing for State subsidy for apprentice wages.

Malta, Ireland and Slovakia reported a different financing arrangement: while employers pay wages for on-the-job training, the State provides subsidy to apprentices during the off-the-job period. These subsidies ('government maintenance grant' in Malta, 'training allowance' in Ireland, 'stipend' in Slovakia) are considered as 'grants' in this study. Similarly, Finland offers a subsidy/grant to apprentices to help them to cover their living, travel and accommodation costs if they do not receive the wages from their employers during the off-the-job period.

Figure 2. **Financing sources of apprentice remuneration (wage/allowance)**

PAID BY EMPLOYERS BUT STATE MAY SUBSIDISE (CO-FINANCING INSTRUMENT REPORTED)	PAID BY EMPLOYERS (NO SUBSIDY/SHARED CO-FINANCING INSTRUMENT REPORTED)	PAID BY THE STATE
AT1, BE-fr, BE-fl.1, BE-fl.2, DE, DK, EL, FR1, FR2, HR, HU, LU, MT, NL, PL, RO, SK	CY, EE, FI, IE1+2, IT1, IT2, UK1, UK2	AT2, PT, SE

Source: National expert surveys.

The research shows that apprentice remuneration in most schemes covers not only on-the-job training but also off-the-job periods (see Figure 3).

Figure 3. **Coverage of apprentice remuneration**

ON- AND OFF-THE-JOB TRAINING	ON-THE-JOB TRAINING ONLY
AT1, AT2, BE-fr, BE-fl.1, BE-fl.2, DE, DK, FI, HU, IE2, LU, PL; PT, RO, UK1, UK2	CY, EE, EL, FR1, FR2, HR, IE1, IT1, IT2, MT, NL, SE, SK

Source: National expert surveys.

Further, as indicated in Figure 4, on-the-job training in most schemes represents more than 50% of the overall duration of apprenticeship training. The two UK schemes are included in this group, as there are no specifications for the time to be spent for on-the-job training. There are regulations for off-the-job training instead: 'As of May 2017 for any new Apprenticeship Standards and Frameworks at least 20% of the apprentices' employed time needs to be spent on off-the job training'. This means that the duration of on-the-job training may be 80% or less. In the Irish and Luxemburgish schemes, there is no minimum share of on-the-job training specified by regulations, though, in practice, it is more than 50%.

For seven apprenticeship schemes the share of on-the-job training is between 20 and 50%. The French professionalisation contract is the only scheme with a share of on-the-job training which is below 20%.

Figure 4. **Share of on-the-job training in apprenticeship schemes**

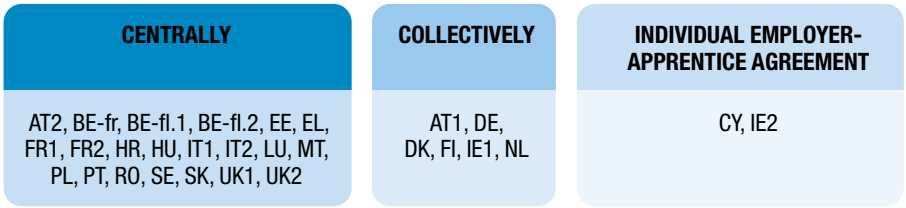
MORE THAN 50%	BETWEEN 20-50%	LESS THAN 20%
AT, AT2, BE-fr, BE-fl.1, BE-fl.2, CY, DE1, DK, EE, EL, FI, HU, IE1, IE2, LU, NL, PL, RO, SE, UK1, UK2	HR, FR1, IT1, IT2, MT, PT, SK	FR2

Source: National expert surveys.

Figure 5 indicates that apprentice remuneration is mainly set centrally. This applies to all apprenticeship schemes where apprentices are paid allowances and most of the schemes where they receive wages. The predominant mechanism for remuneration setting is the share of national minimum wage. For six apprenticeship schemes, the wage is set through the collective agreements; for two schemes (the Irish employer-led apprenticeship and the Cypriot scheme) apprentice wages are based on individual employer-apprentice agreements. Figure 5 aims at classifying apprenticeship schemes according to one (main) mechanism for setting the wage but, for some schemes, different mechanisms of remuneration setting are at play. For example, the Irish apprenticeship wages are set through a mixture of collective agreements and individual employer-apprentice agreements. In the two Italian schemes, the possible levels of apprentice wage are defined by law and then the exact wage is specified in the individual contract. The percentage of the

wage to be paid for in-company training hours is also defined by law but it can be modified by (national) collective labour agreements. In France, too, apprentice wage levels (as a percentage of the national minimum wage) are defined by law but higher levels can be negotiated by collective agreements.

Figure 5. **Apprentice remuneration setting mechanisms (as per apprenticeship scheme)**



Source: National expert surveys.

Annex 5 provides detailed information per apprenticeship scheme on the main characteristics of apprentice remuneration described above.

2.1.1.1. *Variations in apprentice remuneration*

The study shows that the level of apprentice remuneration (as per regulation) varies significantly not only across but also within apprenticeship schemes. The amount of remuneration (wage or allowance) may depend on factors such as apprenticeship year, trade, type and level of qualification, and apprentice age. Only for six apprenticeship schemes (Estonian, Greek, Portuguese (professionalisation grant), Romanian, Slovak and Swedish (education contract) does the remuneration amount not vary.

Due to difficulty in collecting quantitative data on remuneration variation and, hence, lack of sufficient evidence to assess the levels of variation in quantitative terms, a qualitative approach was adopted to determine the level of remuneration variation (Table 4).

Based on the findings above, the following groupings of apprenticeship schemes can be identified:

(a) apprenticeship schemes with high level of variation; apprentice remuneration varies according to all four, three or two indicators: apprenticeship year and apprenticeship trade. Eleven apprenticeship schemes comply with these criteria;

Table 4. **Variation of apprentice remuneration**

No	Country/ scheme code	Apprenticeship scheme	Variation indicator				
			Apprenticeship year	Apprenticeship trade	Apprentice age	Type/ level of qualification	Level of variation
1.	NL	Dual pathway	•	•	•	•	High
2.	UK 2	Apprenticeships (England)	•		•	•	High
3.	DK	Apprenticeship	•	•	•	-	High
4.	FI	Apprenticeship training (1)	•	•	-	•	High
5.	LU	Apprenticeship contract	•	•	-	•	High
6.	DE	Dual VET	•	•	-	-	High
7.	AT 1	Dual apprenticeship	•	•	-	-	High
8.	IE 2	Employer-led apprenticeships	•	•	-	-	High
9.	IE 1	Apprenticeship	•	•	-	-	High
10.	IT 1	Type 1: Apprenticeship for vocational qualification diploma, upper secondary education diploma and high technical specialisation certificate	•	•	-	-	High
11.	IT 2	Type 3: Higher education and research apprenticeships	•	•	-	-	High
12.	FR 1	Apprenticeship contract	•	-	•	-	High/ Medium
13.	FR 2	Professionalisation contract	-	-	•	•	High/ Medium
14.	UK 1	Degree level apprenticeships (England)	•	-	•	-	High/ Medium
15.	BE-fl 2	Part-time vocational secondary education	•	-	•	-	High/ Medium
16.	AT 2	Supra-company apprenticeships - safety net of dual apprenticeship	•	-	-	-	No/Low

No	Country/ scheme code	Apprenticeship scheme	Variation indicator				
			Apprenticeship year	Apprenticeship trade	Apprentice age	Type/ level of qualification	Level of variation
17.	BE-fr	Dual training	•	-	-	-	No/Low
18.	BE-fl 1	Apprenticeship for SMEs	•	-	-	-	No/Low
19.	HR	Unified model of education	•	-	-	-	No/Low
20.	HU	Apprenticeship – dual vocational training based on the apprenticeship training contract (2)	•	-	-	-	No/Low
21.	MT	MCAST apprenticeships	•	-	-	-	No/Low
22.	PL	Vocational preparation of young workers	•	-	-	-	No/Low
23.	PT	Apprenticeship programmes	-	-	-	-	No/Low
24.	SE	Apprenticeship in upper secondary schools	-	-	-	-	No/Low
25.	SK	Dual education and training	-	-	-	-	No/Low
26.	EE	Work-place based learning	-	-	-	-	No/Low
27.	EL	EPAS apprenticeships	-	-	-	-	No/Low
28.	RO	Apprenticeship at the workplace	-	-	-	-	No/Low
29.	CY	New modern apprenticeship (3)	n.a.	n.a.	n.a.	n.a.	n.a.

(1) The level of remuneration depends also on the place of living. The more expensive the place to live, the higher the wage.
(2) The level of remuneration depends also on the share of practical training and student diligence and performance.
(3) Individual contracts between apprentices and employers possibly vary per sector; however, there is no hard data on this.

Source: National expert surveys.

(b) apprenticeship schemes with high/medium level of variation; apprentice remuneration varies according to apprenticeship year and age of apprentices (in the French professionalisation contract, remuneration varies depending on qualification level and age of apprentice). It may be expected that variation in apprentice remuneration according to apprentice age would be weaker compared to variation according to apprenticeship trade, as the number of apprenticeship trades is possibly higher than the number of age groups. Four apprenticeship schemes comply with these criteria;
(c) apprenticeship schemes with low level of variation or no variation; apprentice remuneration varies only according to year of apprenticeship (seven schemes comply with this criterion) or there is no variation in remuneration at all (six schemes), meaning that all apprentices are paid the same amount irrespective of apprenticeship year, trade, age or type/level of qualification.

2.1.2. **Levels of apprentice remuneration**

Comparing levels of apprentice remuneration is tricky as the various indicators only show parts of the story and all have their advantages and disadvantages. The average amount received by an apprentice per year may be used as an indicator, though differences in purchasing power between countries must be considered for this indicator. It also needs to be considered whether apprentices are only paid for on-the-job training and how many hours they spend on-the-job. This could be resolved by comparing hourly pay (related to on-the-job training). The relationship of apprentice pay to the national minimum wage can also be used ([24]). These indicators are discussed below and presented in Table 5.

(a) Average apprentice remuneration per year reflects the overall earnings of apprentices, with the average referring to apprenticeship year, trade, age, depending on how variation in apprentice pay is regulated for the specific scheme. Data used (Column 1, Table 5) takes into account differences in price levels by applying purchasing power parities (PPPs) for household final consumption expenditure. Adjusting for differences in price levels reduces the variation between countries.

([24]) Average apprentice pay as share of labour cost levels (e.g. core expenditure borne by employers for the purpose of employing staff) could also be used. However, the use of national minimum wage may be easier for comparison purposes as in several apprenticeship schemes the apprentice remuneration is set against national minimum wage.

(b) Average apprentice remuneration per hour on-the-job could be interpreted as the value acknowledged by employers for the productive work done by apprentices in the company (Column 3, Table 5). For some apprenticeship schemes apprentice pay is a fixed amount per hour (as with the Croatian scheme, the Irish apprenticeship, the two Italian schemes and the Slovakian scheme). However, apprentice pay is more frequently paid as a fixed amount per month ([25]).

(c) Average apprentice pay as share of national minimum wage may be used to estimate the difference from unskilled work and to calculate the minimum indirect costs ([26]) as well as opportunity costs of time in training ([27]). National minimum wages provide a clear reference for the lowest level of the wage scale. However, 'minimum wage systems range from very simple systems, which determine a unique rate applied to the whole country, to very complex systems that determine many different rates depending on the sector of activity, occupation, geographical region and/or enterprise size', apprentice, age, length of service, skills of employees and economic conditions in which enterprises are operating (ILO, n.d. p. 2).

Irrespective of the indicator chosen, various compositional effects have to be considered. Age (older apprentices earn more), trade (some trades are better paid than others), skills level (if different levels are in place) will influence the average. For example, although the average apprentice pay across the UK stands at approximately GBP 6.05 per hour, for apprentices aged less than 19, average pay is approximately GBP 3.88 per hour compared to an average apprentice pay of GBP 8.15 for those aged 25 or above. Thus, the average reflects the increasing proportion of older learners, and potentially undermines the comparability of findings internationally, especially in relation to those countries where apprenticeship training is predominantly the preserve of younger learners' (London Economics and Conlon et al., 2013, p. 17). To overcome some of these shortcomings, the study tried to collect

([25]) In the case of Denmark, Estonia, the Netherlands and UK (apprenticeship) apprentice remuneration can be paid as both fixed amount per hour and per month, depending on trade, sector (private/public), employer. In Greece, apprenticeship remuneration is fixed per day and in Malta, fixed per week.

([26]) As company training, by definition, takes place during paid working hours, an estimate for the forgone productivity during the training spells is established this is called 'indirect costs' or 'personal absence costs'.

([27]) From the perspective of the apprentice, opportunity costs refer to lost income while training and not working.

information on average apprentice remuneration per year according to three age groups (15 to18; 19 to 24 and above 24, asking also about the size of these groups as a share of the current apprentice population for the scheme described) and three different occupations (such as hairdresser, engineer and a bricklayer). Due to difficulty in obtaining quantitative data on ranges of variation in apprentice remuneration according to the above indicators (where relevant), a qualitative approach was adopted to comparing variation in apprentice remuneration as per regulation (Section 2.1.1).

Table 5 presents the figures related to the above indicators for those apprenticeship schemes for which the data were available. Neither Italian scheme is included as the data referred to the trade sector only. The Irish scheme is also excluded as it proved to be a clear outlier, most likely due to its very small scale: it includes two apprenticeship programmes and the number of total enrolments was 76 in 2016.

The figures presented in the table were calculated based on the estimates provided by national experts (in Euro or national currencies) which were later adjusted for purchasing power parity.

The figures represent the wages (and allowances in the case of Croatia, Hungary and both schemes in Belgium-fl (alternance training contract)) paid by employers. It should be noted that employer costs related to apprentice remuneration may be reduced through financial support provided by the State (through grants, tax deduction or training funds). The figures presented in Table 5 do not account for State subsidy. For three schemes where no pay by employers is involved (Austrian supra-company apprenticeship - safety net of dual apprenticeship, Swedish education contract and Portuguese scheme), the amounts relevant for the State allowances paid to apprentices are presented.

The figures presented in Table 5 are estimates, some of which are based on many assumptions and are simplistic by nature; they should be treated with caution. Nevertheless, they allow for some grouping of the apprenticeship schemes according to the level of remuneration. Considering the estimated average apprentice remuneration per year indicator (Column 1, Table 5), we can differentiate three levels, in accordance with the distribution of the cases.

2.1.2.1. *High apprentice remuneration*

Apprentices receive more than EUR 9 000 on average per year.

Almost all apprenticeship schemes from this group also have a high number of hours spent doing on-the-job training, at more than 1 000 hours

Table 5. **Indicators for levels of apprentice remuneration**

No	Country/ scheme code	Apprenticeship scheme	1. Estimated average apprentice remuneration per year (PPS)	2. Estimated average number of hours spent by the apprentice for on-the-job training per year	3. Estimated average apprentice remuneration per hour (PPS)	
1.	FI	Apprenticeship training	15 767.96	1 360	11.59	
2.	DK	Apprenticeship	15 556.54	1 110	14.02	
3.	NL	Dual pathway	14 358.96	1 280	11.22	
4.	AT 1	Dual apprenticeship	13 207.55	1 587	8.32	
5.	FR 2	Professionalisation contract	13 157.88	n.a.	n.a.	
6.	IE 1	Apprenticeship	10 012.86	1 600	6.26	
7.	DE	Dual VET	9 930.23	1 350	7.36	
8.	LU	Apprenticeship contract	9 649.72	480	19.8	
9.	UK 1	Degree level apprenticeships	9 615.56	n.a.	6.51	
10.	FR 1	Apprenticeship contract	8 059.20	n.a.	n.a.	
11.	AT 2	Supra-company apprenticeship - safety net of dual apprenticeship	7 356.58	1 587	4.64	
12.	UK 2	Apprenticeships	7 075.53	n.a.	5	
13.	BE-fl 1	Apprenticeship for SMEs	5 486.80	n.a.	n.a.	
14.	EE	Work-place based learning	5 153.13	1 040	4.95	
15.	RO	Apprenticeship at the workplace	4 810.68	1 290	3.73	
16.	BE-fr	Dual training	4 193.71	max. 988	4.24	
17.	MT	MCAST apprenticeships	3 459.36	700	4.94	
18.	CY	New modern apprenticeship	3 409.10	min. 700	4.87	
19.	EL	EPAS apprenticeships	3 289.96	972	3.38	

	4. Share of apprentice remuneration of national minimum wage or average wage as set by regulation	5. Share of estimated average annual apprentice remuneration of annual earnings based on national minimum wage
	Depends on collective agreements	No minimum wage
	Depends on collective agreements	No minimum wage
	Depends on collective agreements	85%
		No minimum wage
	Depends on the apprentice's age and the level of qualification: under 21: 55% of the min wage for ISCED 3: 65% for ISCED 5 21-26: 70% for ISCED 3: 80% for ISCED 5 Over 26: 100% min wage	80%
	Depends on collective agreements	67%
	Depends on collective agreements	59%
	32-57%	44.5%
		68%
	Depends on apprentice's age and year of apprenticeship: 15-17: 1st year: 25% of the gross min wage; 2nd year: 37%, 3rd year: 53% 18-20: 1st year: 41%; 2nd year: 49%; 3rd year 65% 21 and above: 1st year: 53%; 2nd year: 61%; 3rd year: 78%	49%
		No minimum wage
		50%
	29% in the 1st year, 32% in the 2nd year, 34.5% in the 3rd year	32%
	At least 100% of the national minimum wage	34%
		75%
	17% for the 1st year, 24% for the 2nd year, 32% for the 3rd year	25%
		32%
		No minimum wage
	75% of daily national minimum wage	34%

No	Country/ scheme code	Apprenticeship scheme	1. Estimated average apprentice remuneration per year (PPS)	2. Estimated average number of hours spent by the apprentice for on-the-job training per year	3. Estimated average apprentice remuneration per hour (PPS)	
20.	SE	Apprenticeship in the upper secondary schools	1 429.74	n.a.	n.a.	
21.	SK	Dual education and training	1 383.84	800	1.73	
22.	HU	Apprenticeship – dual vocational training based on the apprenticeship training contract	1 232.52	620	1.99	
23.	PL	Vocational preparation of young workers	1 119.36	324	3.45	
24.	HR	Unified model of education	774.08	610	1.27	
25.	PT	Apprenticeship programmes	601.20	500	1.20	

(1) average apprentice remuneration (wage or allowance) in euros or national currencies;

(2) average number of hours for on-the job-training per year (in euros or national currencies). For details on the estimates see Cedefop database on Financing apprenticeships in the EU www.cedefop.europa.eu/el/tools/financing-apprenticeships.

Estimates were adjusted for purchasing power parity for 2016: http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=tec00120&plugin=1; [accessed in July 2019].

In the Dutch, French and Slovakian apprenticeship schemes, due to difficulty in estimating the duration of apprenticeship/period of receiving monthly remuneration, 12 months was used for estimating annual remuneration. This may result in overestimation of the figures presented in the table for these schemes, but it does not influence the grouping of the schemes presented in this chapter.

The figures presented in Column 4 are based on national regulations and official documents. The figures in Column 45 are Cedefop calculations based on national expert estimates (average apprentice remuneration (wage or allowance)) and the Eurostat data on national minimum wage: Eurostat (earn_mw_cur).

The differences between the figures presented in Columns 4 and 5 (which are considerable for some apprenticeship schemes) may be explained by the fact that an apprentice works fewer hours than a regular employee over the course of a year.

Source: The figures presented in columns 1-3 are based on the following estimates provided by national experts:

	4. Share of apprentice remuneration of national minimum wage or average wage as set by regulation	5. Share of estimated average annual apprentice remuneration of annual earnings based on national minimum wage
		No minimum wage
		19%
	10.5-19.5% in the 1st term of the first grade, depending on the share of practical training within the training programme. Then training provider sets the rate of mandatory increase in every term, depending on student diligence and performance.	15%
	4% of the average salary of worker in the 1st year, 5% in the 2nd year; 6% in the 3rd year	12%
	10% of the average salary of worker in the 1st year, 20% in the 2nd year, 25% in the 3rd year)	10%
		7%

on average per year. The only exception is the Luxembourgish scheme, for which the average number of hours is 480 per year. The level of average apprentice remuneration per hour is also relatively high for this group of schemes (above EUR 6). For one scheme the data were not available.

The proportion of the annual apprentice remuneration of the annual earnings based on national minimum wage ([28]) is high (50% and above) for those apprenticeship schemes characterised by high levels of average apprentice pay and high number of average hours spent for on-the-job training per year. In the case of the Luxembourgish scheme the number of hours spent for on-the-job training is lower, which explains the lower proportion of the annual average apprentice remuneration of the annual earnings based on national minimum wage (44.5%).

([28]) Estimations on the average apprentice pay as a share of the national minimum wage correspond more or less to the findings of *An international comparison of apprentice pay: final report* (London Economics and Conlon et.al, 2013). Differences can be explained by the fact that the study uses evidence on the actual hourly rate of apprentice pay, which might be significantly more than the legal minimum (Annex 4). In the calculations, the variation in apprentice pay according to apprenticeship year, trade, qualification level, etc. is also considered, meaning that an average integrating these variations is not used.

2.1.2.2. *Medium apprentice remuneration*

Apprentices are paid between EUR 1 500 and EUR 9 000 on average per year.

Three apprenticeships schemes from this group show high number of hours spent for on-the-job training (above 1 000) while the others show a medium number of hours (between 700 and 1 000 hours on average per year). The schemes also show a medium level of apprentice pay per hour (between EUR 3 and EUR 5). For two schemes the data are not available.

The proportion of annual apprentice remuneration of the annual earnings based on national minimum wage is medium (between 25% and 50%). The Romanian apprenticeship scheme, for which the proportion is high, is an exception. This may be related to the high number of average hours spent doing on the job training per year.

2.1.2.3. *Low apprentice remuneration*

Apprentices receive less than EUR 1 500 on average per year. For almost all apprenticeship schemes from this group the number of hours spent doing on-the-job training is low, at less than 700 hours on average per year. An exception is the Slovak apprenticeship scheme, for which the average number of hours is 800 per year. The level of apprentice remuneration per hour is also low (below EUR 2) An exception is the Polish scheme with medium level of remuneration per hour (EUR 3.5)

The proportion of annual apprentice remuneration of the annual earnings based on national minimum wage is low at less than 20%.

2.1.3. **Apprentice remuneration: towards the typology**

The indicators presented in Table 5 display a good match. While the relative indicators, for example apprentice remuneration as a share of the national minimum wage, may be perceived as more appropriate for comparison purposes, they are more prone to mistakes/biases. Apprentice pay per hour is also relative and could be used but would not result in any changes in the typology of financing arrangements for apprenticeships (Chapter 5). Apprentice remuneration per year reflects the time spent in the company and so better characterises the scheme in general.

Table 6 illustrates the link between several variables of apprentice remuneration, which may be important in identifying models of financing of apprenticeships (Chapter 5). Based on the table the following assumptions can be made:

Table 6. **Summary of indicators for apprentice remuneration**

No	Country/ scheme code	Apprenticeship scheme	Indicators		
			Remunera-tion setting	Remunera-tion amount	Remu-neration variation
1.	AT 1	Dual apprenticeship	Collective	High	High
2.	DE	Dual VET	Collective	High	High
3.	FI	Apprenticeship training	Collective	High	High
4.	DK	Apprenticeship	Collective	High	High
5.	IE 1	Apprenticeship	Collective	High	High
6.	NL	Dual pathway	Collective	High	High
7.	LU	Apprenticeship contract	Central	High	High
8.	FR 2	Professionalisation contract	Central	High	High/Medium
9.	UK 1	Degree level apprenticeships (England)	Central	High	High/Medium
10.	HR	Unified model of education	Central	Low	No/Low
11.	PL	Vocational preparation of young workers	Central	Low	No/Low
12.	SK	Dual education and training	Central	Low	No/Low
13.	HU	Apprenticeship – dual vocational training based on the apprenticeship training contract	Central	Low	No/Low
14.	PT	Apprenticeship programmes	Central	Low	No/Low
15.	SE	Apprenticeship in upper secondary schools	Central	Low	No/Low
16.	AT 2	Supra-company apprenticeships – safety net of dual VET	Central	Medium	No/Low
17.	UK 2	Apprenticeships (England)	Central	Medium	High
18.	FR 1	Apprenticeship contract	Central	Medium	High/Medium
19.	BE-fr	Dual training	Central	Medium	No/Low
20.	BE-fl 1	Apprenticeship for SMEs	Central	Medium	No/Low
21.	EE	Work-place based learning	Central	Medium	No/Low
22.	EL	EPAS apprenticeships	Central (*)	Medium	No/Low
23.	MT	MCAST apprenticeships	Central	Medium	No/Low
24.	RO	Apprenticeship at the workplace	Central	Medium	No/Low
25.	IE 2	Employer-led apprenticeships	Other (**)	High	High
26.	CY	New modern apprenticeship	Other (**)	Medium	n.a.

(*) National General Labour Agreement.
(**) Other refers to individual contracts between employers and apprentices.
Source: Cedefop.

(a) where collective agreements are used to set apprentice remuneration, the variation in wages is high due to differences in economic sectors. The level of apprentice remuneration is also high.
(b) when apprentice pay is set centrally, the variation in apprentice remuneration tends to be low (or there is no variation at all) and the level of apprentice remuneration tends to be medium or low. Exceptions include the Luxembourgish scheme (with high level and high variation in apprentice remuneration) as well as two French and the two UK schemes (with high or medium level and variation in apprentice remuneration).

2.1.4. Social insurance costs for apprentices

The detail survey shows that the State shares the apprentice social insurance costs (together with employer or employer and apprentice) for over half of the apprenticeship schemes analysed. There are also individual cases where the State covers social insurance costs fully, such as Austrian supra-company apprenticeship, Danish apprenticeship and the Slovak dual education and training scheme. In contrast, Cyprus, Luxembourg and Finland reported that apprentice social insurance costs are covered fully by employers. In the two Irish schemes, the costs of social insurance are borne by the employer and apprentice.

Typically, the State subsidises the costs of social insurance via tax deductions/exemptions (Annex 4). However, the State may also reimburse the costs of social insurance through grants for companies, (such as 'basic subsidy' of the Austrian dual apprenticeship or the State lump sum payments (such as the 'subsidy for practical learning' or 'stage fund healthcare') in the Dutch dual pathway scheme).

The key rights of apprentices covered by social insurance refer usually to health, pension, unemployment and annual leave (Annex 4).

Only a few countries specified the level of apprentice social insurance cost. In Austrian dual apprenticeship, this is 28.55% of the apprentice annual gross income and in the supra-company apprenticeship it is 3.2%. In the German and two Irish schemes the cost of social insurance is 21-22% and 10.75% of the apprentice annual gross income respectively.

2.2. Other costs

Data on other costs of on-the-job training - such as wages of in-company trainers, costs of training equipment/tools/materials, travel and subsistence

costs of apprentices and exam fees – were difficult to find or access for most of the apprenticeship schemes. As reported in Section 1.4, these costs are usually not documented systematically by employers. It was possible, however, to collect some information for a few apprenticeship schemes. Some examples, illustrating the level of the costs and by whom they are covered, are presented below.

Box 1 provides information on wages of in-company trainers/instructors. The data collected, including the examples presented, show that these costs are typically covered by employers; however, employers may receive financial support from the State through tax incentives, grants or training funds.

Box 1. **Wages of in-company trainers/instructors**

German dual VET
Gross wages of in-company trainers are paid by employers and can be subsidised indirectly through deduction of taxes. According to the BIBB cost-benefit survey 2012/13 (see BIBB and Jansen et al., 2015), the costs of training personnel represent 23% (EUR 4 125) of the average gross cost per apprentice to employers per year.

Croatian unified model of education
Gross wages of instructors are paid by employers; however, employers may receive grants from the State covering up to 50% of the costs. According to the Croatian Bureau of Statistics, the average net monthly salary of an in-company trainer was approximately EUR 815 in June 2017 (so the average annual salary was EUR 9 780).

Hungarian apprenticeship: dual vocational training based on the apprenticeship training contract
The State may grant companies a subsidy from the national training fund to cover partially the wages of in-company trainers. The amount granted to a single company is EUR 307 per year per apprentice. The total amount of subsidy received by employers to cover instructor wages was EUR 3 750 597 in 2016.

Slovak dual education and training
Wages of in-company trainers are fully paid by employers. The salary of an in-company trainer is estimated to be around EUR 850 per month before tax (2017). This estimation is based on the fact that in-company trainers belong to categories of employees whose wages are slightly below national average gross wages and the average gross monthly wage in Slovakia was EUR 944 in 2017(Q2).

Source: National expert surveys.

Publicly available data on costs of equipment, tools and materials are very scarce. As with wages for in-company trainers/instructors, this cost is usually covered by employers but the State may contribute (Box 2).

Box 2. **Costs for materials and equipment**

German dual VET
Costs for material and equipment are paid by employers and can be subsidised through deduction of taxes. According to the BIBB Cost-benefit survey 2012/13 (see BIBB and Janse at al., 2015), costs for material and equipment represent 15% of the average gross cost per apprentice to employers per year.

Portuguese apprenticeship programmes
There is a regulation which states that the company should cover the costs of material and equipment necessary for the performance of apprentice tasks.

Source: National expert surveys.

More information is available on travel and subsistence costs. These are usually covered by apprentices, though they may receive financial support from the State. In Austria and France, the data are fragmented since public subsidies (with regards to travel and subsistence costs) are determined at regional level. Employers may also cover apprentice travel and subsistence costs, while the State may compensate them part of these costs, as the Danish example shows (Box 3).

Box 3. **Travel and subsistence costs of apprentices**

Austrian dual apprenticeship and supra-company apprenticeship
The support to apprentices to cover their travel and subsistence costs varies across *Länder* (and comes from different institutions). For example, Carinthia grants a subsidy to apprentices to reimburse their accommodation costs if they temporarily need a home or apartment because of the long distance to home. The subsidy is up to EUR 50 per person per week for a maximum six weeks. Vorarlberg grants a reduction of around 50% on the annual ticket for public transport.

French apprenticeship contract
Regional councils provide grants to apprentices. In 2014 (last data available), they made a contribution of EUR 68 million for transportation and accommodation.

Croatian unified model of education
Apprentices generally receive financial support from the State (the Ministry of Science and Education) covering up to 75% of their travel and subsistence costs. The amount is calculated based on travel distance: for up to 10 km distance, the annual amount of support is approximately EUR 550 and for up to 50 km distance it is EUR 1 589. Apprentices whose families receive social support are granted subsidy fully covering travel and subsistence costs.

Portuguese apprenticeship programmes
According to a regulation, each trainee is entitled to:
– a transportation subsidy (equivalent to the cost of the journeys carried out in public transportation to attend the training), and subject to attendance/absence. This subsidy can be increased in special cases duly justified by an 'extraordinary transportation subsidy' with a monthly ceiling of EUR 63.20 when the apprentice cannot use public transport;
– a meal subsidy (EUR 4.52/day), subject to the attendance/absences and only applicable when the trainee spends more than three hours per day in training.

In all cases, the expenses incurred should not exceed EUR 315.99 per month. In some very special cases (and always duly justified), trainees can benefit from an accommodation allowance (with a monthly ceiling of EUR 126.40 per trainee and subject to authorisation from the training entity), as well as a housing subsidy (with a monthly maximum limit of EUR 210.66 per trainee and only applicable for trainees that are in charge of dependent children, minors or adults that have to be entrusted to third parties).

Danish apprenticeship
Companies that pay travel costs for the apprentices can get reimbursement from the national training fund (*Arbejdsgivernes Uddannelsesbidrag*, AUB, the Employers' training contribution system). In 2015, the number of apprentices who qualified for the State subsidy to cover travel and subsistence costs was 55 528. Employers received EUR 283 per apprentice per year.

Source: National expert surveys.

The collected information reveals that exam fees are more often paid by the employer, but they can be also paid by the apprentice (Box 4).

Box 4. **Exam fees of apprentices**

Austrian dual apprenticeship
For the first attempt, the employer is obliged to pay the exam fees; for the second and third attempt, no fees are due (the costs are covered by the Austrian Economics Chamber, which organises the exam through its apprenticeship offices). A rough estimation of the exam costs is between EUR 100 and EUR 200.

German dual VET
Exam fees are paid by employers. They are established by the responsible chamber of commerce and industry and crafts chamber and the specific trade. For example, the Berlin Chamber of Commerce and Industry established rates between EUR 60 and EUR 130 for interim exams and EUR 175 and EUR 390 for final exams. Shared funding takes place through tax incentives; the amount depends on the tax to be paid by the company and the marginal tax rate of the particular employer. No concrete overarching amount of the subsidy can be specified.

Finnish apprenticeship training
There is a fixed amount (EUR 58) for the final exam (one-off payment) paid by the apprentice. The exam fee is the only fee the student pays for the education, which costs approximately EUR 19 500 (three years education) in total.

Polish vocational training of young workers
The amount paid is fixed by a regulation of the Minister for National Education. The employer is obliged to cover the costs of the exam for the first attempt. If the apprentice does not pass, he/she might pay for the second attempt. However, the parties might agree that this should be covered by the employer.

Romanian apprenticeship at the work place
The final exam is external or partly external, organised in an accredited system, either by an accredited assessment centre or by the employer together with the local accreditation commission for adult vocational training. In both cases, the fee to the external part is paid by the employer organising the apprenticeship. The amount varies from 250 to over 500 EUR as the exam methods may be different, costs may differ for different qualifications (levels). Employer costs (related to the fee) may be reimbursed indirectly through the tax incentive.

UK apprenticeship schemes

The new apprenticeship standards require end-point assessments (EPA) at the end of the apprenticeship. EPA needs to be provided by an independent approved apprenticeship assessment organisation and not the training provider delivering the apprenticeship. As of May 2017, 20% of the price the employer and training provider agree for the off-the-job training can be used to pay for EPA and any exam resits: examination fees are to be paid by the employer out of their off-the job training fund (Apprenticeship levy). Prices will vary by provider and by the apprenticeship standard. The published EPA fee of one approved apprenticeship assessment organisation quotes EUR 515 for an adult social care apprenticeship and EUR 855 for a hospitality supervisor apprenticeship.

Source: National expert surveys.

CHAPTER 3.

Financing instruments to support employers and apprentices

The purpose of this chapter is to analyse selected financing instruments available to incentivise companies to provide apprenticeship places and encourage individuals to take up apprenticeship. The analysis aims at providing further grounds for developing the typology of financing arrangements for apprenticeships existing in EU countries and the UK (Chapter 5).

3.1. Overview

The study analyses several types of financing instrument supporting apprenticeship: training funds, grants for companies, grants for individuals (apprentices) and tax incentives. The analysis focuses on the 'main' financing instruments reported by national experts, defined in terms of amount of money involved and/or number of individuals and/companies benefiting from the instrument. The study analyses examples of, rather than all, training funds with the sectoral approach. Out of approximately 100 sectoral training funds in the Netherlands (several of which support apprenticeships), only one (for the metal sector) is analysed. Similarly, out of seven sectoral training funds in Germany (all present in very small branches) only one fund (for the scaffolder branch) is covered by the study.

Grants for companies are the most frequently reported financing instrument, followed by tax incentives. Support for apprentices was reported for one third of all schemes. Table 7 presents an overview of the main financing instruments that have been identified through the national expert surveys.

Table 7. **Main financing instruments for companies and individuals included in the analysis, by apprenticeship scheme**

No	Country/ scheme code	Apprentice-ship scheme	Support for companies					Support for indi-viduals
			National training fund	Sectoral training fund	Tax allowance	Tax credit	Grant	Grant
1.	AT 1	Dual appren-ticeship					1	
2.	AT 2	Supra-com-pany appren-ticeships – safety net of dual VET (1)						
3.	BE-fr	Dual training				1, no data	1, no data	
4.	BE-fl 1	Apprentice-ship for SMEs				1	1, no data	
5.	BE-fl 2	Part-time vocational secondary education				1	1, no data	
6.	CY	New modern apprentice-ship (2)						
7.	DE	Dual VET		1 example	1			1
8.	DK	Apprentice-ship	1				1	1
9.	EE	Work-place based learning					1	1
10.	EL	EPAS appren-ticeships					1	
11.	FI	Apprentice-ship training					1	1
12.	FR 1	Apprentice-ship contract	1(2)			1		1
13.	FR 2	Profession-alisation contract					1	

No	Country/ scheme code	Apprentice-ship scheme	Support for companies					Support for indi-viduals
			National training fund	Sectoral training fund	Tax allowance	Tax credit	Grant	Grant
14.	HR	Unified model of education			1		1	
15.	HU	Apprentice-ship – dual vocational training based on the apprentice-ship training contract	1					
16.	IE 1	Apprentice-ship	1([2])		1		1	
17.	IE 2	Employer-led apprentice-ships						
18.	IT 1	Type 1: Ap-prenticeship for vocational qualification and diploma and high technical specialisation certificate			1			
19.	IT 2	Type 3: High-er education and research apprentice-ships			1			
20.	LU	Apprentice-ship contract					1, no data	1
21.	MT	MCAST ap-prenticeships				1		1
22.	NL	Dual pathway		1 example			2	
23.	PL	Vocational preparation of young workers					2	

No	Country/ scheme code	Apprentice-ship scheme	Support for companies					Support for indi-viduals
			National training fund	Sectoral training fund	Tax allowance	Tax credit	Grant	Grant
24.	PT	Appren-ticeship programmes						1
25.	RO	Apprentice-ship at the workplace			1		1	
26.	SE	Apprentice-ship in upper secondary schools					1	1
27.	SK	Dual edu-cation and training			1		1	
28.	UK 1	Appren-ticeships (England)	1	1	1		1	
29.	UK 2	Degree level apprentice-ships (England)					1	

NB: Merged cells indicate that one instrument applies to more than one apprenticeship scheme (e.g. national training funds in IE and UK).

No data: an instrument was identified but not included in the analysis due to lack of (sufficient) data.

([1]) The scheme does not have any relevant financing instruments applied.

([2]) The support employers receive from this financing source is indirect (e.g. the funding is distributed to training providers, industry associations).

Source: National expert surveys.

The following sections analyse the financing instruments by type. Each section starts with definition of the instrument, describes briefly its history and development, presents its objectives and scope, explains the governance and management arrangements, briefly lists recent changes made to the instrument and discusses its strengths and weaknesses after presenting the main results.

3.2. Training funds

3.2.1. Instruments included in the analysis

A training fund is a 'stock or flow of financing outside normal government budgetary channels dedicated to developing productive work skills' (Johanson, 2009); in other words, a pool of money used to finance lifelong learning and training activities.

In the EU context, training funds aim at incentivising employers to engage in training activities by imposing a levy/tax on all or most companies and using the money collected to redistribute the funds back only to those companies that train their employees. In some cases, companies are incentivised to train by reducing the rate of levy for those that choose to train their employees; these companies pay less into the training fund compared to those that do not train (Section 3.2.4).

Two types of training fund are common in the EU:

(a) national training funds: these operate at the national level and are managed by the State, usually with the involvement of social partners (tripartite governance).

(b) sectoral training funds: these are usually managed jointly by employers and employees (bipartite governance), with or without the involvement of the government. The sectoral dimension can be either explicit (as with separate funds for each sector) or implicit (multi-sector funds or cross-industry funds, of which collection and/or allocation have a sectoral dimension) (Cedefop, 2008).

The study covers five national training funds (Denmark, France, Hungary, Ireland and the UK) supporting seven apprenticeship schemes: in Ireland and the UK the national training fund supports two apprenticeship schemes. Three sectoral training funds are included in the analysis: the German fund in scaffold builder branch, the Dutch fund in metal sector and the UK fund in the construction sector. These funds are used as examples of multiple (the Netherlands) or a few (Germany) sectoral funds existing in the respective countries. The sectoral approach is an important element as in many cases training funds become knowledge centres of expertise in labour/training related issues that can be incorporated into apprenticeship schemes.

An overview of the basic characteristics of training funds included in the analysis is presented in Table 8.

Table 8. **Training funds: overview of basic characteristics**

No	Country	Apprenticeship scheme	Instrument	Sub-type/ level of operation	Year of introduction	Funds only apprenticeship?	Companies eligible	Education and training levels supported
1.	DE	Dual VET	*Sozialkasse des Gerüstbaugewerbes* [Sectoral training fund in scaffold builder branch]	Sectoral training fund	1981	No	Companies of the scaffold builder branch. Unclear if / which additional eligibility criteria applied (1)	EQF3, EQF5, EQF6
2.	DK	Apprenticeship	*Arbejdsgivernes Uddannelsesbidrag (AUB)* [Employers' training contribution]	National training fund	1977	No	All companies	EQF3-4
3.	FR	Apprenticeship contract	*Taxe d'apprentissage* [Apprenticeship tax]	National training fund	1925	No	In relation to apprenticeship, companies are not direct beneficiaries. The funds raised are allocated to training centres.	EQF1-8
4.	HU	Apprenticeship – dual vocational training based on the apprenticeship training contract	*Nemzeti Foglalkoztatási Alap Képzési Alaprész* [National employment fund -training sub-fund; vocational training contribution]	National training fund	1988	No	All companies. In relation to apprenticeship, the companies entitled to promote practical training, i.e. those included in Chamber's register	EQF3-5

No	Country	Apprenticeship scheme	Instrument	Sub-type/ level of operation	Year of introduction	Funds only apprenticeship?	Companies eligible	Education and training levels supported
5.	IE	Apprentice-ship	National training fund (NTF)	*National training fund*	2000	No	In relation to appren-ticeship, the raised funds cover the costs of grant for apprentices and the cost of off-the-job training (2)	EQF1-8
		Employ-er-led apprentice-ships					In relation to apprenticeship, the raised funds cover the costs off-the-job training (3)	EQF1-8
6.	NL	Dual pathway	*Leerwerkbi-jdrage van het Opleidingsfonds Metaalbewerk-ing* [Learning contribution for the sectoral training funds for metalworkers]	Sectoral training fund	1984	Yes	Companies of the metal sector, recognised / certified by SBB as learn-ing companies employing apprentices in formal VET	EQF1-5
7.	UK	Appren-ticeships (England)	*Apprenticeship levy*	National training fund	2017	Yes	All companies above a certain wage bill	EQF3-5
		Degree level appren-ticeships (England)						EQF6-7

No	Country	Apprenticeship scheme	Instrument	Sub-type/ level of operation	Year of introduction	Funds only apprenticeship?	Companies eligible	Education and training levels supported
8.	UK	Appren-ticeships (England)	*CITB levy/Indus-trial training levy (construction)*	Sectoral training fund	1982	No	Companies of the construc-tion sector	EQF3-5

([1]) The reported number of beneficiaries suggests that either the instrument is not eligible for any company in the sector or that not all training companies applied for support.
([2]) NTF covers the costs of the grant ('training allowance') paid to the apprentices during their off-the-job training periods in the apprenticeship scheme (in the employer-led apprenticeship programme the employers cover the costs of the grant). The funding from the NTF goes also to the network of further education and training providers to cover cost of developing the curriculum and of providing the off-the-job training
([3]) The funding from the NTF goes to the industry consortium e.g. industry association or education provider, to cover development and administration costs associated with the apprenticeship

Source: National expert surveys.

3.2.2. History, objectives and scope

Many of the training funds analysed have a very long tradition (they were established in the 70s-80s, see Table 8) and could be regarded as the instruments well embedded in the national cultures. Nevertheless, training funds seem to be dynamic and highly adaptive to evolving times, in the sense that many of them have introduced some significant changes in recent years or have been/are planning to introduce changes in the coming years (these are discussed later in Section 3.2.5). All of the funds analysed are foreseen to continue operating in the future.

Box 5. History of the UK Apprenticeship levy

Even though the training fund currently operating in the UK was set up in 2017, a levy existed in the UK in the 1970s. The levy covered most of British industry but was resented by employers and was eventually eliminated in the 1980s due to inefficiencies caused by red tape. Previously companies had wider discretion to determine which activities they consider as training. The current levy is an updated version of the old levy set up by learning from past mistakes: now only apprenticeships pre-approved by the State qualify as training.

Source: Cedefop validation workshop (2017):
www.cedefop.europa.eu/en/events-and-projects/events/workshop-financing-apprenticeships-eu

Most of the training funds described do not solely finance apprenticeship training but also (or mostly) other forms of education and training (such as continuing vocational training) as well as other training-related activities such as identification of training needs and development of training programmes. Indeed, only the Dutch sectoral training fund and the UK Apprenticeship levy are solely/mostly specialised in supporting apprenticeship training.

The majority of training funds finance education and training at EQF levels 3-5 (Table 8) while the German sectoral training fund is also available for tertiary level qualifications (ISCED levels 5-6 in Germany). The British Apprenticeship levy targets EQF levels 6-7. The Dutch training fund applies to a broader spectrum of lower EQF levels (1-5). The French and Irish national training funds apply to all levels of education and training.

In relation to apprenticeship, the most common objective of the funds is to finance training. Some funds also finance social security payments. Sectoral training funds aim to support their respective sectors by improving the skills of the workforce, attracting and training the new entrants. National training funds, instead, aim at boosting the numbers of apprentices in general.

3.2.3. **Legal basis and governance**

All national training funds and the UK sectoral training fund have a legal basis in national laws. In contrast, sectoral training funds in the Netherlands and Germany are regulated by collective agreements.

The management of the training funds differs between national and sectoral funds. In Ireland, Hungary and the UK, public authorities are responsible for the management of national training funds (with the participation of social partners). The national training funds in Denmark and France, however, are characterised by high involvement of social partners (in France through 'joint collecting bodies'), in collaboration with public authorities. The decentralised nature of French system explains the highly decentralised governance of the funds and higher involvement of regional organisations in their management. Sectoral training funds in Germany and the Netherlands are managed by bipartite bodies composed of the representatives of employers and employees.

The variety of organisations involved in the governance of the training funds reflects the country context in which they operate. In countries with a smaller share of employees covered by collective agreements (below 33%) or lower trade union density (below 24%) training funds are operated mainly by public authorities (Ireland, Hungary and the UK). However, a wider variety

of (sectoral) organisations and social partners are involved in the governing of training funds in Denmark, Germany, France, and the Netherlands: these are countries with either more employees covered by collective agreements (50% in Germany, 84% in Denmark, 80% in France and 79% in the Netherlands) or a higher trade union density (67% in Denmark). In these cases, training funds play a very important role in strengthening cooperation and dialogue among social partners and increasing (apprenticeship) training.

In five training funds the same organisation was responsible not only for overall management of the instrument but also day-to-day operation and monitoring/evaluation. This includes the Social fund of the scaffolding industry (*Vorstellung der Sozialkasse des Gerüstbaugewerbes*, SOKA) in Germany, the Ministry of National Economy in case of the National employment fund training sub-fund in Hungary, the executive organisation of the social partners in career and development in metalworking (*Opleiding, Ontwikkeling, Metaalbewerking*, OOM) in the Netherlands, the Skills Funding Agency (SFA) in the UK's Apprenticeship levy and the Construction Industry Training Board (CITB) in the UK's CITB levy.

In Denmark, overall management is carried out by the Employers' training contribution system (AUB) but day-to-day operation is done by the ATP and monitoring and evaluations tasks by the National Agency for Education and Quality. In Ireland, the Department of Education and Skills is responsible both for overall management and evaluation and monitoring but day-to-day operations are carried out by the Further Education and Training Authority (SOLAS). In France, in addition to decentralised management of the instrument between the State and the regions, the apprenticeship tax is managed by the joint collecting bodies. The Commission of Accounts (*Commission des comptes*) from the National Council for Employment, Vocational Training and Guidance (CNEFOP) carries out analyses of the apprenticeship training financial accounts. Evaluation falls within the jurisdiction of the Court of Auditors (*Cour des comptes*) or with the senators.

3.2.4. **Financing mechanism and eligible costs**

Two financing mechanisms are used in the training funds analysed:

(a) levy-grant mechanism: companies pay training levies to their corresponding training funds, irrespective of the training activities they may or may not conduct. Companies are also expected to apply for financial support from the training funds. The money collected from companies through levy contributions is later redistributed between them

in the form of grants. This mechanism is used in Denmark, Germany, the Netherlands and UK (both, CITB levy and the Apprenticeship levy ([29]));

(b) levy-exemption or train-or-pay mechanism: companies may either eliminate or reduce their compulsory legally-binding levy obligations by the amount of training they provide or purchase. They must prove that they have spent these resources on training. If a company has not spent resources on training, it has to pay the amount due directly to the corresponding training fund. This mechanism is used, for example, in France in the CSA tax (additional contribution to apprenticeship) which supplements the apprenticeship tax. Companies which do not recruit enough young apprentices pay CSA tax.

In Hungary, the training fund combines both the levy-exemption and levy-grant (Box 6).

Not all training funds provide funding directly to companies, although this is the case in Denmark, Germany, Hungary, the Netherlands and the UK. In France, the funds collected through apprenticeship tax are allocated to apprenticeship training centres. In Ireland, the funding from the National training fund goes also to education and training providers to cover operational costs of off-the-job training. In addition, the Irish fund finances training allowance paid to apprentices during the off-the-job phases of their apprenticeship programmes (this is not applicable to employer-led apprenticeship). However, companies still end up benefitting from the training fund as, without its support, they would have to cover off-the-job training costs themselves in order to implement apprenticeship training.

3.2.4.1. *Levy collection*

One of the most distinct features of training funds is that they mobilise significant financial resources from companies without (over)relying on State revenues from general taxation. The money that the employers' levy generates represents the absolute majority of cash inflows in the training funds analysed.

In all the cases analysed, levy contributions are compulsory either by law (as in national training funds) or by collective agreements (as in sectoral funds). Typically, levies are calculated as a share of the company payroll.

([29]) In the case of UK Apprenticeship levy, levy-paying companies do not have to apply for joint funding: it is done automatically when they register a new apprentice.

In Denmark, however, companies pay a fixed sum per full-time employee. The rate of the levy is the same for all contributing companies in all cases analysed with the exception of UK levies: the CITB levy distinguishes between directly employed staff and payments made to subcontractors (reflecting the specificity of the sector) and the Apprenticeship levy is collected only from the companies above a certain wage bill threshold (EUR 3.4 million).

An overview of the rates and the basis of their calculation is provided in Table 9.

Table 9. **Basis for calculating levies**

No	Country	Instrument	Basis	Rate
1.	DE	Sectoral training fund in scaffold builder branch	Payroll of legal entities	2.5% of the total payroll
2.	DK	Employers' training contribution	Fixed sum	Fixed sum of EUR 381.46 (DKK 2 837) per full-time employee (2017)
3.	FR	Apprenticeship tax	Payroll of legal entities	0.68% of the total payroll
4.	HU	National employment fund training sub-fund	Payroll of legal entities	1.5% of the total payroll
5.	IE	National training fund	Payroll of legal entities	0.7% of the total payroll (0.35% in case of employees on low pay)
6.	NL	Learning contribution for the sectoral training funds for metalworkers	Payroll of legal entities	0.625% of the total payroll
7.	UK	Apprenticeship levy	Payroll of legal entities	0.5% (for companies above a certain wage bill)
8.	UK	CITB levy/Industrial training levy (construction)	Payroll of legal entities	0.5% of payments to directly employed staff and 1.25% of net payments made to subcontractors (2016)

Source: National expert surveys.

In Denmark, Hungary and the UK, the State contributes to the national training funds on top of the revenue collected from employers:

(a) in Denmark, the State contribution to apprentice remuneration is calculated at a rate corresponding to the *Statens uddannelsesstøtte* (SU) scholarship (a grant for individuals, see Section 3.5) rate of EUR 809 per student. This contribution is not the same as the SU scholarship, which

the State pays separately. The amount the State contributed to AUB in 2015 is estimated at EUR 69 million (in addition to EUR 762 million collected via the levy);

(b) in Hungary, if necessary, the government tops up the National employment fund (which includes training sub-fund) resources with central budget funding. In 2016, the State contributed to the National employment fund with an additional EUR 100 million, added to EUR 1.1 billion collected from private sources;

(c) in the UK, the government will top up the levy-paying company's monthly levy payment by 10%. After the company's levy payments plus the government's top up funds have been exhausted, the State jointly funds 10% of any additional apprenticeship training costs.

3.2.4.2. *Disbursement of funds and forms of support*

Companies may receive financial support from training funds through grants or levy reduction mechanism (Section 3.2.4). The following employer costs are covered most frequently by training funds:

(a) apprentice remuneration;

(b) travel and subsistence costs (including cost of meals and accommodation).

Other costs covered include apprentice social insurance costs, wages of internal or external instructors/mentors/tutors, costs of material and equipment, learning materials and textbooks, administration, selection and recruiting costs, and exam fees (Table 10). The data on what share of the costs is financed through the training funds are largely unavailable.

Some examples of the support to companies from training funds are presented in Box 6.

Box 6. **Examples of support from training funds**

In **Hungary**, companies are obliged to contribute to training through a levy equal to 1.5% of the company payroll. The company can meet this 'vocational training contribution' in three ways: (a) by organising practical training for students in vocational training schools or in tertiary education; (b) by organising training for own employees; (c) by payment to the development and training sub-fund of the National employment fund. Companies organising practical training based on an apprenticeship contract may reduce their vocational training contribution by the amount equal

to a 'basic normative subsidy'/'basic amount' of HUF 480 000, (approximately EUR 1 460) per apprentice per year (the level of the subsidy varies depending on training profession, costs of training, etc.). In addition, companies can claim reimbursement of the in-company trainer wage costs (up to 21% of the basic amount) and the costs related to the maintenance of the company workshop (up to 25% of the basic amount). Larger investment costs (such as building a workshop or purchasing the machines needed specifically for apprenticeship training) may be also reimbursed (up to approximately EUR 48 400 per year).

In **the Netherlands**, the sectoral training fund OOM (Learning contribution for the sectoral training funds for metalworkers) grants three types of financial support to apprenticeship: there is a learning and working subsidy of EUR 2 300 per apprentice per year and an additional compensation from a training pool (the latter is based on a cooperation arrangement of employers in the metal sector that have decided to collectively organise the training of students, beyond formal education institutions). Employers that participate in the training pool and train apprentices also receive an additional grant of EUR 1 500 per year since these training pools demand higher investments from companies and also show higher performance in terms of graduation figures compared to regular VET tracks. Both subsidies are lump-sum payments made to the employer. In the third grant companies that are members of the OOM can request to be reimbursed the costs incurred for training an in-company trainer. The maximum amount is EUR 1 000 per year, and employers can request compensation for training a maximum of two trainers per company.
An additional form of support was introduced in the form of a diploma bonus of EUR 1 000 after an apprentice has graduated. This bonus, however, was no longer available to companies in 2017-18.

Source: National expert surveys.

There is no single operational criterion for disbursing the funds. The options range from financing all eligible applicants (Denmark, Germany, the Netherlands, Hungary and the UK CTIB levy) to allocating funds to projects that contribute to national skills development policies (Ireland). Maximum amounts available to companies vary and are presented in Table 10.

3.2.5. **Changes to the instrument**

There have been some substantial changes recently implemented or planned for training funds:

(a) the financial model of the Employers' training contribution *(Arbejdsgivernes Uddannelsesbidrag (AUB)* in Denmark was changed by a tripartite

Table 10. **Maximum amounts/shares of funding and eligible costs**

No	Country	Instrument	Eligible costs				
			On-the-job training costs				
			Apprentice wages/ allowances	Costs of social insurance of apprentices	Wages of internal / external instructors	Costs of material / equipment	
1.	DE	Sectoral training fund in scaffold builder branch	Yes	No	No	No	
2.	DK	Employers' training contribution	Yes	No	No	No	
3.	FR	Apprenticeship tax	No	No	No	No	
4.	HU	National employment fund training sub-fund	Yes	Yes	Yes	Yes	
5.	IE	National training fund	No	No	No	No	
6.	NL	Learning contribution for sectoral training funds for metalworkers	Yes	Yes	Yes	Yes	
7.	UK	Apprenticeship levy	No	No	No	No	

	Eligible costs	
	Other costs	**Maximum amount of funding per year**
	Yes – travel costs, accommodation and examination fees	Max. 50% of apprentices wage, limited to the amount specified as training wage in a collective agreement
	Yes – accommodation and travel costs (for apprentices in boarding schools)	Varies depending on the year: 1st year students – EUR 338.84, adult students – EUR 676.33
	Yes – off-the job training costs (could be the material, trainers, all the costs linked to a training center)	Companies pay the levy but are not direct beneficiaries. They pay the tax to joint collecting bodies that allocate the raised funds to training centres.
	Yes – meals and travel costs	The average base amount is EUR 1 461.76 per apprentice per year (base amount varies depending to training professions, costs of training etc.). For example, the maximum amount of funding for training a welder is EUR 3 595.93 (EUR 2 923.52 base amount) + EUR 48 402.71 per year for investment. See also Box 5 for additional explanation of what kind of support is available from the fund.
	Yes – off-the-job training costs, costs of developing the curriculum; grant paid to apprentices ('training allowance')	The National training fund does not directly provide money to employers but covers the 'training allowance' paid to their apprentices in apprenticeship schemes during their off-the-job training periods (in the new employer-led apprenticeship programme, employers pay during off-the-job period). The National training fund also contributes to the cost of off-the-job training provision for both programmes.
	Yes – all costs (general compensation)	EUR 4 000 per year
	Yes – off-the-job training costs	The exact amount for levy-paying companies depends on the apprenticeship and its corresponding funding band, which can range from EUR 1 710 (band 1) to EUR 30 780 (band 15, which is likely to apply to degree and some other higher apprenticeships in science, technology or engineering). ([1])

No	Country	Instrument	Eligible costs				
			On-the-job training costs				
			Apprentice wages/ allowances	Costs of social insurance of apprentices	Wages of internal / external instructors	Costs of material / equipment	
8.	UK	CITB levy/Industrial training levy (construction)	No	No	No	No	

([1]) For example, for an adult care worker apprenticeship standard the training fund would cover up to EUR 3 078 (i.e. 90% of corresponding band 2 set at EUR 3 420) for a Level 2 apprenticeship. This level of financing only applies after the company has paid all their levy on apprenticeship training and wishes to continue to invest in apprenticeship training on top of the levy. For non-levy paying companies (those with a pay bill below GBP 3 million per year), the training fund would cover 10% of the funding band, while the State would cover the remaining 90%.

agreement in August 2016. The changes included increased financial incentives to create more apprenticeship places in the companies, and an additional contribution to the AUB scheme collected from companies that do not train the required share of students;

(b) in France, the 2013 Financing Law created a new apprenticeship tax, which merges with a previous tax into a single apprenticeship tax. The new levy amounts to 0.68% of the payroll of the company. The tax is divided into three parts: 51% corresponds to the regional part (the tax is paid to the State and then repaid to the Regions, 26% corresponds to the part allocated to apprenticeship, and 23% corresponds to the part allocated to apprenticeship or to other vocational/technological training (in this case, the company can decide to pay the tax to training centre of its choice);

(c) in Hungary, from 1 January 2016 companies can receive extra subsidies (for aspects including investment in materials and equipment), from the National employment fund training sub-fund;

(d) in the Netherlands, in the sectoral training fund for metalworkers, a diploma bonus of EUR 1 000 expired in 2017/18, and an additional grant of EUR 2 000 to companies was abolished in 2015;

	Eligible costs	
	Other costs	Maximum amount of funding per year
	Yes – support for off-the-job attendance and the achievement of a vocational qualification and an apprenticeship framework	Grants are paid for yearly attendance and for achievement of the qualification. Figures are provided for a three-year level 3 apprenticeship: • EUR 2 464 in the first year • EUR 5 060 in the second year • EUR 5 330 in the third year (in total: EUR 12 853.50 over three years) This includes a 10% supplement paid if all eligibility criteria are met every year. It is assumed that supplementary rates are paid on attendance and completion.

Source: National expert surveys.

(e) in the UK, the previous system of grants for companies (for an overview of the British grants for companies see Section 3.4), has been replaced by the new Apprenticeship levy, introduced by the Government in May 2017;
(f) in the UK, in addition to the CITB levy, large construction sector employers with an annual pay bill over EUR 3.4 million will also have to pay the above new cross-sectoral Apprenticeship levy. CITB has introduced a one-year transition package for those employers having to pay both types of levy (essentially an enhancement to the training grants they can claim to ensure that employers have sufficient funds for training).

3.2.6. **Volumes of funding and participation**

3.2.6.1. *Volumes of funding*

Information regarding the actual volumes of funds collected and disbursed was available for most of the training funds (Table 11). However, where training funds support different types of education and training, including apprenticeship, the data available referred to the total amounts disbursed for training rather than the sums specifically spent on apprenticeship. The data for the UK Apprenticeship levy were not available as the instrument was only introduced in 2017, nor were the data for German sectoral training fund in scaffold builder branch fully obtainable.

Training funds generally collect more funding than is disbursed for education and training-related purposes in one year, though for the French training fund, the same amounts for funds collected and disbursed were reported. Total volumes of funds disbursed vary greatly, ranging from EUR 14 million (2016) in the case of Dutch sectoral training fund to around EUR 950 million (2016) in the case of French national training fund. Sectoral training funds disburse fewer funds than the national training funds, as they operate on a smaller scale. However, the British sectoral training fund for the construction sector collects similar amounts to the Irish national training fund (although it disburses a much smaller share of funds than the Irish training fund). All training funds are largely financed via levy on employers. However, public financial sources besides the funds collected via the levy can be used. In Denmark, for example, public funds represent around 17% of the total funds used, as collected data show. According to the data collected, EU funds were used only in Ireland in 2015, and they only accounted for 1.6% of total funds collected that year.

Table 11. **Training funds: volumes of funding**

No	Country	Instrument	Total actual volume of funds collected (in EUR)	
1.	DK	Employers' training contribution	(**)~831 000 000 (E)	
2.	FR	Apprenticeship tax	(*)949 000 000	
4.	IE	National training fund	(***)390 000 000 (**)370 000 000	
6.	NL	Learning contribution for the sectoral training funds for metalworkers	(***)28 000 000 (E)	
6.	UK	Apprenticeship levy	n.a.	
7.	UK	CITB levy/Industrial training levy (construction)	(***)226 000 000	

NB: n.a.: information is not available.

(*) data from year 2014; (**): data from year 2015; (***): data from year 2016; (E): estimated figure.

For the HU, the figures relevant for the whole National Employment Fund were reported (rather than specifically for the training sub-fund). In 2016, EUR 1.12 billion was collected from private sources. The State topped up with EUR 100 million. The disbursed funds amounted to EUR 1.4 billion.

(1) The total volume of funds disbursed in 2016 was not available at the time of this research. However, it was reported that EUR 435,000 was spent to cover the development and administration costs associated with the new employer-led apprenticeship programmes. No funds were disbursed in 2015 for the employer-led apprenticeship programme as it only commenced in September 2016.

3.2.6.2. *Participation of companies and individuals*

The numbers of companies that benefited from the training funds were much smaller than the numbers of companies that contributed (Table 12). The share of beneficiaries from all contributing companies was the smallest (did not exceed 7%) for three training funds: German, Hungarian and Irish. It should be noted, however, that the figures on training fund beneficiaries in Hungary concern employers that provided practical training for students. In Ireland, in contrast, the figures concern all companies that benefited from the training fund, including employers that did not employ apprentices. The Danish national training fund had a higher share of 17.8% of contributing companies that benefited. In the Netherlands the share was 16.3%. In the UK, sectoral training fund (CITB), 16 100 companies received support irrespective of whether or not they paid the levy (28 117 out of 69 812 employers paid the levy). Out of those, 8 400 employers received a grant to pay for apprenticeships, irrespective of whether or not they paid the levy.

	Sources of collected funds			Total volume of funds disbursed (in EUR)
	Public financial resources (in EUR)	Private financial resources (in EUR)	EU funds (in EUR)	
	(**)~69 000 000 (E)	(**)~762 000 000	0	(**)~400 000 000 (E)
	0	(*)949 000 000	0	(*) 949 000 000
	0	(***)390 000 000 (**)364 000 000	(***)0 (**)6 000 000	(***)n.a. (1) (**)334 000 000
	0	(***)28,000,000 (E)	0	(***)14 000 000 (E)
	n.a.	n.a.	n.a.	n.a.
	0	(***)226 000 000	0	(***)68 400 000(2)

(2) The amount is relevant for the funds spent on attendance grants and apprenticeship achievement grants.

Source: National expert surveys.

Table 12. **Training funds: participation**

No	Country	Instrument	Companies that contributed	
1.	DE	Sectoral training fund in scaffold builder branch	2 900 (1)	
2.	DK	Employers' training contribution	(***) 120 519	
3.	FR	Apprenticeship tax	Not relevant (2)	
4.	HU	National employment fund training sub-fund	(***) 544 156 (**) 567 857	
5.	IE	National training fund	(***) 208 000 (E) (**) 207 737 (E)	
6.	NL	Learning contribution for the sectoral training funds for metalworkers	(***) 13 500 (E)	
7.	UK	Apprenticeship levy	n.a.	
8.	UK	CITB levy/Industrial training levy (construction)	(***) 28 115 (4)	

NB: 'n.a.': information is not available.

(*) data from year 2014, (**) data from year 2015, (***) data from year 2016, (E) : estimated figure.
(1) data from year 2013.
(2) the companies are not direct beneficiaries.
(3) 6 991 companies benefited out of 69 312 companies that were included in chamber's register, i.e. could provide practical training for VET students;

3.2.7. Trends and monitoring/evaluation results

Some of the main trends and/or evaluation/monitoring results are presented below:

(a) Denmark: the training funds create significant positive employment effects. There has been a small fall in beneficiaries since 2011 (from 23 700 in 2011 to 21 500 in 2015);

(b) France: the amounts collected via the apprenticeship tax have been growing since 2004 (from EUR 603 million in 2004 to EUR 949 million in 2014). The main criticism of the instrument is the unequal distribution of the tax. In some regions, the apprenticeship tax is used to develop tertiary apprenticeship. The main risk of the instrument is possible increase in unemployment among the less qualified. In recent years, the number of apprentices has grown slower than the total expenses for apprenticeship.

	Companies that benefited	Share (in %) of beneficiaries from all contributing companies	Individuals that benefited
	184 (1)	6.3 (1)	324 (1)
	(**) 21 464	(**) 17.8 (E)	(**) 8 5 298
	Not relevant (2)	Not relevant (2)	(***) 239 438
	(***) 7 059 (**) 6 991 (3)	(***) 1.3 (**) 1.2	(***) 52 022
	(***) 13 000 (E) (**) 12 861(E)	(**) *6.3 (E) (**) 6.2 (E)	(***) 2 324(E) (**) 2 117(E)
	(***) 2 200 (E)	(***) 16.3 (E)	(***) 5 000
	n.a.	n.a.	n.a.
	(***) 16 101 (8 400 received a grant to pay for apprenticeship)	(***) 57.3 (29.9)	(***) 24 625

(4) at the time of this research, in 2016, out of the 69 812 employers 28 155 were assessable to positive levy, i.e. had to pay a levy (9 144 employers have not yet been assessed).

Source: National expert surveys.

Consequently, the cost per apprentice has risen by 32% between 2004 and 2014;

(c) Ireland: the funds available to the National training fund have been increasing due to the increased number of people in employment;

(d) the United Kingdom: there is industry support for the levy. Stakeholder feedback indicates that communication with employers about the CITB services could be improved and that further work may be required to simplify the complexity of the grants system. A CTIB employer survey reveals that 23% currently employ staff undertaking apprenticeships (compared to 14% in 2014 and 2011 respectively); 34% of those offering apprenticeships reported an increase in the number of apprenticeships in the last 12 months (compared to 27% in 2014) and 12% reported decreasing numbers (compared to 13% in 2014). 15% offer apprenticeships but

currently do not have apprentices (compared to 10% in 2014). Overall, 33% reported that it was likely that they would take on an apprentice in the next 12 months. This rises to 62% of employers who currently employ an apprentice (compared to 55% in 2014). The likelihood of employing an apprentice rises with the size of the business: 21% with two to nine employees employ an apprentice compared to 80% with 100 and more employees. It is not known, though, whether these apprenticeships were funded through the levy, but it seems very likely.

There are visible cross-country trends with regard to the effect of training funds on labour market outcomes as reported by the national experts (data for the Netherlands and the UK Apprenticeship levy was not available):

(a) higher probability to get a job (France, Hungary, Ireland and the UK (CITB));
(b) increased opportunities for companies to employ apprentices (Denmark);
(c) increased skills of the labour force (Denmark and Ireland);
(d) higher wages (France, the UK (CITB));
(e) increased chances of working in the vocation the students were trained for (Hungary).

The discussion on the strengths and weaknesses of training funds, based on the literature review, is presented in Annex 6.

3.3. Tax incentives for companies

3.3.1. Instruments included in the analysis

Tax incentives are the concessions in tax codes that mean a conscious loss of government budgetary revenue. They are usually intended by public authorities to encourage particular types of behaviour (in relation to education and training/apprenticeship, in this case) and/or to favour concrete groups (certain companies in this case).

The following main tax incentives for companies are addressed in this report ([30]):

([30]) The following additional types of tax incentive were not considered in this report (based on OECD, 2017): tax relief or tax exemption (e.g. lower/ zero rates on scholarship or other income or

(a) tax allowances: a taxation rule allowing deduction from gross income to arrive at a taxable income (i.e. tax base), in this case for legal entities;
(b) tax credits: a taxation rule allowing deduction from tax liability (i.e. tax due or tax payment), in this case for legal entities.

The examples of deduction/exemptions from social security contributions are also included (for Italian and British schemes).

A total of 12 tax incentives for companies were reported for 14 apprenticeship schemes in 10 countries (Belgium, Ireland, France, Germany, Croatia, Italy, Malta, Romania, Slovakia and the UK) (Table 13). In Ireland and the UK, the same tax incentive was applied for the two different schemes in each country. Tax allowances (hereafter abbreviated as TAC) were more popular than tax credits (hereafter abbreviated as TCC). There were only four tax credits for companies: for both Belgium-Flemish schemes, for the French apprenticeship contract and the Maltese scheme.

3.3.2. History, objectives and scope

Most of the tax incentives were established in the 2000s or even 2010s (Table 13). Two tax incentives have a (much) longer tradition: tax allowance for companies applied in German apprenticeship was established in 1920 and tax allowance for companies applied in both Irish schemes was launched back in 1997. Tax allowances in both Italian schemes were foreseen to end in 2017, but were extended for 2018.

Most of the identified tax incentives for companies (for which information was available) were focused on employers and aimed either to alleviate taxes for business (to alleviate the financial burden of apprentices) and/or encourage employers to invest in training of their employees (including apprentices). The Maltese and Slovakian tax incentives were more focused on learners: they aimed at preparing them for future employment.

Only in the case of four tax incentives (both the Italian ones, the French and the British) the official objectives directly referred to apprenticeship. This relates to the fact that only six tax incentives (both the Flemish ones, French, both Italian and the British) focused specifically on apprenticeship schemes (Table 13), while the remaining tax incentives also funded other forms of education and training.

---

grants, or lower rates for some types of companies/ their activities); tax deductibility of interest payments on student debt; and tax deferrals (the postponement of tax payments for companies).

Table 13. **Tax incentives: overview of basic characteristics**

No	Country	Apprenticeship scheme	Instrument	Sub-type	
1.	BE-fl	Apprenticeship for SMEs	*De structurele vermindering* [Tax reduction]	TCC	
2.	BE-fl	Part-time vocational secondary education	*De structurele vermindering* [Tax reduction]	TCC	
3.	DE	Dual VET	*Körperschaftssteuer* [Corporate Tax]	TAC	
4.	FR	Apprenticeship contract	*Crédit d'impôt en faveur de l'apprentissage* [Tax credit in favour of apprenticeship]	TCC	
5.	HR	Unified model of education	*Porezne olakšice* [Tax incentive]	TAC	
6.	IE	Apprenticeship	*Training tax allowance*	TAC	
	IE	Employer-led apprenticeships	*Training tax allowance*	TAC	
7.	IT	Type 1 Apprenticeship for vocational qualification diploma, upper secondary education diploma and high technical specialisation certificate	*Incentivi per il contratto di apprendistato per la qualifica, il diploma e il certificato di specializzazione tecnica superiore* [Incentives for apprenticeship for vocational qualification and diploma, upper secondary education diploma and high technical specialisation certificate]	TAC([1])	
8.	IT	Type 3 Higher education and research apprenticeships	*Incentivi per il contratto di apprendistato di alta formazione e ricerca* [Incentives for Higher Training/education and research apprenticeship]	TAC([1])	
9.	MT	MCAST apprenticeships	*Tax incentive scheme*	TCC	
10.	RO	Apprenticeship at the workplace	*Ucenicia la locul de munca* [Apprenticeship in the workplace]	TAC	
11.	SK	Dual education and training	*Zlava z dane z príjmu právnických osob* [Deduction from income tax of legal entities]	TAC	

	Year of introduction	Funds only apprenticeships?	Companies eligible	Education and training levels supported
	2008	Yes	Certified companies with a tutor employing Apprentices under 18 and 18-25 year-olds	EQF3
	2008	Yes	All companies employing apprentices under 18	EQF3
	1920	No	All companies	All levels
	2005	Yes	All companies employing apprentices at least for one month	EQF2-8
	2007	No	All companies	EQF3-5
	1997	No	All companies	All levels
	1997			All levels
	2015-17	Yes	All companies employing minor apprentices under 18 and adults aged 18-30	EQF3-4
	2015-17	Yes	All companies employing apprentices aged 18 to 29 holding a higher education diploma or a VET professional diploma	EQF4-8
	2014	No	All companies	EQF 3-4
	2000	No	All companies. In relation to apprenticeship. In relation to apprenticeship, only the accredited companies (i.e. having signed the contract with the National Agency for Employment)	EQF 3-5
	2003	No	All companies	EQF 3-4

No	Country	Apprenticeship scheme	Instrument	Sub-type	
12.	UK	Degree level apprenticeships (England)	*Abolition of employer national insurance contributions for apprentices under the age of 21 and 25 respectively (Reduction of secondary Class 1 NICs for apprentices)*	TAC(1)	
	UK	Apprenticeships (England)	*Abolition of employer national insurance contributions for apprentices under the age of 21 and 25 respectively (Reduction of secondary Class 1 NICs for apprentices)*	TAC(1)	

NB: n.a.: not available, TAC: tax allowances, TCC: tax credits.
(1) Reduction/exemption from social security contribution.
Source: National expert surveys.

All identified tax incentives operated at the national level, except for two that operated at the regional level (Flemish region of Belgium).

Most of the tax incentives targeted a particular level of education, usually EQF 3, 4 and/or 5 levels (Table 13). The Italian tax incentive for Type 3 schemes targeted EQF 4-8 levels. The remaining four tax incentives (German, French Irish and UK) were universal in terms of education and training level (Table 13).

Few incentives targeted a particular type of company. Examples include the Flemish tax credit (Apprenticeship for SMEs scheme), where companies with certified tutors are eligible, or the French tax credit where companies employing apprentices at least for one month may use the instrument.

3.3.3. Legal basis and governance

The tax incentives have legal basis in State legislation. In most cases, the Ministry of Finance was responsible for the overall management of the tax incentive (organisation and coordination of the activities related to achieving the defined objective(s) of the instrument). Typically, a single institution (usually the Ministry of Finance but also the Ministry of Taxation, the financial office or the tax administration) was also responsible for activities including day-to-day operations and evaluation/monitoring. In three cases the situation was different:

	Year of introduction	Funds only apprenticeships?	Companies eligible	Education and training levels supported
	2015-16	Yes	All companies employing apprentices aged 16-25	EQF 3-5
	2015-16			EQF 6-7

(a) tax credit for companies relevant for the Flemish part-time vocational secondary education scheme: the Ministry of Education was in charge of the overall management, day-to-day operations and evaluation/ monitoring;
(b) French tax credit for companies: the National Council for Employment, Training and Vocational Guidance (CNEFOP) was responsible for the evaluation/monitoring, while overall management and day-to-day coordination were carried out by the Ministry of Finance and the Ministry of Taxation respectively;
(c) tax credit for companies relevant for the Maltese apprenticeship scheme: overall coordination is done by the Commissioner for Revenue, while no institution is responsible for evaluation/ monitoring as no such tasks are carried out.

For about a half of the identified tax incentives, some other, non-financial, State institutions, were involved or in charge of the management of the instrument (such as the Ministry of Labour, the Ministry of Education, the National Institute for Social Security or the National Agency for Employment). Employers were involved in the management only in the two British tax incentives.

3.3.4. Financing mechanism and eligible costs

Tax incentives for companies can be divided in two groups (Table 14):
(a) universal tax incentives: these leave freedom for employers to select eligible expenses as long as these are within certain limits (in the Maltese case) or relate to training or doing business in general. This applies to

Table 14. **Tax incentives: maximum amounts that can be deducted and eligible costs**

No	Country/ scheme code	Instrument	Sub-type	Eligible costs			
				Apprentice wages/ allowances	Costs of social insurance of apprentices	Wages of internal / external instructors	
1.	BE-fl	Tax reduction	TCC	yes	yes		
2.	BE-fl	Tax reduction	TCC	yes	yes		
3.	DE	Corporate tax	TAC	yes	yes	yes	
4.	FR	Tax credit in favour of apprenticeship	TCC	yes			
5.	HR	Tax incentive	TAC	yes			

	Eligible costs			Other costs	Maximum amount/ share of training expenditure that may be deducted or credited
	Costs of material / equipment	Training and exam fees	Travel (incl. accommodation) and subsistence costs		
					120% of the apprenticeship wage multiplied by the number of apprentices in a company
					120% of the apprentice wage
	yes	yes	yes	Where companies pay into training funds, these contributions are also tax deductible.	No maximum amount/ share specified
					EUR 1 600 per apprentice (EUR 2 200 for disabled and low qualified apprentices) preparing a diploma at lower secondary school and diploma not beyond two years after the baccalaureate. Companies can benefit from the apprenticeship credit tax only for the first year of registration of an apprentice
	yes				Up to 5% reduction in tax base or self-employment income for entrepreneurs that have one to three students at their premises. Entrepreneurs with more than three students can increase the reduction of tax base by one percentage point per student but not exceeding 15% for overall deduction.

No	Country/ scheme code	Instrument	Sub-type	Eligible costs			
				Apprentice wages/ allowances	Costs of social insurance of apprentices	Wages of internal / external instructors	
6.	IE	Training tax allowance	TAC				
	IE	Training tax allowance	TAC				
7.	IT	Incentives for Apprenticeship for vocational qualification and diploma, upper secondary education diploma and high technical specialisation certificate	TAC		yes		
8.	IT	Incentives for Higher Training/ Education and research apprenticeship	TAC		yes		
9.	MT	Tax incentive scheme	TCC				
10.	RO	Apprenticeship in the workplace	TAC	yes	yes	yes	
11.	SK	Deduction from income tax of legal entities	TAC	yes	yes	yes	

	Eligible costs			Other costs	Maximum amount/ share of training expenditure that may be deducted or credited
	Costs of material / equipment	Training and exam fees	Travel (incl. accommodation) and subsistence costs		
	yes	yes	yes		No maximum amount/ share specified
	yes	yes	yes		No amount/ share specified
					The employer costs incurred for training are excluded from the basis for the calculation of IRAP (regional taxation of productive activities) (*)
					Same as above
				costs for paying and training the apprentice when at work (e.g. tools and working clothes, maintenance of the workplace, etc.)	EUR 1 200 EUR per apprentice per year
	yes	yes	yes	Any expenses (documented) in relation to training	No limit to the share of the training expenditure that can be deducted, as long as it is below 2% of the total annual wage cost of the company.
	yes	yes	yes	Every employer decides how they use the funds saved by the tax incentive. They may cover any apprenticeship related cost.	Max EUR 3 200 if more than 400 hours of practical training provided per one learner. Max EUR 1 600 if more than 200 hours of practical training provided per one learner.

No	Country/ scheme code	Instrument	Sub-type	Eligible costs			
				Apprentice wages/ allowances	Costs of social insurance of apprentices	Wages of internal / external instructtors, etc.	
12.	UK	Abolition of employer national insurance contributions for apprentices under the age of 21 and 25 respectively (Reduction of secondary Class 1 NICs for apprentices)	TAC		yes		
	UK	Abolition of employer national insurance contributions for apprentices under the age of 21 and 25 respectively (Reduction of secondary Class 1 NICs for apprentices)	TAC		yes		

NB: TCC refers to tax credit for companies, TAC to tax allowance for companies.

(*) The cost for training hours is equal to 10% of the minimum hourly wage, for hours of internal training or in any case 'on the job'. The cost for training hours is equal to 0% of the minimum hourly wage, for hours of external training.

Source: National expert surveys.

	Eligible costs			Other costs	Maximum amount/ share of training expenditure that may be deducted or credited
	Costs of material / equipment	Training and examination fees	Travel (incl. accommodation) and subsistence costs		
					According to the legal specification, the employer saves 13.8% of national insurance contributions (NIC) which would be due on the gross pay between the secondary threshold (EUR 9 247 per year) and the apprentice upper secondary threshold (EUR 49 020 per year) (all figures valid for the tax year 2016/17). In practice, given that there is a threshold below which no employer NIC is paid the total savings amount to EUR 616 for an annual salary of EUR 13 680 and EUR 1 628.2 for an annual salary of EUR 21 090.
					EUR 6 091 EUR is the maximum amount of employer national insurance savings, corresponding to an apprentice pay of EUR 54 000. However, apprenticeship pay is far lower. In 2016 average pay per year for apprenticeship levels 2 and 3 was reported to be EUR 16 357. This would correspond to a EUR 1 097 employer national insurance savings for this year (6.7%). McGuinness. F. and Apostolova, A- (2016) Apprenticeships Funding. Debate Pack. Number CDP 2016/0192, 31 October 2016. Maximum share is unlikely to be specified, as training expenditure is included under general expenditure with no separate headings.

German, Slovakian and the Romanian incentives. In addition to categories of employer costs detailed in the table below, the tax incentive in Germany also allows deducting companies' contributions to training funds, while the Maltese incentive allows deduction of expenses on tools and working clothes, and maintenance of the workplace;

(b) tax incentives with restrictive eligibility of employers' costs (the remaining instruments, Table 14).

Wages/salaries and/or social insurance of apprentices were covered in most of 12 identified tax incentives.

For those tax incentives where the maximum amounts that can be deducted by the company are specified by the regulation (see Table 14), the amounts ranged from slightly more than EUR 600 (in tax incentive in UK, the degree level apprenticeships (England) scheme, assuming low annual salary) to more than EUR 3 000 (in tax incentive for companies in Slovakia, assuming more than 400 hours of practical training provided per one learner).

3.3.5. **Changes to the instrument**

The changes to two tax incentive instruments were reported. These concerned modification of eligibility in terms of target groups and alteration of validity period:

(a) in both UK (England) schemes national insurance relief was initially introduced in 2015 for companies employing apprentices under the age of 21 and was then extended to those employing apprentices under the age of 25 in 2016;

(b) the Italian government extended the duration of tax incentives for companies of both schemes scheme until 31 December 2017.

3.3.6. **Volumes of funding and participation**

3.3.6.1. *Volumes of funding*

In seven cases, the overall annual cost for the instrument in terms of lost public revenue (actual or estimate) has been reported (Table 15). Amounts differ greatly and demonstrate very different scales of application of this instrument, from a few million (EUR 3.6 million for the Slovak tax incentive, and EUR 6.4 million for the Italian tax incentive, in relation to the type 3 apprenticeship scheme) to approximately EUR 1.23 billion (estimate for German tax allowance).

3.3.6.2. *Statistics on participation and eligibility of companies*

Statistics/estimates on the number of beneficiary companies were available only for five tax incentives (Table 15). The highest number of beneficiaries was reported for Italian apprenticeship schemes type 1, with an estimated 3 000 companies benefiting. In relation to type 3, approximately 700 companies benefited. At the same time, the share of beneficiary companies in relation to eligible ones was very low for both Italian apprenticeship schemes: 0.1% in type 1 apprenticeship and 0.02% in type 3. Slovakia reported on 142 companies making use of a tax incentive instrument.

Despite Maltese and Romanian tax incentives, no company has used the opportunity among these that were eligible.

This information is based on collected data and needs to be validated in further, more detailed research focusing on tax incentives for apprenticeships.

3.3.7. **Trends and monitoring/evaluation results**

Tax incentives are rarely monitored or evaluated; monitoring, evaluation or some performance information was available only for a few tax incentives:

(a) France (tax credit for companies of the apprenticeship contract scheme): The total amount of State foregone revenue doubled between 2004 and 2014, from EUR 175 million to EUR 350 million. According to a national expert, this may be explained by the increasing level of apprentice qualification; wages varied according to the level of the diploma they prepared;
(b) Romania: according to the national expert, the tax allowance is not enough to encourage employers to involve themselves in initial training, given that rules on deduction are not very clear and specific and fiscal inspectors are very tough in cutting deductions that are poorly documented;
(c) Ireland (tax allowance for both apprenticeship schemes): increased employer expenditure on training;
(d) UK: as stated by the national expert, 'savings have been reinvested to strengthen the quality of the apprenticeship'.

The discussion on the strengths and weaknesses of tax incentives, based on the literature review, is presented in Annex 6.

Table 15. **Tax incentives: costs, eligibility and participation**

No	Country	Instrument	Sub-type	
1.	BE-fl	Tax reduction	TCC	
2.	BE-fl	Tax reduction	TCC	
3.	DE	Corporate Tax	TAC	
4.	FR	Tax credit in favour of apprenticeship	TCC	
5.	HR	Tax incentive	TAC	
6.	IE	Training tax allowance	TAC	
	IE	Training tax allowance	TAC	
7.	IT	Incentives for apprenticeship for vocational qualification and diploma, upper secondary education diploma and high technical specialisation certificate	TAC	
8.	IT	Incentives for higher training/education and research apprenticeship	TAC	
9.	MT	Tax incentive scheme	TCC	
10.	RO	Apprenticeship in the workplace	TAC	
11.	SK	Deduction from income tax of legal entities	TAC	
12.	UK	Abolition of employer national insurance contributions for apprentices under the age of 21 and 25 respectively (Reduction of secondary Class 1 NICs for apprentices)	TAC	
	UK	Abolition of employer national insurance contributions for apprentices under the age of 21 and 25 respectively (Reduction of secondary class 1 NICs for apprentices)		

NB: TCC refers to tax credit for companies, TAC to tax allowance for companies.

If data were provided for more than one year, only the latest data are presented here.

(*) refers to data from the year 2014; (**) - 2015; (***) - 2016.

(E) estimated figure.

(1) Private funding for apprenticeships amounts to EUR 8.2 billion. If all companies were to be taxed according to the corporate tax, the loss in tax revenues would amount to EUR 1.23 billion. However, not all companies are covered by the corporate tax.

(2) According to the national expert, employers probably avoid declaring separately the costs encountered or sometimes they do not declare them at all, as the legal regulation is not clear in that respect and they risk deductions by the fiscal inspectors.

	Overall annual cost for the instrument from public sources (in EUR)	Companies that benefited	Companies that were eligible	Share of beneficiaries from all eligible companies
	n.a.	n.a.	n.a.	n.a.
	n.a.	n.a.	n.a.	n.a.
	(***) 1 230 000 000 (E) (1)		Number of companies employing apprentices: (**) 427 496	n.a.
	(*) 350 000 000	n.a.	n.a.	n.a.
	n.a.	n.a.	(***) 9 800 (E)	n.a.
	n.a.	n.a.	Number of emloyers from whom tax was collected: (***) 208 000 (E)	n.a.
	n.a.	n.a.	Same as above	n.a.
	(***) 33 000 000	(***) 3 000 (E)	(***) 4 000 000 (E)	0.1
	(**)~ 6 393 000 (E)	(***) 700 (E)	(***) 4 000 000 (E)	0.02
	In 2014, no employer claimed this tax deduction	(***) 0	Number of companies taking on apprentices: (***) 355 (A)	0
	n.a. (2)	0	(***) 50 (E)	0
	(***) ~3 587 000 (E) (3)	(***) 142	(***) 142	100
	(***) 120 000 000 (E)		Number of companies employing apprentices (***) 180 000 (E)	

(3) Based on number of learners in dual education system for 2015 and 2016 multiplied by the legally stipulated EUR 3 200 maximum deductible per learner.

Source: National expert surveys.

3.4. Grants for companies

3.4.1. Instruments included in the analysis

A grant for company is a subsidy to support company's investment in education and training. This study covers 17 grants for companies that are applied in 15 apprenticeship schemes. An overview of the basic characteristics of all grants for companies is presented in Table 16.

3.4.2. History, objectives and scope

Most of the identified grants for companies have a recent history (see Table 16), being established in 2010s. However, Greece established the grants for companies in the 1950s and Ireland and Poland in the 1990s. Both grants in the two UK apprenticeship schemes were terminated in 2017 as the Apprenticeship levy came into force and the training fund *de facto* replaced the grant system. Major changes to the grant 'subsidy regulation apprenticeships healthcare II' in the Netherlands are foreseen as it will be discontinued in 2021. None of the other grants for companies have an 'end date' and they are expected to operate in the future.

Fourteen grants for companies fund only apprenticeship schemes. The remaining three (France, Croatia and Finland) fund apprenticeship along with other forms of education and training.

The most common explicit aim of the instruments was increasing the supply of apprenticeships (seven grants). For three, the objective to cover employers' training/apprenticeship costs is explicitly stated. The remaining grants have more specific aims, such as reimbursement of wage costs of in-company trainers/supervisors, promoting apprenticeship in shortage occupations (Croatia, the Netherlands), incentivising employers to recruit female apprentices in traditional craft trades such as construction and engineering (Ireland), creating more apprenticeship places in the healthcare sector (the Netherlands), or developing the higher level technical skills (UK, degree level apprenticeships in England).

The identified grants target a wide variety of education levels. No official/specific levels are targeted in France and Finland.

All but two grants operate at the national level. The others – Irish 'female apprentice bursary' and Dutch 'subsidy regulation apprenticeships healthcare II' – operate at a sectoral or multi-sectoral level.

3.4.3. Legal basis and governance

Grants for companies generally have a legal basis in State legislation. In most cases, only public actors are responsible for different instrument-governance activities such as management, day-to-day operation, and monitoring. In over half of the relevant schemes, one organisation is responsible for all three of these activities. In Denmark, Austria, Slovakia and Finland, social partners are also involved in governance. The Netherlands and the UK have special organisations for VET/apprenticeship (Cooperation Organisation for Vocational Education, Training and the Labour Market (SBB) and Institute for Apprenticeships respectively).

3.4.4. Financing mechanism and eligible costs

All grants for companies are financed by public actors. There are three ways of disbursing the funds:

(a) to all eligible applicants on the basis of legal entitlement: this mechanism is used to disburse funds in the majority of the grants analysed (Denmark, Estonia, Greece, France, Ireland, Austria, Poland (co-funding of costs related to occupational training), Finland, Romania, UK degree level apprenticeships;
(b) to all eligible applicants on a 'first come-first served' basis: this method is reported to be used in UK apprenticeships in England;
(c) to priority applicants (identified through a top-down planning procedure): this method is reported to be used in Slovakia.

In the Netherlands, all applicants receive funding; however, if more applications for apprenticeship places are received, the amount per apprenticeship place decreases. In Sweden, two methods are mixed, as grants are disbursed to all eligible applicants yet with certain top-down prioritisation, especially in situations where funds compared to numbers of applicants are limited.

The maximum amounts of funding available to companies per year vary from approximately EUR 2 000 in Poland to approximately EUR 33,000 in the UK. Some grants (in Croatia, Greece, Poland and the UK) require a substantial share of private co-financing from the beneficiary company, according to a financing formula (Table 17).

Table 16. **Grants for companies: overview of basic characteristics**

No	Country	Apprenticeship scheme	Instrument	Year of introduction	
1.	AT	Dual apprenticeship	*Basisförderung* [Basic subsidisation]	2008	
2.	DK	Apprenticeship	*Bonusordningen* [Bonus scheme]	2016	
3.	EE	Workplace based learning	*Töökohapõhise õppe rakendamise kord* [Policies of implementing workplace based training]	2006	
4.	EL	EPAS apprenticeships	*Επιδότηση πρακτικής άσκησης μαθητών ΕΠΑΣ* [Subsidy for practical training for EPAS apprentices]	1952	
5.	FI	Apprenticeship training	*Koulutuskorvaus* [Training compensation]	2013	
6.	FR	Professionalisation contract	*Aide à l'embauche pour les PME* [Employment incentives for SMEs]	2016	
7.	HR	Unified model of education	*Program Poduzetnički implus, aktivnost Majstor svog zanata - naukovanje (u 2015) i Naukovanje za obrtnicka zanimanja u 2016* [Activity *Master of his craft-apprenticeship* in 2015 and *Apprenticeship for trades and crafts occupations* in 2016]	2012	
8.	IE	Apprenticeship	Female apprentice bursary	1990	
9.	NL	Dual pathway	*Subsidieregeling stageplaatsen zorg II* [Subsidy regulation apprenticeships healthcare II]	2008 (until 2021)	
10.	NL	Dual pathway	*Subsidieregeling Praktijkleren* [Subsidy practical learning]	2014	

	Funds only apprenticeships?	Companies eligible	Education and training levels supported
	Yes	All companies entitled to train apprentices according to the law	EQF 4 (ISCED 3b)
	Yes	Companies which have increased the number of apprentices during the last three years	EQF 3-4 (ISCED 3-4)
	Yes	All companies training apprentices	EQF2-5
	Yes	All companies providing apprenticeship places to 15-24 year-olds	EQF4
	No	All companies	No specific education and training level targeted ([1])
	No	SMEs (<250 employees) hiring young persons (up to 26 years old) or unemployed persons (older than 26) and signing professionalisation contract with them	No specific education and training level targeted
	No	Micro companies and SMEs providing apprenticeship places to IVET students under 18 in shortage occupations	EQF4
	Yes	Employers who have recruited a female apprentice accepted on to an approved craft apprenticeship programme	EQF4-6
	Yes	Certified learning companies in healthcare hiring apprentices in shortage occupations	EQF1-5
	Yes	Companies employing BBL students ([2])	EQF2-5

No	Country	Apprenticeship scheme	Instrument	Year of introduction	
11.	PL	Vocational preparation of young workers	*Dofinansowanie kosztów związanych z przygotowaniem zawodowym młodocianych pracowników (nauka zawodu)* [Co-funding of costs related to occupational training (vocational preparation of young workers)]	1991	
12.	PL	Vocational preparation of young workers	*Refundacja wynagrodzeń i składek ZUS młodocianych pracowników* [Reimbursement of young workers' wages and social insurance costs]	1996	
13.	RO	Apprenticeship at the workplace	*Subventie pentru ucenicie* [Apprenticeship subvention]	2011	
14.	SE	Apprenticeship in upper secondary schools	*Statsbidrag för gymnasial lärlingsutbildning* [State subsidy for upper secondary apprenticeship education]	2011	
15.	SK	Dual education and training	*Europske štrukturálne a investičné fondy - Národný projekt Duálne vzdelávanie* [European structural and investment funds - National project dual education]	2016 (until 2020)	
16.	UK	Degree level apprenticeships (England)	*Co-funding for degree apprenticeships*	2009 (as amended) (until 2017)	
17.	UK	Apprenticeships in England	*16-18, 19-23, and 24+ and employer contributions; as of 2017: employer co-funding*	2009 (as amended) (until 2017)	

NB: 'n.a': information not available.

(1) the instrument finances on-the-job training and development of the skills of the employee.

(2) apprenticeships for other students are also eligible: VMBO (secondary school), HBO higher VET, only technical, agricultural, nature sectors), PhD students, technological designers.

Source: National expert surveys.

As the collected data show, the common traits of grants for companies are subsidies in the form of fixed sum payments.

Grants for companies most often cover the following costs:

(a) apprentice remuneration, covering a varying share of apprentice pay: for example, 10-20% in Austria, 25% in Romania and 40% in Ireland;

(b) wages of internal/external instructors; for example, grants cover 20% of these costs in Finland.

	Funds only apprenticeships?	Companies eligible	Education and training levels supported
	Yes	All companies hiring young people and having apprenticeship contract with them for occupational training	EQF 3-4 (ISCED3-353)
	Yes	Companies training young workers (normally aged between 16 and 18) in specified occupations and meeting conditions for training	EQF 3-4 (ISCED3-353)
	Yes	All companies providing apprenticeship places (a contract with National Employment Agency is required)	EQF2-4
	Yes	Companies training students in upper secondary apprenticeship with an education contract	EQF4
	Yes	All companies providing apprenticeship places	EQF3-4
	Yes	All companies providing apprenticeship places	EQF6-7
	Yes	All companies providing apprenticeship places	EQF3-5

Grants applied in Denmark, France, the Netherlands and Austria (both grants), Poland (grant Joint funding of costs related to occupational training) and Sweden are not earmarked for any specific training/apprenticeship costs and companies can use these funds freely.

3.4.5. **Changes to the instrument**

At the time of this research, several grants for companies saw recently implemented or planned substantial changes to the instrument, such as its characteristics and management:

(a) in 2018, the Danish bonus was to be revised. If the revision revealed that a sufficient number of apprenticeships were not established, the bonus would not be paid to the companies;

Table 17. **Grants for companies: Maximum amounts of funding, co-financing rates and eligible costs**

No	Country	Instrument	Apprentice (wages/ allowances)	Costs of social insurance of apprentices	
1.	AT	Basic subsidy	Yes	Yes	
2.	DK	Bonus scheme	Yes	Yes	
3.	EE	Policies of implementing workplace based training	No	No	
4.	EL	Subsidy for practical training for EPAS apprentices	Yes	No	
5.	FI	Training compensation	No	No	
6.	FR	Employment incentives for SMEs	Yes	Yes	
7.	HR	Activity Master of his craft-apprenticeship in 2015 and Apprenticeship for trades and crafts occupations in 2016	Yes	No	
8.	IE	Female apprentice bursary	Yes	No	
9.	NL	Subsidy regulation apprenticeships healthcare II	Yes	Yes	
10.	NL	Subsidy practical learning	Yes	Yes	
11.	PL	Co-funding of costs related to occupational training (vocational preparation of young workers)	Yes	Yes	
12.	PL	Reimbursement of young workers' wages and social insurance costs	Yes	Yes	
13.	RO	Apprenticeship subvention	Yes	No	
14.	SE	State subsidy for upper secondary apprenticeship education	Yes	Yes	
15.	SK	European structural and investment funds - national project dual education	Yes		
16.	UK	Co-funding for degree apprenticeships	No	No	

	Wages of internal/ external instructors	Costs of material/ equipment	Other costs	Max. funding per year (*) (EUR)	Share of private co-financing required
	Yes	Yes	Yes ([1])	2 100 per apprentice	0
	Yes	Yes	Yes ([1])	2 016	0
	Yes	No	No	2 050 ([2]) per apprentice	0
	No	No	No	1 782 per apprentice	36%
	Yes	No	No	4 200	Not specified
	Yes	Yes	Yes ([1])	2 000	0
	Yes	No	No	10 000 ([3])	20-50% (wage costs of in-company trainers/ instructors
	No	No	No	2 667	0
	Yes	Yes	Yes ([1])	([4])	0
	Yes	Yes	Yes ([1])	2 700 per apprentice	0
	Yes	Yes	Yes ([1])	1 905	Min. 40%
	No	No	No	4-6% of the average monthly salary	0
	No	No	No	66.7 ([5]) per month	0
	Yes	Yes	Yes ([1])	5 995.70 per apprentice	0
		Yes	Yes, various costs	No limit	5-15%
	No	No	Yes – off-the-job training costs	32 832.00 ([6]) (for 4-year apprenticeship)	33%

No	Country	Instrument	Apprentice (wages/ allowances)	Costs of social insurance of apprentices	
17.	UK	16-18, 19-23, and 24+ and employer contributions; as of 2017: employer shared funding	No	No	

NB: If data were provided for more than one year, only the latest data are presented here.

n.a.: information is not available.

(*) unless stated otherwise.
([1]) Funding can be used to cover any apprenticeship costs.
([2]) Maximum funding per apprentice in forestry; the amount varies among professions.
([3]) The highest possible support for mentor remuneration.
([4]) A fixed proportion of the total subsidy amount is assigned to each qualification category. Within each category, there is a maximum amount that a company may receive for one apprenticeship placement. If more applications for apprenticeship places are received, the amount per apprenticeship place decreases.
([5]) At the time of the research, in 2017 the amount was to be increased from ROL 300 (EUR 66.7) to ROL 1125 (EUR 250)
([6]) The amount corresponds to the total maximum amount government funding for the highest funding band in Apprenticeship Standards. It includes coverage of off-the-job training costs (where money goes to training provider) and three employer incentives (For (1) recruiting a 16 to 18 year-old, (2) for small companies with less than 50 employees if the company could otherwise not afford to take on an apprentice and (3) for completion of the apprenticeship). The total maximum amount government funding for the lowest funding band in Apprenticeship Standards is EUR 4 104.

Source: National expert surveys.

(b) in Greece, until 1 July 2017, grants could go either to the company or to the apprentice. Since 1 July 2017, however, the grants go directly to the apprentice and the instrument qualifies as a grant for individuals. However, the data presented in this report refer mainly to years 2015-16 so they are presented as a grant for companies;
(c) a reform of vocational education and training was under way in Finland. One of its aims was to promote apprenticeship. For that reason, there was pressure to increase the training compensation;
(d) in the Netherlands, new training qualifications were added to the scheme 'subsidy regulation apprenticeships healthcare II', based on labour market shortages; variation of the level of the grant was also added, based on qualifications and labour market shortages;
(e) there was continuing reform of vocational education and training in Poland, which could affect the instrument in the coming three years. So far, the reform has affected mostly the curricula for certain professions and the structure of VET in general (a new type of school was established:

	Wages of internal/ external instructors	Costs of material/ equipment	Other costs	Max. funding per year (*) (EUR)	Share of private co-financing required
	No	No	Yes - off-the-job training costs	32 832.00 ([6]) (for 4-year apprenticeship)	33%

szkoła branżowa), but it was not clear if the instrument 'co-funding of costs related to occupational training' would suffer any changes;

(f) a modification of the grant was to enter into force in Romania, being already approved by the Parliament. The amount was significantly raised; up to EUR 250 (ROL 1 125) covering almost in full the wage of the apprentice;

(g) in Sweden, in 2014, the grant was qualified to be available to companies as long as sufficient funds are available. Prioritisation of companies is done according to geographic considerations and to the efficiency of the grant provided in terms of number of students or the availability of the education;

(h) in the UK, both of the identified grants for companies were to be replaced by the Apprenticeship levy introduced in May 2017. The Apprenticeship levy was introduced to increase apprenticeship funding and to help meet the target of three million new apprenticeship starts between 2015 and 2020.

3.4.6. **Volumes of funding and participation**

3.4.6.1. *Volumes of funding*

The total volumes of funds used for financing grants for companies vary from the EUR 30 000 that were disbursed to 11 companies in Ireland to over EUR 2 million that were disbursed to over 100 000 companies in Denmark (Table 18). All but three grants were financed entirely out of national public financial sources. Grants in Greece, Croatia and Slovakia were jointly financed using EU and national public funding.

3.4.6.2. *Statistics on participation and eligibility*

The data on total volume of funds used and amount of beneficiaries show that grants vary greatly in their scope. For example, grants in Estonia, Ireland, Croatia, Romania and Slovakia benefit from a dozen to 300 companies only. In contrast, grants in the Netherlands, Austria, Poland and Sweden benefit tens of thousands of companies (Table 19). Five grants for companies (in Ireland, Greece, Croatia, Romania and Finland) reached the intended target

Table 18. **Grants for companies: volumes of funding**

No	Country	Instrument	Total volume of funds used (EUR)	Public financial resources (EUR)	EU funds (EUR)
1.	AT	Basic subsidy	(**) 130 900 000	(**) 130 900 000	0
2.	DK	Bonus scheme	(***) 2 689 500 (E)	(***) 2 689 500 (E)	0
3.	EE	Policies of implementing workplace-based training	n.a.	n.a.	n.a.
4.	EL	Subsidy for practical training for EPAS apprentices	(***) 9 500 000 (E) (**) 9 000 000 (E)	(***) 950 000 (E) (**) 500 000 (E)	(***) 8 550 000 (E) (**) 8 500 000 (E)
5.	FI	Training compensation	(**) 21 313 000 (E)	(**) 21 313 000 (E)	0
6.	FR	Employment incentives for SMEs	(***) 700 000 000 (E)	(***) 700 000 000 (E)	0
7.	HR	Activity Master of his craft-apprenticeship in 2015 and Apprenticeship for trades and crafts occupations in 2016	(***) 405 000	(***) 60 750 (15% of total public funding)	(***) 344 250 (85% of total public funding)
8.	IE	Female apprentice bursary	(***) 30 000 (E) (**) 16 000 (E)	(***) 30 000 (E) (**) 16 000 (E)	0 0
9.	NL	Subsidy regulation apprenticeships healthcare II	(***) 112 000 000	(***) 112 000 000	0
10.	NL	Subsidy practical learning	(***) 187 383 765	(***) 187 383 765	0
11.	PL	Co-funding of costs related to occupational training (vocational preparation of young workers)	n.a.	(***) 63 021 586 (**) 59 464 758	n.a.
12.	PL	Reimbursement of young workers' wages and social insurance costs	(***) 58 441 923 (**) 54 341 911	(***) 58 441 923 (**) 54 341 911	0 0

No	Country	Instrument	Total volume of funds used (EUR)	Public financial resources (EUR)	EU funds (EUR)
13.	RO	Apprenticeship subvention	(***) 136 000 (E) (**) 106 000 (E)	(***) 136 000 (E) (**) 106 000 (E)	0 0
14.	SE	State subsidy for upper secondary apprenticeship education	(***) 50 000 000 (E)	(***) 50 000 000 (E)	0
15.	SK	European Structural and investment funds - national project dual education	(***) 2 000 000 (**) 3 000 000	(***) 300 000 (E) (**) 450 000 (E)	(***) 1 700 000 (**) 2 550 000
16.	UK	Joint funding for degree apprenticeships	n.a.	n.a.	0
17.	UK	16-18, 19-23, and 24+ and employer contributions; as of 2017: employer shared funding	n.a.	(***) 1 640 000 000 (**) 1 640 000 000	0

NB: n.a.: information is not available, (E): estimated figure.
(*): data from year 2014, (**): data from year 2015, (***): data from year 2016.
Source: National expert surveys.

group in full, while the Dutch 'subsidy regulation apprenticeships healthcare II' and Swedish grant reached 80.5% and 70% of the intended target group (data for the remaining 10 grants was not available).

3.4.7. Trends and monitoring/evaluation results

Grants for companies can help to solve the problem of under-supply of apprenticeship places. Such incentives are particularly helpful in countries that do not have a long history of apprenticeships and are less familiar with the costs and benefits of participating in such a learning pathway. However, grants for companies are also prevalent in countries where apprenticeship has a long-standing tradition, as in Austria. Grants are often used in combination with other support measures (such as guidance).

For about a half of the grants analysed, some monitoring or evaluation data are available. At the time of this research, monitoring data of Slovak grants were available only to the State authorities. Some trends and other findings from evaluation and monitoring data are presented below:

Table 19. **Grants for companies: participation and eligibility**

No	Country	Instrument	Companies that benefited	Eligible companies	Share of beneficiaries from all eligible companies (%)
1.	AT	Basic subsidy	n.a (1)	(***)29 256	n.a.
2.	DK	Bonus scheme	n.a.	n.a.	n.a.
3.	EE	Policies of implementing workplace based training	(***) 300 (E) (**) 100 (E)	n.a.	n.a.
4.	EL	Subsidy of practical training for EPAS apprentices	(***) 2 452	(***) 2 452	100
5.	FI	Training compensation	(**) 4 000 (E)	(**) 4 000 (E)	100
6.	FR	Employment incentives for SMEs	n.a.	n.a.	n.a.
7.	HR	Activity Master of his craft-apprenticeship in 2015 and Apprenticeship for trades and crafts occupations in 2016	(***) 29 (A) (**) 42 (E)	(***) 29 (A) (**) 42 (E)	100
8.	IE	Female Apprentice Bursary	(***) 11 (**) 6	(***) 11 (**) 6	100
9.	NL	Subsidy regulation apprenticeships healthcare II	(***) 5 232	(**) 6 500 (E)	80.5
10.	NL	Subsidy Practical learning	(**) 26 532	n.a.	n.a.
11.	PL	Co-funding of costs related to occupational training (vocational training of young workers)	n.a.	n.a.	n.a.
12.	PL	Reimbursement of juvenile workers' wages and social insurance costs	(***) 35 200 (**) 36 204	n.a.	n.a.
13.	RO	Apprenticeship subvention	(***) 50 (E)	(***) 50 (E)	100
14.	SE	State subsidy for upper secondary apprenticeship education	n.a (3)	(***) 7 000 (E)	n.a
15.	SK	European structural and investment funds - national project dual education	(***) 142	n.a.	n.a.
16.	UK	Joint funding for degree apprenticeships	n.a (4)	n.a.	n.a.

No	Country	Instrument	Companies that benefited	Eligible companies	Share of beneficiaries from all eligible companies (%)
17.	UK	16-18, 19-23, and 24+ and employer contributions; as of 2017: employer shared funding	n.a.	(***) 180 000 (E)	n.a.

NB: n.a.: information is not available.

(*): data from year 2014, (**): data from year 2015, (***): data from year 2016.
(E): estimated figure.
(1) Although companies are the beneficiaries of the instrument, cases of funding are counted per apprentice. In this sense, there were 108 168 cases of funding in 2014.
(2) The number of companies that benefited was not available at the time of this research as the instrument was introduced in 2016.
(3) The data on the number of beneficiary companies were not available. In 2016, approximately 10 000 students were enrolled as apprentices.
(4) The number of beneficiary companies was not available as the launch of the degree level apprenticeships was too recent.

Source: National expert surveys.

(a) Austria: although companies are the beneficiaries of the grant instrument, cases of funding are counted per apprentice. The number of funding cases has constantly been rising over the years: 34 000 in 2009; 66 000 in 2010; 96 000 in 2011; 102 000 in 2012; 116 000 in 2013; 108 000 in 2014. This is explained by a growing number of eligible apprenticeship agreements as only the ones founded after 2008 are eligible. The recent fall might show a clearing process, now showing the real (generally declining) numbers of apprentices (who are actually all eligible to receive this funding). However, that cannot be said for sure based on this one-year decline;
(b) Romania: the grant was perceived as not generous enough to encourage employers to train apprentices, the amount being too small: while the minimum wage was raised from ROL 1 050 in January 2015 to ROL 1 450 in February 2017, the grant remained unchanged in this period (ROL 300). In addition, the administrative burden associated with obtaining the grant was heavy. However, at the time of this research, the amount of the grant was to be significantly raised (up to ROL 1 250), covering the apprentice wage almost in full (Section 3.4.5.);
(c) Sweden: the State grant does not seem to be of crucial importance for employers to take on apprentices: only 3% of employers report the grant

to be a prerequisite for them to do so. One third report the grant to have influenced their decisions. Of the employers that did not receive the grant, the majority reported they would have wanted it, but were not offered it by the school: the education provider applies for the grant from the National Agency for Education, and the grant is paid to the education provider, who must forward at least 75% of the grant to the employer;

(d) The Netherlands: the number of apprenticeship places has increased by more than 70% since the start of the 'subsidy regulation for healthcare'. Almost 50% of education professionals think the grant is effective, a little over 50% is neutral on this matter. The administrative costs of the grant regulation are low (less than 1% of the total budget). With regard to 'subsidy practical learning', sectors for which most applications are received are healthcare and technique and process industry. 67% of the learning companies have fewer than 25 employees, while 29% have between 25 and 250 employees. The remaining 5% are companies with more than 250 employees. This balance remained stable over the years;

(e) the UK: apprenticeship funding provided by the State via the Skills Funding Agency has increased from GBP 1.07 billion in 2010 to GBP 1.44 billion in 2016 ([31]).

(f) Estonia: improved quality of training.

The main trends with regard to the effect of grants for companies on labour market outcomes are summarised below. Some trends were identified via existing studies, while others were pointed out by experts based on their expertise:

(a) higher probability for apprentices training for shortage occupations to get a job (Greece, Croatia, the UK);

(b) higher employability of apprentices (France, the Netherlands, Austria, Poland);

(c) companies retain apprentices as employees (Romania and Finland);

(d) companies establish more apprenticeships (Denmark and the Netherlands);

(e) increased female participation in traditional craft apprenticeships (Ireland);

(f) higher wages (the UK).

([31]) Expert commented that Euro exchange rates may distort the picture.

3.5. Grants for individuals

3.5.1. Instruments included in the analysis

In addition to encouraging the companies to provide apprenticeship places by partly covering employer apprenticeship costs (via levy-grant mechanisms/ training funds, tax incentives and grants), the State incentivises individuals to participate in apprenticeship via direct subsidies (grants) to them. Grants for individuals were reported for nine apprenticeship schemes. An overview of the basic characteristics of grants for individuals is presented in Table 20.

3.5.2. History, objectives and scope

Five grants for individuals (Denmark, Germany, Malta and Finland) were established in the 2000s (Table 20). The support from the Axis 3 - Learning, lifelong skills and enhancement of employability – Apprenticeship programmes, in Portugal, will end in 2020 along with the programming period of EU investment that finances the grant.

The common overarching objective of the identified grants for individuals is to promote apprenticeship/education. Other explicit aims include covering expenses related to acquiring education (Germany, Estonia, Finland and Sweden), providing regulated rates of payment/stable income during training (Malta), and providing flexibility to students to organise their studies (Denmark).

Six of the reported grants fund only apprenticeship schemes. The remaining three grants (Denmark, Estonia and Malta) fund apprenticeship alongside other forms of education and training (Table 20).

For four of the identified instruments, all students/apprentices are eligible to receive the grant (Table 20). Some target-specific groups: students/ apprentices who cannot live with their parents because of the distance to training place and whose income is insufficient income to cover living costs (Germany); full-time students (age below 20) with a signed education contract to study at upper secondary apprenticeship education (not adult education) and not receiving apprentice wages (Sweden); IVET students who have not completed the secondary level of education and are under 25 years old (Portugal).

Most commonly, the grants target EQF levels 3 and/or 4 (Table 20). The Estonian grant targets a wide range of levels (EQF 2-5) while the Portuguese one limits its support to EQF2.

Table 20. **Grants for individuals: overview of basic characteristics**

No	Country	Apprenticeship scheme	Instrument	
1.	DE	Dual VET	*Berufsausbildungsbeihilfe* [Vocational training grants]	
2.	DK	Apprenticeship	*Statens uddannelsesstøtte, SU* [Grants and loans scheme]	
3.	EE	Work-place based learning	*Õppetoetus* [Study allowance]	
4.	FI	Apprenticeship training	*Päiväraha, perheavustus, matkakorvaus, majoituskorvaus* [Daily allowance, family allowance, travel subsidy, accommodation subsidy]	
5.	FR	Apprenticeship contract	*Aides directes aux apprentis* [Direct aid to apprentices]	
6.	LU	Apprenticeship contract	*Prime d'apprentissage* [Apprenticeship bonus]	
7.	MT	MCAST Apprenticeship	*Government maintenance grant*	
8.	PT	Apprenticeship programmes	*Eixo 3 - Aprendizagem, qualificação ao longo da vida e reforço da empregabilidade - Cursos de Aprendizagem* [Axis 3 - Learning, lifelong skills and enhancement of employability - Apprenticeship programmes]	
9.	SE	Apprenticeship in upper secondary schools	*Lärlingsersättning* [Apprentice compensation]	

Source: National expert surveys.

3.5.3. **Legal basis and governance**

The grants for individuals have legal basis in State legislation and only State actors are responsible for different instrument-governance activities: management, day-to-day operation and evaluation/monitoring (with the exception of Luxembourg). In over half of the grants, one organisation is responsible for all these three activities. Such a governance structure makes grants for individuals a relatively flexible financing instrument, as there are less 'veto players', especially when changes to the instrument are necessary.

	Year of introduction	Funds only apprentice-ships?	Apprentice characteristics determining eligibility to use the instrument	Education and training levels supported
	1969	Yes	Apprentices without sufficient income to cover living costs	
	1970	No	Students aged 18 or above enrolled in the 'basic course' who do not have an app/ship agreement with a company yet	In general: EQF 4-7 (ISCED 3-7). In relation to apprenticeship: EQF 3-5 (ISCED 3-5)
	2003	No	All students/apprentices	EQF2-5
	1998	Yes	Apprentices not receiving wages during off-the-job training	EQF4-5
		Yes	All apprentices	No specific level targeted
	2012	Yes	All apprentices	EQF2-4
	1990	No	All students/apprentices	EQF3-4
	2014 (until 2020)	Yes	IVET apprentices under 25 without secondary level education	EQF2
	2014	Yes	Full-time upper secondary apprenticeship students under 20 on education contract, i.e. not receiving wages	EQF4

3.5.4. **Financing mechanism and eligible costs**

All grants for individuals are financed by public actors. All but two are awarded to all eligible applicants on the basis of legal entitlement. In Estonia and Portugal, the grants are awarded to priority applicants (identified through a top-down planning procedure).

The maximum amounts of funding available to individuals per year vary greatly, ranging from approximately EUR 600 per year in Estonia to over EUR 5 000 in Portugal and over EUR 9 000 in Denmark (Table 21).

Table 21. **Grants for individuals: maximum amounts of funding and eligible costs**

No	Country	Instrument	Apprentice remuneration/ premium	Travel and subsistence costs	Other costs	Max. funding available to an individual per year (1) (in EUR)
1.	DE	Vocational training grants	No	Yes (living costs)	No	Approx. 700
2.	DK	Grants and loans scheme			Yes – various costs (2)	9 706.08 (3)
3.	EE	Study allowance	No	Yes (travel and subsistence)	No	600
4.	FI	Daily allowance, family allowance, travel subsidy, accommodation subsidy	No	Yes (travel, accommodation, living costs)	No	1 400-1 600
5.	FR	Direct aid to apprentices	No	Yes	No (travel, accommodation)	The amounts are decided by regions
6.	LU	Apprenticeship bonus	Yes (premium - if learning successful)	No	No	1 500
7.	MT	Government maintenance grant			Yes – various costs (2)	3 827.72
8.	PT	[Axis 3 - Learning, lifelong skills and enhancement of employability - Apprenticeship programmes	Yes	Yes	No	5 320 (4)
9.	SE	Apprentice compensation	No	Yes (travel, meal)	No	938.46

NB: If data were provided for more than one year, only the latest data are presented here. All data refer to actual amounts unless indicated that data are estimated.

(1) The length of the school year/the period of receiving the grant varies from country to country between 10 and 12 months.
(2) Students may use the funding for any purpose. The financial support is a combination of grant and loan.
(3) The maximum amount reported is relevant for HE student living on his/her own.
(4) The amount is relevant for the learner in the fourth year. The amount includes a professionalisation grant (considered in this study as 'allowance'), meal subsidy, transportation subsidy. In special cases the individual may be granted additional accommodation subsidy, household allowance and extra transportation subsidy.

Source: National expert surveys.

Grants for individuals most often cover travel and subsistence costs. Grants in Portugal cover apprentice pay (the Portuguese grant itself is jointly funded by the EU (85%) and the State (15%)). Some of the grants are not allocated to cover a specific cost (Denmark and Malta); instead they take a form of general compensation and apprentices/students are free to use the funds as they wish (Table 21).

3.5.5. **Changes to the instrument**

Some of the analysed grants for individuals saw recently implemented or planned substantial changes, such as characteristics or management:

(a) in Germany, the funding for vocational training grants was increased;
(b) in 2014, the Danish apprenticeship scheme was reformed with the overall purpose reduce graduation time. The government has also announced a change in the scheme in the coming years with the purpose of cutting the amount of the 'grants and loans scheme' by 20%; the earliest changes were anticipated to occur in 2019;
(c) there was an continuing reform in vocational education in Finland, which could affect the daily allowances; however, it was unclear specifically what this might be;
(d) in Malta, there was new legislation open for consultation on work-based learning which would change the payment mechanism for apprentices;
(e) in Portugal, the funding instrument Axis 3 – Learning, lifelong skills and enhancement of employability – Apprenticeship programmes, will be available until 2020 as it is supported via EU funds that are distributed to programmes for 7-year programming periods.

3.5.6. **Volumes of funding and participation**

3.5.6.1. *Volumes of funding*

The collected information on total amounts of funds used to finance grants for individuals shows that the volumes of funding vary greatly and regardless of the size of the countries' economies, populations or numbers of apprentices; as an example, it is EUR 39 million in France, but over EUR 3 billion in Denmark. However, amounts may depend on the types of cost covered: French grants cover only travel and subsistence costs, while Danish grants are distributed as a general compensation meant to cover any costs. In addition, financial support in Denmark covers apprenticeship as well as other forms of education

and training. Most of the grants were financed via national public funds but those in Portugal came largely from EU financial sources (Table 22).

Table 22. **Grants for individuals: volumes of funding**

No	Country	Instrument	Total volume of funds used (in EUR)	Public financial resources (in EUR)	EU funds (in EUR)
1.	DE	Vocational training grants	(**) 310 000 000	**310 000 000	n.a.
2.	DK	Grants and loans scheme	(***) 3 283 000 000 (in total) (***) 159 616 925 (in vocational education)	***3 283 000 000 (in total) ***159 616 925 (in vocational education)	0
3.	EE	Study allowance	n.a.	n.a.	n.a.
4.	FI	Daily allowance, family allowance, travel subsidy, accommodation subsidy	(***) 10 000 000 (E)	***10 000 000 (E)	0
5.	FR	Direct aid to apprentices	(*) 39 000 000	n.a.	n.a.
6.	LU	Apprenticeship bonus	(**) 11 262 000 (E)	(**) 11 262 000 (E)	0
7.	MT	Government maintenance grant	(**) 1 263 261	(**) 1 263 261	0
8.	PT	Axis 3 - Learning, lifelong skills and enhancement of employability – Apprenticeship programmes	n.a. (1)	n.a.	n.a.
9.	SE	Apprentice compensation	(***) 6 390 000 (E) (**) 5 740 000	(***) 6 390 000 (E) (**) 5 740 000	0

NB: n.a.: information is not available; (*): data from year 2014; (**): data from year 2015; (***) data from year 2016.
(E): estimated figure.
(1): The amounts relevant specifically for apprenticeship programmes were not reported.
Source: National expert surveys.

3.5.6.2. *Statistics on participation and eligibility*

Only in four cases are the data on both participation and eligibility of individuals available (Table 23). As indicated by experts, the numbers of participating and eligible individuals are the same in Malta and in France or nearly the same (in Finland (95% take-up) and in Sweden (84% take-up). Numbers for Malta and Sweden are taken from official reports. An

estimated high take-up rate in Finland might also be lower, as it is based on the assumption that, as there is no information that eligible ones would not participate, the participation rate should be almost the same or just slightly less; some people may not apply because the allowances are quite small and because of bureaucracy, but that kind of behaviour is not recorded.

Information on the withdrawal rate of individuals was largely unavailable for most grants.

Table 23. **Grants for individuals: participation and eligibility**

No	Country	Instrument	Individuals who benefited	Eligible individuals	Share of beneficiaries of all eligible individuals
1.	DE	Vocational training grants	(***) 95 817 (**) 95 774	n.a.	n.a.
2.	DK	Grants and loans scheme	(***) 493 200 (in total) (***) 52 400 (in VET) (1)	(***) 119 579 (in VET) (1)	(***) 44% (in VET)
3.	EE	Study allowance	n.a.	n.a.	n.a.
4.	FI	Daily allowance, family allowance, travel subsidy, accommodation subsidy	(***) 14 000 (E)	(***) 14 700	(***) 95 (E)
5.	FR	Direct aid to apprentices	(*) approx. 405 900	405 900	Approx 100%
6.	LU	Apprenticeship bonus	n.a.	(**) max 7 508 (E)	n.a.
7.	MT	Government maintenance grant	(***) 983	(***) 983	(***) 100%
8.	PT	Axis 3 - Learning, lifelong skills and enhancement of employability - apprenticeship programmes	(***) 17 003	n.a.	n.a.
9.	SE	Apprentice compensation	(***) 10 700 (E) (**) 7 779	(**) 9 295	(**) 84

NB: n.a.: information is not available, (*): data from year 2014, (**): data from year 2015, (***): data from year 2016.

(E): estimated figure.

(1): In relation to apprenticeship, the data on VET learners who do not have an agreement with company and therefore receive SU are not available. The number of students enrolled in the foundation part of apprenticeship in 2015: 37 464.

Source: National expert surveys.

3.5.7. Trends and monitoring/evaluation results

About half of the grants for individuals reportedly do not have any monitoring/evaluation data about their performance. The main trends/findings from the available data are presented below:

(a) France: the grant is only a small part within the financing system and generally offers support to travel and subsistence costs;

(b) Malta: the main monitoring is to ensure that any apprentices who drop out stop receiving the maintenance grant. Apprentices are asked to register for the maintenance grant each year and to present evidence that they are still enrolled in the programme;

(c) Sweden: the number of beneficiaries has increased annually since the introduction of the instrument in 2014. In 2015/16, 62% of the beneficiaries were men and 38% women, which correlates with the larger number of men in apprenticeship education.

Some trends in the effect of grants for individuals on labour market outcomes were identified via existing studies or pointed out by experts based on their expertise:

(a) a higher probability of getting a job (France, Luxembourg, Malta, Finland, Sweden);

(b) higher wages (France).

CHAPTER 4.

Financing the off-the-job component of apprenticeships

The purpose of this chapter is to provide some insights into financing the off-the job part of apprenticeships, particularly the mechanisms for allocating funds to schools and other training providers

The common pattern for apprenticeships, and VET in general, across EU countries is that the schools (or other training providers of off-the job training) are financed (mainly) by the State: central governments, regional authorities or municipalities. This study showed that the information on how much governments spend on the off-the-job part of apprenticeships is not easily accessible or not available for majority of the schemes. Only for a few schemes (Austrian, Danish, French, German, Irish, Italian and UK schemes) were some data collected ([32]); these concerned overall public spending. There is a lack of detailed/disaggregated data on the public expenditure in relation to the specific cost categories of the school-based/off-the-job part of apprenticeships (for the cost categories, see Table 2).

It can be assumed that the extent of the public financial contribution to overall spending (public and private) on apprenticeship schemes will vary depending on the share of the school-based/off-the-job part in relation to the overall apprenticeship programme. For schemes where the share of the school-based/off-the-job component is significant, public spending is likely to be relatively high. In contrast, for schemes where the work-based/on-the-job component represents a high proportion of the apprenticeship programme, the public authorities are expected to spend relatively less. Section 2.1.1 provides information on the shares of off-the-job and on-the-job parts in apprenticeship schemes covered by this study.

Public expenditure on the off-the-job component may be complemented by other sources of funding/support. For example, companies may contribute

([32]) For details see: www.cedefop.europa.eu/en/tools/financing-apprenticeships

by providing their facilities, training materials or their staff members as instructors. This form of support was reported, for example, for German, Greek, Croatian, Dutch, Romanian or Slovak apprenticeship schemes.

An important aspect of financing of apprenticeships, and VET in general, is the way the funds are allocated to VET schools and other training providers. Targeted distribution mechanisms may steer VET schools/training provision towards greater efficiency and responsiveness to labour market needs.

When discussing the mechanisms for allocation of funding, the variety of training providers across the EU countries must be acknowledged. This may refer to:

(a) type of provider: while classical vocational schools have a long tradition in countries like Germany, Austria and Finland, more private providers can be found, for example, in the United Kingdom;
(b) degree of autonomy of training provider in terms of budget and staff - for instance, in Denmark and the Netherlands vocational schools – have a high degree of autonomy which may be related to the involvement of social partners in local school boards.

The ways training providers are financed by the State differ according to the type of provider and the provider's autonomy, but also according to national traditions of financing education. From an incentive point of view, vocational schools/training providers which have a 'fixed' funding system (when the allocation of money to the provider does not change as activities decrease or increase) are distinct from those with a 'variable' funding (Jegers et.al 2002). Variable systems of funding may follow input-based or output/performance-based indicators or a combination of both in a mixed form.

The approach to budget allocation using input-based indicators is more 'traditional': for example, budget allocations result from responses to requests that are based on activity plans, and/or budget proposals submitted to the budgetary authorities. This approach also often relates to the resource allocations of specific budget items occurring in previous years, which can include categories such as staff salaries and building maintenance costs. Separate budget items are negotiated between representatives of training institutions and funding authorities (Jongbloed, 2004 and 2008).

In comparison, funding of schools and other training institutions using performance-based indicators is characterised by how successful providers are in terms of student retention and continuation, as well as the performance of students in exams and end-point assessments (Jongbloed, 2004 and 2008).

The study findings show that elements of performance-based funding of vocational schools/training providers can be found in Denmark, the Netherlands, Finland and the UK. In Denmark, vocational schools that make extra efforts in supporting VET learners to complete apprenticeship contracts with enterprises may receive additional funding from the government. In the Netherlands, a lump sum financial 'reward' is given to schools depending on a number of weighing factors including the number of students affected and number of diplomas issued. The Finish and UK approaches are illustrated in Boxes 7 and 8 respectively.

Box 7. **Elements of performance-based funding in the Finish apprenticeship training**

In Finnish scheme Apprenticeship (upper secondary vocational) training, performance-based funding was introduced in the 2009 law that came into force in 2010. In 2017 (at the time of this research), the share of total public funding (including both upper secondary level VET generally and apprenticeship training) that was distributed nationwide to training providers based on their outputs/performance was 2.95%. It was to be raised to 15% in 2019. This share is the same for all secondary vocational education. For a single school, the performance-based funding may not exceed 8% of total expenditure.

In 2017, the performance-based funding was awarded based on a mixed approach including both actual and expected output indicators. These included:

- number of graduates from the apprenticeship programme.
- number of students studying for the degree in the apprenticeship programme.
- number of students with special needs (e.g. learning difficulties).
- number of non-degree orientated students in the apprenticeship programme.
- number of students.

These indicators can be targeted on apprenticeships programmes only. The unit cost for apprenticeship learning that leads to a degree is EUR 3 269 and for apprenticeship learning that does not lead to a degree is EUR 2 361. The unit cost of the degree includes the output-based cost of EUR 249. Financing of output-based funding is unlimited, meaning that all vocational schools that reach performance indicators get funded.

Besides these apprenticeship-specific indicators, there are three types of general output-based funding indicators applied for each college:

1. The actual performance-based funding, which depends on certain indicators such as: share of graduates that have found employment; share of graduates that have continued their studies in some other school (typically at higher level); share of

graduates, not studying or found employment; number of persons who did not graduate, working or studying elsewhere; and number of drop-outs, not working or studying elsewhere.
2. The qualification of teaching staff (share of the full-time teachers that are formally qualified).
3. The personnel development efforts (share of income targeted to personnel training or similar personnel development).

Only the best colleges (in top 20 %) get extra funding based on these general indicators. The weights on these indicators are distributed so that 90 % is on actual performance, 7% on teachers' qualifications and 3% on personnel development.

At the time of this research, there were no evaluations or studies assessing the strengths and weaknesses of Finish performance-based funding model (applied for apprenticeship). However, according to some the national expert opinions, the impact of the performance-based model was quite modest. This was mostly due to the fact that the amount of budget allocated based on outputs was very small. Further, the way to measure the output of training providers was quite complex. For these reasons, it seems that output-based funding does not significantly direct activities of training providers.

Source: National expert survey and information sources indicated in the box.

Box 8. **Performance-based funding in UK apprenticeship schemes**

For both British apprenticeship schemes ('degree level apprenticeships' (England) and 'apprenticeships' (England)), it is reported that all funding allocated to training providers is distributed based on their performance. Performance-based funding was introduced in the school year 2009/10 via provision for performance assessments of training providers in the Apprenticeships, skills, children and learning Act (that received royal assent in November 2009).
Training providers are required to submit to the Skills Funding Agency (SFA) monthly individual learner records detailing what they have achieved, as well as other data (e.g. financial information). Performance is assessed based on the following criteria ([33]):
- SFA's criteria for financial health or control (based on an audit or qualified auditors' report);

([33]) Based on: www.gov.uk/government/uploads/system/uploads/attachment_data/file/475851/SFA-ApproachtoIntervention-Nov2015.pdf [accessed 26.10.2017].

- grade at inspection from the Office for Standards in Education, Children's Services and Skills (OFSTED) ([34]). SFA intervenes if the training provider has been assessed by OFSTED as 'inadequate';
- satisfaction of minimum standards for apprenticeship provision. In the school year 2015/16 the minimum standards threshold for apprenticeship provision was 62% (with a tolerance level of 40%) ([35]). The threshold (62) indicates the success rate below which provision is considered below the minimum standard. If the apprenticeship framework success rate is below the minimum threshold, all starts or leavers are classified as falling below the acceptable standard. The SFA then calculates the number of starts or leavers who experience provision below the minimum standard in apprenticeship as a proportion of the total. If the proportion of starts or leavers exceeds the tolerance level (40), then the training provider offering apprenticeship will be in the scope of formal intervention.

If one or more of the above criteria are not met, the contract value may be reduced by the SFA at performance-management points (the times when the training provider's budget is adjusted based on performance, currently October and May for apprenticeships). At these performance-management points the SFA reduces the budget for training providers whose delivery is below the standard national profile and whose value of under-delivery is greater than GBP 25 000 ([36]).

A fixed amount in the budget is foreseen for performance-based funding: this means that many training providers compete for a limited budget available. However, if training providers have exhausted their allocation, they can apply for top-up funding (called 'growth and virement request'). Training providers receive this only if funds are available and if ([37]):

- training provider is listed on the Register of Training Organisations and has successfully completed the capacity and capability questions;
- training provider has a good track record;
- training provider can prove there is demand from employers or learners;
- training provider is not under notice for failure of inspection, financial health or financial control;

([34]) Training providers are assessed by OFSTED based on the following criteria: effectiveness of leadership and management; quality of teaching, learning and assessment; personal development, behaviour and welfare; outcomes for children and other learners. Ofsted then uses a four-point grading scale for the overall assessment of training providers: grade 1: outstanding; grade 2: good; grade 3: requires improvement; grade 4: inadequate.
More information is available in Ofsted (2015).

([35]) Based on Skills Funding Agency (2015a) [accessed 26.10.2017].

([36]) See Skills Funding Agency (2015b), Tables 2 and 3 of Annex A [accessed 26.10.2017].

([37]) See Skills Funding Agency (2015b), Tables 2 and 3 in Annex A [accessed 26.10.2017].

- training provider is not under notice for minimum standards in the type of provision for which it wants the increase;
- the SFA is confident that awarding an increase to the contract value is a good use of public funds.

There is no comprehensive assessment of performance-based funding of apprenticeship schemes in the UK. However, some evidence shows that the system still needs to be improved. For example, the official recording system allowed for 'planned break' entries (agreed temporary withdrawals) if the apprenticeship cannot be concluded within the planned timeframe. According to a recent report (Department for Education 2017), there have been instances where providers have reported planned breaks when it may have been apparent at the time that the apprentice has withdrawn from the apprenticeship programme. The report stated that 10% of apprenticeship providers had 'artificially high' qualification achievement rates for apprenticeships and 'some providers reported nearly all withdrawals as planned breaks' (ditto, p.6). Thus, some providers avoided falling below the performance management criterion, the minimum standard threshold and financial cuts it may lead to. This loophole has been closed through a new methodology of calculating qualification achievement rates (ditto).

Source: National expert survey and information sources indicated in the box.

CHAPTER 5.

Models and types of financing arrangements for apprenticeships

The purpose of this chapter is to provide a framework for describing financial flows related to apprenticeship and to propose a preliminary typology of financing arrangement for apprenticeships schemes existing in EU countries and the UK.

5.1. Basic flow model of financing apprenticeships

The previous chapters have illustrated notable differences between the financing of apprenticeship schemes in Europe. The level of apprentice remuneration (wage or allowance) varies considerably between countries: in some countries it is a fixed amount per apprenticeship year, in others it varies per apprenticeship trade, age or qualification level; in most countries it is paid by employers, but in rare cases exclusively covered by the State. Employers may be obliged to pay contributions to training funds (set at national or sectoral level) or not; the collected funds are usually disbursed to employers but can also be allocated to training providers or apprentices (particularly in case of national training funds). The State may provide financial support (out of revenue from general taxation) to employers or apprentices through various financing instruments (grants, tax incentives). Vocational schools and other training institutions providing off-the job training may receive lump sums or their budget may depend on performance indicators (among others). Given this variety, it is difficult to conduct reasonable international comparisons. Nevertheless, in this chapter we aim at developing models and a concept to manage this diversity and try to work towards a typology of financing arrangements for apprenticeship.

As a starting point, a basic model of direct flows related to apprenticeships is offered, inspired by models of circular flow of income (Figure 6). In a simplified flow model, companies pay wages to apprentices who, in addition to their training, produce goods or services for the company. While this might have been the model in the early days of apprenticeship and may still be the basic model for informal apprenticeship in developing countries ([38]), it would be much too simplistic for current apprenticeship schemes in Europe. Formal apprenticeship schemes (per definition) also include learning in schools, and governments are essentially regulating and financing apprenticeships. The two-sector model (including only employers and apprentices) should be set aside to consider at least the following four sectors:

(a) private/public employers (firms or producing sector);
(b) apprentices/students (household sector);
(c) the government/State (government sector);
(d) schools/other training providers (education sector).

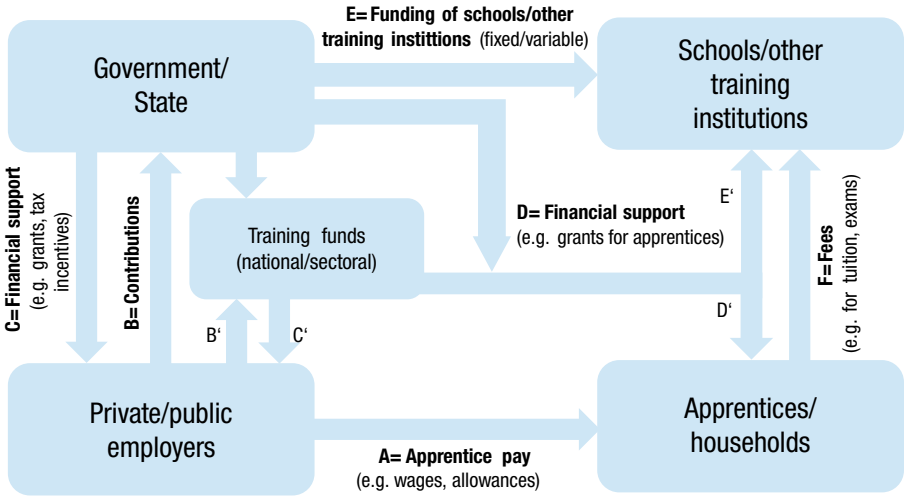
Although four sectors are considered, a simple model is still possible and may well describe the major financing arrangement of many traditional apprenticeship schemes: employers pay apprentices (cost for the on-the-job training) and governments pay for schools (costs for off-the-job training). However, analysing 29 apprenticeship schemes in Europe produces various additional financial flows between these sectors. Figure 6 illustrates the possible direct flows related to apprenticeships based on this analysis.

The main components of this model consist of the following flows:

(a) A: apprentice remuneration (wages or allowance) paid by companies to apprentices. In a very few cases remuneration is paid by the State (see below);
(b) B or B': financial contributions by companies to the State or regional budget, sectoral or national training funds. Here training levies are only considered (either specific for apprenticeships or general training levies) paid to training funds (B').;
(c) C or C': financial support to companies from the State or regional budgets or from training funds (such as grants);
(d) D or D': financial support to apprentices from the State/regional budgets or training funds;

([38]) It should not be forgotten that in pre-industrial apprenticeships parents paid master craftsman to train their children.

Figure 6. **Basic model of financing arrangement**



Source: Cedefop.

(e) E: Funding of schools and other training institutions, which in most cases are fixed, but can contain variable elements;
(f) F: Tuition or examination fees paid from households to schools or other training institutions. In contrast to other flows, they are marginal and also only relevant for a few schemes. For this reason, they are not considered in the further modelling (see also Chapter 1.4 on limitation of data).

This basic model allows detailing of direct financial flows related to apprenticeship schemes. For each scheme a figure similar to the above could be drawn: Annex 5 presents the figures illustrating financial flows for all apprenticeship schemes included in this report. Further, the amounts for the various flows could be estimated. Estimated amounts of flows could be shown aggregated or per apprentices (as for national accounts). However, the model also conceals other important issues related to the financing of apprenticeships.

First, the model does not cover implicit costs and opportunity costs. Implicit costs are any costs that have already occurred but are not necessarily shown or reported as a separate expense. For instance, machinery and

facilities are used both for production and for training purposes. But the costs for machinery (purchasing and maintenance costs) are usually not reported separately for production and training. Consequently, whether costs are implicit or not depends on the accounting systems in place which differ between companies and also in public administrations. Opportunity costs not covered may include foregone productive work. To give an example: costs for in-company trainers may be explicit ([39]) (for example, provided as the trainers' wages), but costs which occur during training by the simple fact that they are absent from production are rarely documented. From a macroeconomic point of view, apprentices also contribute to the overall financing of apprenticeship with their opportunity costs, because they lose income while they are in training if comparing their apprentice pay to a 'proper job' they could have. Opportunity costs always depend on the alternative, and thus the assumptions they are based on.

Second, the model does not display any qualitative information on the various flows. Of course, it makes a difference how wages of apprentices are set and by whom, whether they are determined by central governments or collectively bargained (Chapter 2.1.1). Looking at aggregated or average wages also would not allow considering wage variations, which may be another important indicator to explain differences between apprenticeship financing arrangements. Nor does considering flows and amounts explain how money is paid. While this might be an issue for apprentice pay (e.g. are apprentices paid per hour, on a weekly or monthly basis, only for on-the-job training or also when they are off-the-job), it is even more an issue for the funding of schools or the financial support employers or apprentice receive from governments or training funds. For training providers, it makes a huge difference whether they have the ability to influence their earnings (such as by training more apprentices or training them more successfully) or if they are paid a lump sum. For employers, it makes a difference whether they get a grant or benefit from tax deduction, although the amount they receive may be the same.

Third, and connected to the previous point, the model suggested here is purely descriptive and not designed from an incentive point of view. The various financing instruments examined in this study (see Chapter 3) have been introduced to incentivise employers and apprentices in one or another way. There were also examples, although very few, in which incentives

([39]) Although they rarely are, because for most in-company trainers, training is only part of their work.

for schools have been introduced. Having a model aiming to show an incentive point of view would be desirable but also bears the risk of being overly complex, because it has to consider at least four major flows: the way the State pays and incentivises schools ([40]); the way the State supports and incentivises employers; the way the State supports and incentivises apprentices; the way employers incentivise apprentices.

It is discussed below to what extent these shortcomings of the model suggested here can be considered when working towards a typology of financing arrangements for apprenticeship. Next, it is presented how this basic model can be used to describe existing financing arrangements and how to analyse their main commonalities and differences.

5.2. Three main models of financing arrangements for apprenticeships in Europe

Irrespective of the amounts paid, the basic model described above allows numerous variations in the combinations of flows. There may be financing arrangements in which employers pay or do not pay contributions, pay or do not pay apprentices, receive or do not receive financial support, or apprentices are granted financial support or not. The only aspect which seems to be common to all arrangements analysed is that schools or other training providers for off-the-job training always receive some (in most cases the major) funding by public authorities (the State, region or municipalities). Despite the huge variety in the other flows, there are three distinct patterns that show some interesting commonalities.

5.2.1. **Model 1: split financing**

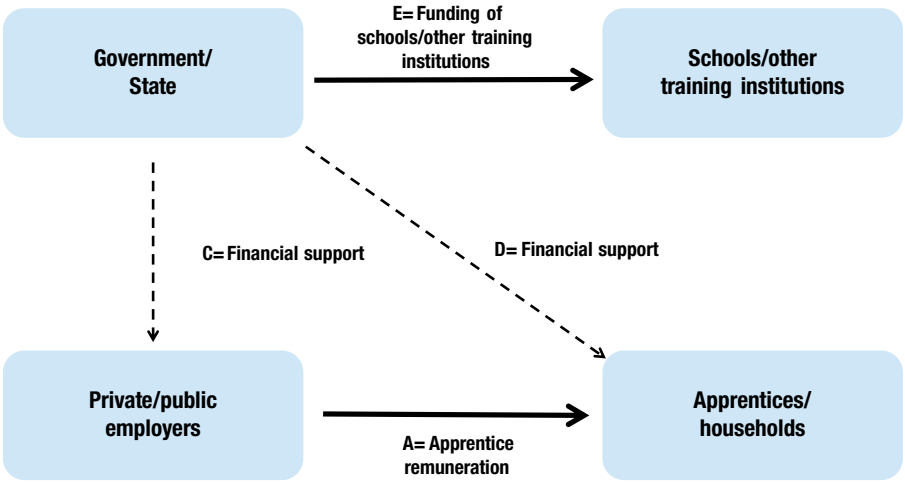
The first model could be regarded as a classical model of financing apprenticeship, in so far as it has existed since the 19th century. In this, the overall costs of apprenticeship are shared between the State and employers, but they are essentially split between on-the-job training paid by employers and off-the-job training paid by the State or other government bodies (Figure 7).

This is the case with the German dual system, in which training companies finance on-the-job training, mainly by paying apprentices for their productive work in the company. The Federal States fund the vocational schools (of

([40]) See Jegers et al., 2002.

which teachers' salaries are the main part) and the local authorities fund equipment and infrastructures. The Federal Government finances measures for the improvement and promotion of the dual system, support programmes or measures for guidance and counselling. There are no levies to be paid by the companies (refraining from providing on-the-job training). The German construction sector is an exception ([41]).

Figure 7. **Model 1: split financing model**



Source: Cedefop.

Model 1 is the prevalent model of financing apprenticeship in Europe, basically used by two thirds of all apprenticeship schemes covered by this study. However, there are notable differences between apprenticeship schemes following this model, which concern the following dimensions. First, the average apprentice remuneration across countries such as Germany, Luxembourg or Austria (high) and Croatia, Poland or Slovakia (low) differ substantially, even if adjusted by purchasing power. Second, in a few countries apprentice pay is essentially negotiated by social partners

([41]) The social partners introduced the levy in German construction sector towards the end of 1970. All companies of the sector have to pay the levy, which is settled in the collective bargaining agreement. The levy is used to finance inter-company training and a large part of on-the-job training and there are frequent requests – especially from the unions – to extend this model to other branches or to introduce a general training levy.

at sector level and determined in collective agreements (as in Germany, Austria and Finland), but in most cases the remuneration is determined by the central government. Third, State subsidies provided for employers or apprentices (compare dotted arrows in Figure 7) may exist and vary in their relevance. Some countries subsidise both employers and apprentices, others predominantly support employers; they either provide grants or ease employers' costs mostly by tax incentives (see Chapter 3). There are also differences between allegedly similar apprenticeship systems, such as the German and Austrian ones. Austria started to subsidise training-companies in the 1990s and steadily increased this support, while there is no direct public financial support for German companies.

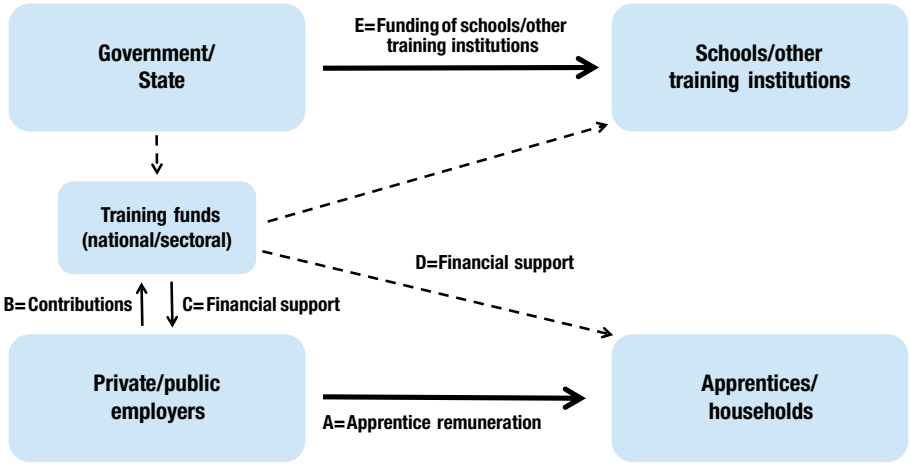
5.2.2. **Model 2: joint financing or training fund model**

In the second model (Figure 8), costs are also shared between the State and employers, but employers do not just individually contribute to the training systems, but also jointly contribute to the system by paying levies to a training fund that provides support (among others) to apprenticeships. The training funds are usually set at national level as in the examples of Denmark, Ireland, France, Hungary and the United Kingdom (Section 3.2). The Netherlands, however, has several sectoral training funds which cover a substantial part of all apprenticeships. In the UK, apart from the national training fund, the sectoral training fund in the construction sector is also in place.

This second model has a higher degree of financial interaction, in terms of money collected and reallocated, in comparison to the first. The funds collected through training levies are reallocated to employers, apprentices or sometimes also to the training provider. In Denmark, the collected funds are used to reimburse employers the costs of the apprentice wages when the apprentice undertakes the school-based part of the programme (this contrasts with in Germany or Austria - representing the first model – where employers pay apprentice wages while they are in school). The Employers' training contribution (*Arbejdsgivernes Uddannelsesbidrag,* AUB) was introduced for this purpose. In Ireland (apprenticeship scheme), the National training fund does not directly provide funding to employers of apprentices but covers the training allowance paid to their apprentices during their off-the-job training periods. The same fund also covers the costs incurred by the further education and training providers who are responsible for providing the off-the-job training to the apprentices.

Depending on the design, training funds may differ not only in terms of how money is reallocated, but also the way it is collected. For instance, levies may come from all companies or only non-training companies (Section 3.2).

Figure 8. **Model 2: joint financing model**

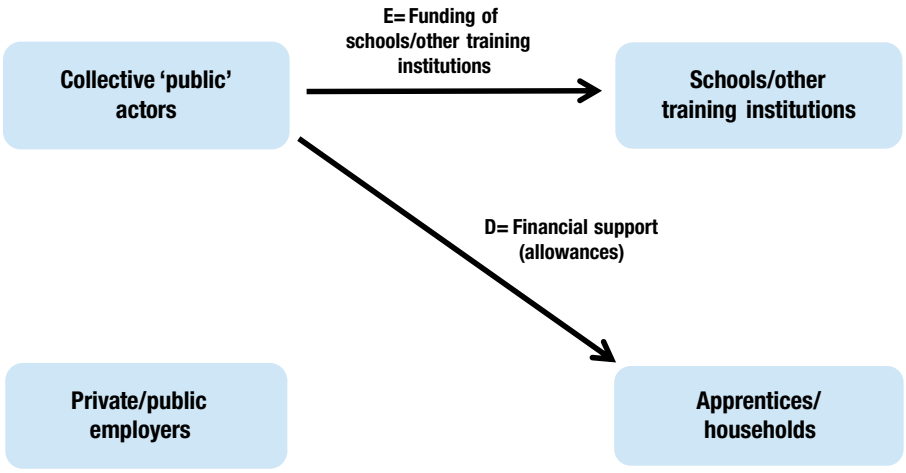


Source: Cedefop.

5.2.3. **Model 3: single financing model**

The third model (Figure 9) is characterised by a single financer or lack of employer payments, particularly for apprentice remuneration. National or regional governments, or any authority acting on behalf of the government such as public employment services, finance the apprenticeship or it is financed jointly by different public bodies and/or EU funds. In addition to the financing of schools, the public authority also pays apprentice remuneration (allowances). This model was identified in relation to the supra-company apprenticeships in Austria (offered to apprentices who do not find an apprentice place at a company), the apprenticeship programmes in Portugal and the Swedish education contract. In Austria the schools are paid from the education budget of the State and the provinces, while the apprentice allowances are paid by the public employment service (PES). In contrast to Austria and Sweden, the Portuguese programme is significantly co-financed by the EU.

Figure 9. **Model 3: single financing model**



Source: Cedefop.

In all three cases, the apprenticeship schemes only partially comply with the definition adopted for this study, because there is either no systematic alternation between learning at school and in the company or there is no formal agreement or contract established between the apprentice and the company. In Portugal, the contract is only signed between the training institution and the trainee and between the training institution and the company (and not between the trainee and the company). In Austrian scheme, training can also take place in workshops and there is no legal requirement that it has to be at a company.

The third model is characterised by a low degree of financial interaction; there are no out-flows from employers and it could be considered as the youngest of the three models.

5.2.4. Discussion of the three models

Different financing models can be in place for any single apprenticeship scheme, either because specific sectors opted for a different model (as in the construction sector in Germany, see model 1) or because specific target groups are addressed (as with apprentices who do not find a training place

in a company in Denmark ([42])). These are clear exceptions in Germany and Denmark but the situation in Austria is less clear. As indicated in Section 1.2.2.1, it could be said that there is just one apprenticeship scheme in Austria, with two distinct financing models, or that there are two different apprenticeship schemes with different target groups and different financing models.

The extent of State subsidies is another factor which may question the distinctions between models. For instance, if the State fully subsidises employers for their training costs in Model 1, the difference from Model 3 may be negligible. In this case, Model 1 would appear as a single financing model. However, it still may make a difference in practice whether apprentices receive their wages from employers (for which they are reimbursed) or from the State, and whether the apprentice contract is signed by the employer or only by the training institution.

Substantial variation between apprenticeship schemes following one model can be found, as illustrated to some extent for Model 1. The following chapter expands this discussion and works towards a more comprehensive typology of financing arrangements.

5.3. Towards a typology of financing arrangements for apprenticeships

The three models introduced above offer a distinction in the financing of apprenticeship schemes: whether costs are shared between State and employers or exclusively/mainly paid by the State (including apprentice remuneration); and whether employers (including non-training companies) jointly contribute to the scheme or not. In a next step, these models are discussed in relation to further important financing dimensions:

(a) apprentice remuneration (wage or allowance) in terms of its amount, variation and the way it is set;

(b) the existence of co-funding instruments in terms of employer or apprentice support.

([42]) In Denmark, students who do not have a contract with a company may do the practical training in a centre of placement (a workshop). In this case, the students will receive financial support from the government (state allowance instead of the wage paid by employer).

The discussion on apprentice remuneration below builds on the analysis presented in Section 2.2, which identified apprentice remuneration variables (average amount per year, variation, setting mechanisms) and the links between them as potentially important for developing the typology of financing apprenticeships.

The financial support - in terms of volume of funding – provided to employers or apprentices (to ease their costs) could be a plausible way to group financing arrangements for apprenticeship. While this is clear-cut when apprentices are exclusively paid an allowance by the State, such an approach can become tricky in all other cases. The first major challenge here is that a threshold is needed to distinguish between substantial and marginal financial support, in terms of volume of funding. This proved difficult, as it is almost impossible to aggregate amounts of funding from different instruments used to incentivise companies. The second challenge is that the financial support instruments used for the various apprenticeship schemes may be too heterogeneous to be considered as one group. This became obvious when studying grants for individuals which can be means-tested or provided to all apprentices, may differ in purpose or in the way they are organised (as voucher or individual learning account (ILA)) and address different target groups. Considering these limitations, the discussion below refers only to the existence of particular types of co-funding instruments, irrespective of the volume of funds involved or other qualitative features such as the number of instruments of a particular type or the variety of groups targeted).

Another dimension for the typology could be the way the off-the job training is financed, given the significant amount of funding involved. However, this could only be a complementary distinguishing feature as there seems little direct correlation between the way on- and off-the-job training are financed. Overall, off-the job training seems to depend mostly on the degree of autonomy of schools and the general approach to financing of (formal) education in the specific country. The following discussion does not elaborate on this dimension.

In Table 24, the three models developed (Section 5.2) are related to the additional financing dimensions discussed above for each apprenticeship scheme. In the following, the configurations which result from this exercise are presented and some observations are discussed.

As Table 24 shows, most apprenticeship schemes (16 schemes) follow Model 1, but there are substantial differences among them with regard

Table 24 . **Overview of apprenticeship schemes according to models/types and financing instruments**

No	Country/ scheme code	Apprenticeship scheme	Model	Type	Apprentice remuneration	
					Setting	Amount per year
1.	AT 1	Dual apprenticeship	Model 1	I.	Collective	High
2.	DE	Dual VET	Model 1	I.	Collective	High
3.	FI	Apprenticeship training	Model 1	I.	Collective	High
4.	FR 2	Professionalisation contract	Model 1	I.	Central	High
5.	LU	Apprenticeship contract	Model 1	I.	Central	High
6.	BE-fr.	Dual training	Model 1	II.	Central	Medium
7.	BE-fl. 1	Apprenticeship for SMEs	Model 1	II.	Central	Medium
8.	EE	Work-place based learning	Model 1	II.	Central	Medium
9.	EL	EPAS apprenticeships	Model 1	II.	Central	Medium
10.	MT	MCAST apprenticeships	Model 1	II.	Central	Medium
11.	HR	Unified model of education	Model 1	III.	Central	Low
12.	PL	Vocational preparation of young workers	Model 1	III.	Central	Low
13.	SK	Dual education and training ([4])	Model 1	III.	Central	Low
14.	DK	Apprenticeship	Model 2	IV.	Collective	High
15.	IE 1	Apprenticeship ([6])	Model 2	IV.	Collective	High
16.	NL	Dual pathway	Model 2	IV.	Collective	High
17.	FR 1	Apprenticeship contract ([5])	Model 2	V.	Central	Medium
18.	UK 1	Degree level apprenticeships (England)	Model 2	V.	Central	High
19.	UK 2	Apprenticeships (England)	Model 2	V.	Central	Medium
20.	HU	Apprenticeship - dual vocational training based on the apprenticeship training contract ([6])	Model 2	V.	Central	Low
21.	AT 2	Supra-company apprenticeship - safety net of dual apprenticeship	Model 3	VI.	Central	Medium
22.	PT	Apprenticeship programmes	Model 3	VI.	Central	Low
23.	SE	Apprenticeship in upper secondary schools (education contract)	Model 3	VI.	Central	Low

NB: CY, IE 2 and RO are not included in the table because of the low number of apprentices enrolled (below 250); BL-fl 2 and IT 2 are not included because the average level of remuneration could not be estimated.

	Apprentice remuneration		Support for employers			Support for apprentices	Funding of off-the-job training
	Amount per hour	Variation	Training funds	Tax Incentive	Grant	Grant	
	High	High			•		Input-based
	Medium	High		•		•	Input-based
	High	High			•	•	Input and output-based
	n.a.	High		•	•		Input-based
	High	High			•	•	Input-based
	Low	Low		•	•		Input-based
	n.a.	Low		•	•		Input-based
	Medium	Low			•	•	Input-based
	Low	Low			•		Input-based
	Medium	Low		•		•	Input-based
	Low	Low		•	•		Input-based
	Low	Low			•		Input-based
	Low	Low		•	•		Input-based
	High	High	•		•	•	Input- and output-based
	Medium	High	•	•	•		Input-based
	High	High	•		•		Input- and output-based
	n.a.	High/medium	•	•		•	Input-based
	Medium	High/medium	•	•	•		Input and output-based
	Medium	High	•	•	•		Input and output-based
	Low	Low	•				Input-based
	Low	Low					Input-based
	Low	Low				•	Input-based
	n.a.	Low			•	•	Input-based

Source: National expert surveys.

to aspects such as remuneration levels. In one group of schemes (Type I) apprentices are paid relatively high remuneration and remuneration also varies a lot. With the exception of Luxembourgish scheme and the professional contract in France, for the schemes in this group wages are determined in collective agreements. Grants for employers and apprentices seem to be less likely in this group.

In all other Model schemes remuneration is centrally determined; remuneration amounts are medium (Type II) or low (Type III) and remuneration variation is also low. Grants for companies seem to be more likely in this group and exist for all schemes except the one in Malta.

In seven apprenticeship schemes which use training funds (Model 2) remuneration is either set collectively (Denmark, Ireland and the Netherlands) or centrally (France, Hungary and UK). In all schemes where remuneration is set collectively, the amounts are relatively high (Type IV). The second group, where remuneration is set centrally (Type V), is more mixed in this regard: there is low remuneration in the Hungarian apprenticeship scheme and medium to high remuneration in the French and two UK schemes. All schemes following Model 2 have grants for companies.

Apprentice remuneration is low or medium and centrally set for the three State-financed apprenticeship schemes following Model 3 in Austria, Portugal and Sweden (Type VI). As the public authorities already cover the apprentice allowance and companies do not contribute monetarily to apprenticeships in this model, financial support for employers or additional support for apprentices is also unlikely.

5.3.1. Findings from a preliminary typology

This initial grouping of apprenticeship schemes shows that it is worth thinking about a more elaborated typology, which goes beyond the three models introduced above and which considers additional financing aspects. However, the data collected do not provide sufficient evidence and details to produce conclusive types of financing arrangements here: good comparable estimates for the overall amount of support for employers and apprentices provided per schemes would be needed. Additional information on the involvement of social partners in organising or helping determine shared funding would also be necessary. Finally, detailed data for the funding of the off-the-job learning would be needed, given the overall public resources involved in apprenticeship programmes. Nevertheless, the preliminary typology presented above can be used to discuss findings and assumptions, which may guide future research.

There is apparently a relationship between the levels of apprentice remuneration and the way they are set. Remuneration levels negotiated by social partners at sectoral or trade level tend to be higher than those which are centrally set, which are often related to national minimum wages. Remuneration is also higher and more diverse in larger, traditional apprenticeship schemes which cover a wider range of trades.

We may also assume that the existence of national training funds can have a positive impact on wage levels. The data support this assumption, although Hungary seems not fit the overall picture and deserves more attention in future research. Apprentice remuneration in Hungary is low although the national training fund is in place. Why does the training fund in Hungary not result in higher apprentice pay as it does in other countries associated with Model 2?

Remuneration is lower in Model 3, because no private money is involved. When Model 3 is introduced in addition to Model 1 or 2 to mitigate market failure (such as not enough apprenticeship places available) it is clear that remuneration has to be lower, otherwise apprentices would have no incentives to look for an apprentice place at a company.

Despite considering the differences in purchasing power, there seems to be a dependency between low apprentices' remuneration in low-income countries and high-remuneration in high-income countries. This may also be a possible explanation for the low apprentice pay in Hungary (given that it is categorised as Model 2).

CHAPTER 6.

Conclusions and recommendations

6.1. Key findings and conclusions

This study adds to a series of research activities carried out by Cedefop to support policy development on apprenticeships as well as to inform on financing of vocational education and training (VET) in EU Member States and UK. It presents the first attempt to collect systematically financing information on all apprenticeship schemes identified in EU Member States and the UK. Previous research has focused on specific issues, such as apprentice pay or the cost-benefits of apprenticeships for employers, based on small samples of countries. This study took a more comprehensive perspective, looking at overall financing arrangements for apprenticeship including financing of off-the-job training, financial support for apprentices and employers.

Data were collected for 29 apprenticeship schemes (complying with the definition adopted for this study) in 21 EU countries and the UK. The amount of data collected is significant compared to that previously available. Some data on apprentice remuneration were available for all apprenticeship schemes. In contrast, the data on costs for off-the-job-training, costs for material/equipment or wages of instructors for on-the-job training were not available for most of the schemes. Data on basic characteristics and the scope of specific financing instruments supporting employers and apprentices were mostly available, but information on the effectiveness and impact of instruments was scarce.

Financing of apprenticeship in most countries is a shared responsibility of the State and employers. In five countries (Denmark, France, Hungary, Ireland and the UK) it is not only training companies that contribute to the financing by paying apprentices remuneration and covering other on-the-job training costs: all companies (in the UK, those above certain payroll threshold) contribute to a national training fund which, in turn, covers parts of the costs of apprenticeships. For some exceptional apprenticeship schemes the costs are (predominantly) covered by public budgets (apprenticeship programmes in Portugal or supra-company apprenticeships in Austria). Vocational schools

and other training institutions providing off-the job training usually have fixed budgets or budgets depending on input indicators such as number of students). Only four countries (Denmark, Finland, the Netherlands and the UK), are parts of training providers budgets allocated by performance indicators such as number of graduates and number of apprenticeship contracts with companies.

Apprentice remuneration varies considerably between countries, even when purchasing power parity is considered and if it is related to pay per hour for on-the-job training. In a few countries, remuneration is fixed but in most the amount increases per apprenticeship year. In countries with more pronounced apprenticeship traditions, apprentice pay varies by apprenticeship trade (and sometimes also by age and/or qualification level), is collectively set and relatively high. In countries where apprenticeships are a minor education track, apprentice pay does not vary by trade, is more likely to be centrally set and is relatively low.

The study analysed the financing instruments supporting employers, i.e. training funds based on levies, tax incentives for companies and grants for companies (outside of training funds) as well as instruments supporting apprentices, i.e. grants for individuals. The study focused on major financing instruments in terms of the amount of funds distributed and/or number of beneficiaries (apprentices or companies). Smaller, more specific incentives such as those targeting particular companies or disadvantaged groups of apprentices are underrepresented. Grants for companies were the most frequently reported financing instrument, followed by tax incentives. Support for apprentices was reported for one third of all schemes.

Financing instruments are the key to effective cost-sharing in apprenticeship schemes. Instruments for companies alleviate the financial burden of apprentice wages to companies (in particular covering apprentice social insurance costs, albeit at different rates), wages of in-company trainers, costs of training material and equipment, and various other costs. Individuals also benefit from financial support to their travel and subsistence costs.

Instruments are deeply embedded in national contexts and reflect national traditions of vocational education and training, social dialogue, and the political system. While most of the training funds have a relatively long history, being established in the 1970s-80s, most tax incentives and grants were established in the 2000s or even in the 2010s. Regardless of the length of their operation, there have been changes to their financing or governance mechanisms, types and levels of support disbursed to beneficiaries,

target groups eligible to receive support, and other characteristics. These continuing efforts to adjust instrument design reflect national endeavours to find the right balance between strengths and weaknesses.

The instruments show large variations in terms of volumes of funding and education levels, sectors and target groups addressed. Overall, financing instruments are rarely monitored or evaluated, a major detriment for comparative research that also deprives governments and other actors of evidence-based data for improving the effectiveness of financing arrangements.

To be able to manage the diversity of financing arrangements of apprenticeship schemes, the study suggested distinguishing between three basic models: a split financing model, in which costs for off-the job training are basically paid by the State and costs for on-the-job training by employers; a joint financing model, in which costs are also shared but employers contribute (including non-training companies) via national or sectoral training funds; and a single financing model in which the costs are paid (predominantly) by the State, as is apprentice remuneration. The majority of apprenticeship schemes follow the split model, and only three follow the single model: in Portugal, Austria and Sweden (education contract).

The models have been used as a starting point to arrive at a more elaborated typology or grouping of apprenticeship financing arrangements. Apprenticeship following the split model (the State pays for off-the-job training, employers pay for on-the-job training) basically falls into two groups. In the first group there are those schemes in which apprentice remuneration is relatively high, predominantly collectively set, and varies significantly. The second groups is those where apprentice remuneration is medium or low, centrally set and with little variation.

In apprenticeship schemes which use training funds (the joint model) apprentice remuneration is either set collectively (Denmark, Ireland and the Netherlands) or centrally (France, Hungary and UK). Irrespective of the pay setting mechanism, apprentice remuneration in this group is also relatively high and shows considerable variations.

6.2. Research challenges and lessons learned

A major obstacle for the study was the limited availability of data as well as data which could not be retrieved or further clarified. Due to these data gaps, a sound comparison of the effectiveness, efficiency and equity of financing

arrangements or of individual instruments was not possible. However, considering the explorative aspects of this work, what would be feasible in the future is much better known.

The comparison of apprentice remuneration could be completed for almost all apprenticeship schemes analysed. However, to become more reliable, information on actual remuneration would be needed and more efforts should be put into the collection and analysis of variations in apprentice remuneration.

Related to this is the need to develop further the financing concepts and theoretical models introduced both for on- and off-the-job training. This would probably be easier using smaller country samples and studying them more deeply.

This is also true for the preliminary typology of financing arrangements, which provides room for continuous refinement. Currently it exclusively builds on financial aspects, leaving aside important factors which may explain differences in the financial indicators. For instance, differences in apprentice remuneration may depend on the characteristics and composition of the target group (such as young people, employed adults or the previously unemployed hired as apprentices). There may also be differences in the willingness of employers to pay for off-the-job training in 'one-phase' apprenticeship schemes (as in Germany or Austria) in contrast to 'two-phase' schemes (as in Denmark). Knowing more about the emergence, changes and political justification of financial arrangements may also enable new insights.

In some countries, apprenticeships are a highly dynamic field and changes in financing are frequent. This aspect has been considered in implementing this project by preparing a database which may be regularly updated. Regular updates will help to understand better the developments in financing policies/systems for apprenticeship across the countries and to identify trends.

6.3. Suggestions for further research and development

Besides these lessons learned and ideas for improvement, the study has also generated suggestions for further research activities.

In addition to the comprehensive but descriptive approach used in this study, future research on apprenticeship financing could benefit from a more

problem- or policy-oriented approach. For instance, it could look at the way (selected) countries organise and finance apprenticeships for young people who do not find an apprenticeship place in a company.

Evaluations or monitoring data were available for fewer than half the financing instruments examined in this study. In most cases, data concerned performance (number of beneficiaries, volumes of funding) and not effectiveness, equity or efficiency aspects, so the possibilities for international comparison of the effectiveness, equity and efficiency of financing arrangements and instruments for apprenticeships were limited. Nevertheless, it would be worthwhile to review in more detail the few national evaluation studies, devise a meta-evaluation or even conduct an evaluation of a small sample of schemes in an international project.

The study has documented most recent changes in financing instruments and also asked for the date when the instruments were created. However, it is clearly not a longitudinal study approach, nor does it allow analysis of the diffusion of financing instruments across Europe. Research on changes in financing of apprenticeships over longer time periods for selected countries could reveal interesting developments and also add to understanding of policy learning; this might suggest more public co-funding and more schemes fully paid by public authorities for particular groups in the future. A regular update of the database and a smart archive feature would aid such research.

While the concerns about lack of data on costs occurring at the workplace (such as for instructors/trainers, equipment) were confirmed, there were unexpected difficulties getting financing data for off-the-job training. A study which tries to cover all types of costs always runs the risk of ending up with more data on costs which are more easily accessible; a project exclusively focusing on the financing of costs of off-the-job training of apprenticeships could be considered.

The overlaps between financing instruments used for adults and those for apprentices, and the difficulty in distinguishing between apprenticeship and other VET programmes in some school budgets call for new approaches. In some countries, apprenticeship financing arrangements cannot really be treated in isolation from financing of other types of education; for instance, the Danish Taximeter system has not been developed for apprenticeships but is used for the whole education system. Future studies could be consider relating the financing of apprenticeship to other forms of education. Such research could better demonstrate the efficiency of apprenticeship systems and allow observation of convergence or divergence between types of financing arrangement.

Acronyms/Abbreviations

AUB	*Arbejdsgivernes Uddannelsesbidrag* (Employers' training contribution system) (Austria)
CITB	Construction Industry Training Board (UK)
CSA	*Contribution supplémentaire à l'apprentisage* (additional contribution to apprenticeship) (France)
CNEFOP	*Conseil national de l'emploi, de la formation et de l'orientation professionnelles* (National Council for Employment, Vocational Training and Guidance) (France)
EPA	end-point assessments (UK)
EQF	European qualifications framework
ILA	individual learning account
PES	public employment service
OOM	*Opleiding, Ontwikkeling, Metaalbewerking* (executive organisation of the social partners in the field of career and development in metalworking) (The Netherlands)
PPPs	purchasing power parities
SFA	Skills Funding Agency (UK)
SU	*Statens uddannelsesstøtte* (grants and loans scheme) (Denmark)
SOLAS	Further Education and Training Authority (Ireland)
TCC	tax credit for companies
TAC	tax allowance for companies
VET	vocational education and training

References

[URLs accessed 9.11.2020]

BIBB; Jansen, A. et al (2015). *Apprenticeship training in Germany remains investment-focused: results of the BIBB cost-benefit survey 2012-13*. BIBB report No 1/2015. Bonn: BIBB. www.bibb.de/en/25852.php

Cedefop (2008). *Sectoral training funds in Europe*. Luxembourg: Office for Official Publications of the European Communities, Cedefop Panorama series No 156. www.cedefop.europa.eu/en/publications-and-resources/publications/5189

Cedefop (2009). *Using tax incentives to promote education and training.* Luxembourg: Office for Official Publications of the European Communities, Cedefop Panorama series. www.cedefop.europa.eu/en/publications-and-resources/publications/5180

Cedefop (2014). *Terminology of European education and training policy: a selection of 130 key terms*. 2nd ed. Luxembourg: Publications Office. www.cedefop.europa.eu/en/publications-and-resources/publications/4117

Cedefop (2016). *Governance and financing of apprenticeship*. Luxembourg: Publications Office. Cedefop research paper; No 53. http://dx.dol.org/10.2801/201055

Cedefop (2018). *Apprenticeship schemes in European countries.* Luxembourg: Publications Office. http://data.europa.eu/doi/10.2801/722857

Cedefop (2019a). *Apprenticeship review: Croatia. Improving apprenticeships through stronger support and care.* Luxembourg: Publications Office of the European Union. Thematic country reviews. http://data.europa.eu/doi/10.2801/97707

Cedefop (2019b). *Apprenticeship review: Cyprus. Adding value: rethinking apprenticeships.* Luxembourg: Publications Office. Thematic country reviews. http://data.europa.eu/doi/10.2801/133749

CITB; Pye Tait Consulting (2016). *Grant modernisation phase 2: employer consultation - Final report.* https://www.citb.co.uk/documents/research/grant%20modernisation%20employer%20consultation.pdf

Council of the European Union (2018). Council recommendation of 15 March 2018 on a European framework for quality and effective apprenticeships. *Official Journal of the European Union*, C 153, 2.5.2018,

p. 1-6. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32018H0502(01)&from=EN

Department for Education (2017). *Further education and skills in England, January 2017: quality and methodology information.* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/592161/SFR07_2017_QualityandMethodology_achievement_rates_update.pdf

Department of Education; Greatbatch, D.; Tate, S. (2017). *Funding and expenditure in post-16 education: an international review.*

ETF (2018). *Financing work-based learning as part of vocational education reform: a handbook for policy-makers and social partners.* DOI: 10.2816/528931

ETUC; UNICE/UEAPME; CEEP (2006). *Framework of actions for the lifelong development of competencies and qualifications: evaluation report*. www.cedefop.europa.eu/files/1425-att1-1-Fram_of_actions_LLL_evaluation_report_FINAL.pdf

European Commission (2016). *A new skills agenda for Europe: communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee of the regions*. COM(2016) 381 final. https://ec.europa.eu/transparency/regdoc/rep/1/2016/EN/1-2016-381-EN-F1-1.PDF

European Commission; EIM Business and Policy Research; SEOR (2005). *Policy instruments to foster training of the employed. Final report lifelong learning. Volume II: summary report.* www.cedefop.europa.eu/fi/news-and-press/news/lifelong-learning-lll-policy-instruments-foster-training-employed

ILO (n.d.). *Minimum wage policy guide.*

ILO; Gasskov, V. (2001). *Government interventions in private financing of training.* http://hdl.voced.edu.au/10707/25224 [unpublished].

Jegers, M. et al. (2002). A typology for provider payment systems in health care. *Health policy*, Vol. *60, No* 3, pp.255-273. Elsevier. https://doi.org/10.1016/S0168-8510(01)00216-0

Johansos, R. (2009). *A review of national traning funds*. SP Discussion paper; No 0922. The World Bank. http://documents1.worldbank.org/curated/en/893311468178131914/pdf/521870NWP0Box345554B001PUBLIC100922.pdf

Jongbloed, B. (2004). *Funding higher education: options, trade-offs and dilemmas.* Paper for Fulbright Brainstorms 2004: New trends in higher education.

Jongbloed, B. (2008). Funding higher education: a view from Europe. Paper presented at the seminar *Funding higher education: a comparative overview*, Brasilia, 13 October 2008.

Kuczera, M. (2017a). *Striking the right balance: costs and benefits of apprenticeship*. OECD Education working paper, No 153. https://doi.org/10.1787/995fff01-en.

Kuczera, M. (2017b). *Incentives for apprenticeship.* OECD Education working paper, No 152. https://doi.org/10.1787/55bb556d-en

London Economics; Conlon, G. et al. (2013). *An international comparison of apprentice pay: final report.* https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/289425/London_Economics_Apprentice_Pay_FINAL.pdf

OECD (2005). *Promoting adult learning*. Paris: OECD publishing. www.oecd.org/education/innovation-education/promotingadultlearning.htm

OECD (2010). *Learning for jobs. synthesis report of the OECD reviews of vocational education and training.* Paris: OECD publishing. www.oecd.org/education/skills-beyond-school/Learning%20for%20Jobs%20book.pdf

OECD (2017). *Financial incentives for steering education and training: getting skills right*. Paris: OECD Publishing. http://dx.doi.org/10.1787/9789264272415-en

OECD; ILO (2017). *Engaging employers in apprenticeship opportunities*. Paris: OECD Publishing. http://dx.doi.org/10.1787/9789264266681-en

Ofsted (2015). *The common inspection framework: education, skills and early years.* Manchester: Ofsted. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/828112/Withdrawn_common_inspection_framework.pdf

Skills Funding Agency (2015a). *Minimum standards: how the Skills Funding Agency will apply minimum standards for 2015 to 2016.* www.gov.uk/government/uploads/system/uploads/attachment_data/file/475609/Minimum_Standards_2015_to_2016.pdf

Skills Funding Agency (2015b). *Operational performance-management rules 2015 to 2016: version 1.* www.gov.uk/government/uploads/system/uploads/attachment_data/file/453319/Operational_Performance_Management_Rules_2015_to_2016.pdf

UEAPME et al (2016). *The cost-effectiveness of apprenticeship schemes: making the business case for apprenticeships: final report, May 2016.* http://erc-online.eu/wp-content/uploads/2016/05/Employers_Final-Report-on-Apprenticeships-May-2016.pdf

Websites

Cedefop - Database on financing adult learning. www.cedefop.europa.eu/en/publications-and-resources/tools/financing-adult-learning-db

Cedefop - Database on financing apprenticeships in the EU. www.cedefop.europa.eu/en/tools/financing-apprenticeships

Cedefop - Workshop on financing apprenticeships in the EU. www.cedefop.europa.eu/fr/events-and-projects/events/workshop-financing-apprenticeships-eu

OECD - Policy reviews of vocational education and training (VET) and adult learning: country studies. www.oecd.org/education/skills-beyond-school/countrystudies.htm

Further reading

Beicht, U. et al. (2004). *Kosten und Nutzen der betrieblichen Berufsausbildung in Deutschland [Costs and benefits of in-company vocational training in Germany*]. Bonn: Bertelsmann.

Busemeyer, M.R.; Trampusch, C. (2012). The comparative political economy of collective skill formation. In: Busemeyer M.R.; Trampusch C. (eds). *The political economy of collective skill formation.* Oxford: Oxford University Press, pp. 3-38.

Cedefop (2009a). *Individual learning accounts.* Luxembourg: Publications Office. Cedefop Panorama series; No 163. www.cedefop.europa.eu/en/publications-and-resources/publications/5192

Cedefop (2014a). *Developing apprenticeships*. Briefing note; May 2014. www.cedefop.europa.eu/files/9088_en.pdf

Cedefop (2015e). *Skill shortages and gaps in European enterprises: striking a balance between VET and the labour market*. Luxembourg: Publications Office. Cedefop reference series; No 102. http://dx.doi.org/10.2801/042499

Chankseliani, M. Et al. (2017). *People and policy: a comparative study of apprenticeship across eight national contexts.* Oxford University's department for education and the World Innovation Summit for Education (WISE). www.academia.edu/34838209/People_and_Policy_A_comparative_study_of_apprenticeship_across_eight_national_contexts

Chatzichristou, S. et al. (2014). *Dual Education: a bridge over troubled water?* European Parliament; Think tank study. www.europarl.europa.eu/thinktank/en/document.html?reference=IPOL_STU(2014)529072

European Commission (2016). *High-performance apprenticeships and work-based learning: 20 guiding principles*. Luxembourg: Publications Office. https://op.europa.eu/en/publication-detail/-/publication/8f010ea2-265b-11e7-ab65-01aa75ed71a1/language-en/format-PDF/source-63634090

European Commission (2016). *High-performance apprenticeships and work-based learning: 20 guiding principles.* Luxembourg: Publications Office. https://op.europa.eu/en/publication-detail/-/publication/8f010ea2-265b-11e7-ab65-01aa75ed71a1/language-en/format-PDF/source-63634090

European Commission; Ecorys; IES; IRS (2013). *Apprenticeship and traineeship schemes in EU27: key success factors - A guidebook for policy planners and practitioners*. European Commission - DG Employment, Social Affairs and Inclusion.

European Commission; IKEI (2012). *Apprenticeship supply in the Member States of the European Union*. Luxembourg: Publications Office.

Fundación Bertelsmann; Bassols, C.; Salvans. G. (2016). *European case study: high-quality dual vocational learning in Spain: the Alliance for dual vocational training.* www.ippr.org/files/publications/pdf/nsaw-case-study-bassols-salvans-may2016.pdf?noredirect=1

ILO (2013). *Towards a model apprenticeship framework: a comparative analysis of national apprenticeship systems*. New Delhi: International Labour Organisation and the World Bank.

Leuven, E.; Oosterbeek, H. (2004). Evaluating the effect of tax deductions on training. *Journal of labor economics*, Vol. 22; No 2, pp. 461-488.

Oosterbeek, H. (2013). *The financing of adult learning*. EENEE analytical report, No 15.

Poulsen, S.; Eberhardt, C. (2016): *Approaching apprenticeships systems from a European perspective.* BIBB Academic discussion paper No 171. Bonn: BIBB.

Ryan, P. et al. (2013). Apprentice pay in Britain, Germany and Switzerland: institutions, market forces and market power. *European journal of industrial relations*, Vol. 19, No 3, pp. 201-220. https://journals.sagepub.com/doi/abs/10.1177/0959680113494155

Schönfeld, G. et al. (2016). *Kosten und Nutzen der dualen Ausbildung aus Sicht der Betriebe: Ergebnisse der fünften BIBB-Kosten-Nutzen-Erhebung [Costs and benefits of dual training from the companies' point of view: results of the fifth BIBB cost-benefit survey*]: W. Bertelsmann Verlag.

Schlögl, P.; Mayerl, M. (2016). *Betriebsbefragung Zu Kosten Und Nutzen Der Lehrausbildung in Österreich: Endbericht* [*Company survey on the costs and benefits of apprenticeship training in Austria*]. Vienna: Österreichisches Institut für Berufsbildungsforschung.

Steedman, H. (2005). *Apprenticeship in Europe: fading or flourishing?* CEP discussion paper, No 710, London: CEP.

Steedman, H. (2015). *Promoting safe work and quality apprenticeships in small and medium-sized enterprises: Challenges for developed and developing economies*. Geneva: International Labour Office.

ANNEX 1.

Definitions of financing-related concepts

A1.1. Cost

For the purposes of this study, 'costs' are defined as a monetary valuation of all expenses incurred by the actors involved in an apprenticeship scheme. The overview of the cost categories covered by the study is presented in Table 2 in Section 1.2. of this report.

Who bears the costs can be differentiated as follows:

(a) unilateral costs: the costs are borne by one actor, for example, the payment of wage by employer to an apprentice;

(b) shared costs: the costs are shared among various actors involved in an apprenticeship scheme. For example, in case the employer receives (State) subsidies to cover partly apprentice wage.

A1.2. Financial flow

This is the payment of a cost over a specified period of time. The payment has an amount, source/contributor and a recipient. While all flows are linked to costs, not all costs are flows. There are also costs without corresponding payment (flow) which could be defined as 'implicit costs', such as for material and equipment for in-company training or instructors' wages when covered totally by the employer from own resources.

A1.3. Financing arrangement

This is the whole system of financing of an apprenticeship scheme. It can be reduced to major financial flows (redistribution from one actor to another), which represents the basic model of financing arrangement developed in this study (Figure 6 in Section 5.1). 'Major' flows are those that determine the characteristic

features of a specific type of financing arrangement. For example, if apprentices receive wages and the wages are fully or mainly paid by the employer, this is already a characteristic feature of one specific type of financing arrangement.

A1.4. Financing instruments

A 'financing instrument' may refer to a single financial flow or a set of financial flows (as part of a financing arrangement) that help to address specific market failures; the instrument is associated with a measure or incentive. A financing instrument usually focuses on the sharing of costs of apprenticeship among various actors involved in the scheme.

An example of an instrument which refers to a set of financial flows is a training fund where employers contribute to the fund and the collected money is redistributed to training companies (providing apprenticeship places) or transferred to schools or other training providers or individuals (apprentices).

Financing instruments do not necessarily cover all financial flows that take place within an apprenticeship scheme. For example, the payment of wages from an employer to an apprentice is not a financing instrument if the company is the only one that incurs costs. A subsidy paid to employers to finance part of apprentice wages, in contrast, is a financing instrument, as more than one party covers the cost of an apprentice's wage. The study distinguishes between financing instruments for employers (training funds, tax incentives, grants for companies) and apprentices (grants for individuals).

A1.5. Apprentice remuneration

The study distinguishes two categories of apprentice remuneration, 'wages' and 'allowances'. Both terms relate to the reward that apprentices receive for their productive work done on the job. 'Wages' are considered as taxable income; fixed amount per hour or pay period, such as a month or a year. This remuneration category may also include salaries (typically referring to monthly or yearly remuneration), but, for simplicity reasons, only the term 'wage' is used. 'Allowances', are non-taxable income. It should be noted, that in some comparative studies or national contexts, the term 'allowance' may be used in relation to a subsidy received by an apprentice to cover living, travel and subsistence costs or other costs. In this study, such subsidies are named 'grants'.

ANNEX 2.

Apprenticeship scheme criteria

(a) Long-term training: the study takes into account apprenticeship schemes that have a minimum duration of 12 months/one school year of alternating learning in company and learning at school. This period is sufficiently long to distinguish between other forms of work-based learning, such as school-based VET with work placements or traineeships and internships, of which the maximum duration set by EU legislation (Quality framework for traineeships) is six months.

(b) Systematic alternation between training in a company and learning at school: the study considers apprenticeship schemes that have a clear requirement for systematic alternation. This differentiates between apprenticeship schemes and work-based learning (WBL) or practical training that takes place in a company and WBL, which does not take place in a company but in a school-workshop.

(c) Formal qualification ('formal' is understood as a qualification, which has an assigned ISCED or EQF/NQF level): such qualification gives access to the labour market; is accessible through a formal education and training pathway at secondary or higher levels (even though other options may exist to achieve the qualification); may be included in the national qualifications framework, if available. There may be apprenticeship schemes that are not part of the formal VET system but lead to formal qualifications (as with new modern apprenticeships in Cyprus).

(d) Formal contract between apprentice and employer: a common characteristic of the apprenticeship schemes considered in the study is that there is some form of contract or agreement between the apprentice (or the apprentice's parent / guardian for minors) and the employer; given that these two parties have signed a contract, a third party (e.g. a school) can also sign it.

(e) Apprentices receive payment in the form of wages or allowance ([43]): this criterion refers to systematic apprentice pay that is compulsory for all apprentices by law. Those cases where the apprentice receives no money in return of his/her productive contribution or only some reimbursement of expenses (such as travel costs, accommodation) were not considered.

(f) Employers have a responsibility for providing apprentices with training at the workplace: the responsibility can be regulated in the contract, by law or other institutional arrangements such as collective agreements. The rationale is that employers are responsible for training the apprentice so that the period spent in the company is not just a work-placement, but learning and training opportunity.

([43]) Wages are considered a taxable income (fixed amount per hour or pay period, e.g. month). For simplicity reasons, only the term 'wage' (usually referring to pay per hour) is used. However, it may also include 'salaries' (usually referring to monthly or yearly pay). Allowances are considered non-taxable income. In some countries, wages / allowances may cover both on- and off-the job training. In other countries wages may cover on-the-job training only and allowances off-the-job training.

ANNEX 3.

Apprentice pay as a proportion of the relevant national minimum wage

The table shown in Figure A.1 is extracted from the study by Conlon, G. and colleagues for London Economics ([44]).

Figure A. 1. **Apprentice pay as a proportion of the relevant national minimum wage**

Country		NMW	Year 1	Year 2	Year 3	Year 4	Year 5
Australia	All	£ 7,43	71%	71%	109%	119%	
Austria	All	£ 5,68	47%	61%	82%	99%	
Belgium	All (Starting age 17)	£ 7,05	38%	41%	44%	47%	50%
Denmark (A)	Construction	£ 8,96	57%	68%	82%	95%	
France	Under 18	£ 7,52	25%	37%	53%	–	
	18-20		41%	49%	65%	–	
	21 or over		53%	61%	78%	–	
Germany	All	£ 8,85	39%	45%	50%	52%	
Ireland	Engineering	£ 6,48	60%	91%	134%	162%	
	Construction		68%	103%	154%	184%	
	Automotive		60%	90%	134%	161%	
	Paper/printing		99%	105%	119%	–	
	Electrical		74%	111%	161%	198%	
Italy (A)	Construction (Level3)	£ 6,46	87%	93%	101%	107%	113%
Netherlands (A)	Level 2/Starting age 17)	£ 6,84	69%	85%	100%	115%	

([44]) London Economics; Conlon, G. et al. (2013). *An international comparison of apprentice pay: final report*: London Economics.

Country		NMW	Year 1	Year 2	Year 3	Year 4	Year 5
New Zealand	All	£ 6,27	80%	80%	80%		
Spain	All	£ 4,35	75%	85%	–	–	
Sweden (A)	School based (<20yo)	£ 10,20	55%	60%	65%	73%	88%
	Firm based (<20yo)		43%	53%	63%	75%	88%
	>20yo		65%	70%	75%	88%	
Switzerland	All	£ 11,62	12%	16%	21%	26%	
United Kingdom	England	£ 6,19	97%	90%	118%	–	
	Scotland		88%	103%	112%	–	
	Waves		112%	110%	108%	–	
	Northen Ireland		97%	90%	98%	–	

(A) = Building and construction: Note that hourly wages have been converted to Sterling using and adjusted for Pucrhasing Power Parity

Source: London Economics.

ANNEX 4.

Apprentice social insurance costs

No	Country/ scheme code	Apprenticeship schemes	What are the key rights of apprentices covered by social insurance?	Who pays for apprentice social insurance?	
1.	AT 1	Dual apprenticeship	Health, pension, accident, unemployment	Paid by employer and apprentice and partly subsidised by the State	
2.	AT 2	Supra-company apprenticeship (safety ne of dual apprenticeship)	Health, pension, accident, unemployment	Fully paid by the State	
3.	BE-fr	Dual training		Partly paid by the State	
4.	BE-fl 1	Apprenticeship for SMEs	Health, pension, unemployment, annual leave	Partly paid by the State	
5.	BE-fl 2	Part-time vocational secondary education	Health, pension, unemployment, annual leave	Partly paid by the State	
6.	CY	New modern apprenticeship	Pension, unemployment, annual leave, redundancy	Fully paid by the employer	
7.	DE	Dual VET	Health and care insurance, pension and unemployment benefits, annual leave	Paid by employer and apprentice and partly subsidised by the State	

	If costs are partly paid by the State/region/ municipality, through what financing instruments? To what extent the costs are covered?	What is the level of apprentice social insurance as % of the annual gross income of apprentices?
	Grant for companies	Total 28,55%. This consists of: 15,43% (employer part) and 13,12% (employee part); health insurance: 3,35%, pension insurance: 22,8%, unemployment insurance: 2,4%.
		3.2%
	Tax deductions for companies	
	Tax deductions for companies	
	Tax deduction for companies or individuals (depending on legal status of a company) Social insurance contributions of the employer can be deducted completely from the tax base (as any other business-related expense); the shares the apprentices' have to pay are also tax deductible (in case annual income of apprentice surpasses the taxation threshold). The real monetary value will depend on the tax rate.	21-22%. There are small variations as the costs for health insurance vary by insurance and company. Amount is due only when the monthly wage is more than EUR 325.

No	Country/ scheme code	Apprenticeship schemes	What are the key rights of apprentices covered by social insurance?	Who pays for apprentice social insurance?	
8.	DK	Apprenticeship	Health, unemployment	Social insurance in terms of health and unemployment is covered by the State. Pension contribution is paid by employer (as part of the salary) and employee/apprentice. Social insurance in relation to unemployment benefits on a higher level is paid by employee/apprentice	
9.	EE	Work-based learning	Health, pension, unemployment	Partly paid by the State	
10.	EL	EPAS apprenticeships	Health, pension, unemployment benefits, annual leave	Paid by employer and apprentice	
11.	FI	Apprenticeship training	Health, pension, unemployment benefits, sickness benefits, annual leave	Fully paid by the employer	
12.	FR 1	Apprenticeship contract	Health, pension, unemployment, annual leave	Partly paid by the State	
13.	FR 2	Professionalisation contract	Health, pension, unemployment, annual leave	Partly paid by the State	
14.	HR	Unified model of education			
15.	HU	Apprenticeship - dual vocational training based on apprenticeship training contract	Health, pension, unemployment benefit, annual leave, sickness leave, maternity paid leave	Paid by employer and apprentice and partly subsidised by the State (?)	

	If costs are partly paid by the State/region/ municipality, through what financing instruments? To what extent the costs are covered?	What is the level of apprentice social insurance as % of the annual gross income of apprentices?
		1.28% (EUR 35.85)
	Tax deduction for companies Employers are totally exempted from social insurance contributions	
	Tax deduction for companies Only for employees aged 45 and more: the tax deduction is capped at the number of hours multiplied by the legal minimum wage	
		Employer: 22% social tax. Employee/apprentice: 10% pension, 7% health insurance

No	Country/ scheme code	Apprenticeship schemes	What are the key rights of apprentices covered by social insurance?	Who pays for apprentice social insurance?	
16.	IE 1	Apprenticeship	Employees may be entitled to social insurance payments if they lose their job, become sick or injured, have to leave their employment temporarily for family or caring reasons or if they retire	Paid by employer and apprentice	
17.	IE 2	Employer-led apprenticeship	Employees may be entitled to social insurance payments if they lose their job, become sick or injured, have to leave their employment temporarily for family or caring reasons or if they retire	Paid by employer and apprentice	
18.	IT 1	Apprenticeship for vocational qualification and diploma, upper secondary education diploma and high technical specialisation certificate (Type 1)	Health, pension, annual leave, social care, accidents at work and occupational diseases, illness, disability and old age, maternity, family allowance, unemployment (ASPI, social insurance for employment, in order to get unemployment benefit in case of dismissal), paid leave (88 hours per year for companies with fewer than 15 employees, 104 hours per year for companies with more than 15 employees)	Partly paid by the State	
19.	IT 2	Type 3: HE and research apprenticeships (Type 3)	Health, pension, annual leave, social care, accidents at work and occupational diseases, illness, disability and old age, maternity, family allowance, unemployment (ASPI, social insurance for employment, in order to get unemployment benefit in case of dismissal), paid leave (88 hours per year for companies with fewer than 15 employees, 104 hours per year for companies with more than 15 employees)	Partly paid by the State	

	If costs are partly paid by the State/region/ municipality, through what financing instruments? To what extent the costs are covered?	What is the level of apprentice social insurance as % of the annual gross income of apprentices?
		10.75%
		10.75%
	Tax deduction for companies Reduction of the contribution rate (5%) for companies with 10 or more employees Exemption from the payment of the unemployment contribution for craft companies Exemption from paying 0.30% levy for continuing vocational training	
	Tax deduction for companies Reduction of the contribution rate (5%) for companies with 10 or more employees Exemption from the payment of the unemployment contribution for craft companies Exemption from paying 0.30% levy for continuing vocational training	

No	Country/ scheme code	Apprenticeship schemes	What are the key rights of apprentices covered by social insurance?	Who pays for apprentice social insurance?	
20.	LU	Apprenticeship contract	Health, pension, unemployment, annual leave	Fully paid by the employer	
21.	MT	MCAST apprenticeships	Pension, sick leave, annual leave, indefinite contract where dismissal can only take place in view of serious misconduct and following three, written warnings, compensation should injury take place at the workplace	Paid by employer and apprentice	
22.	NL	Dual pathway	Health, pension, unemployment, annual leave	Partly paid by the State	
23.	PL	Vocational training of young workers	Health, pension, accidents, annual leave	Partly paid by the State	
24.	PT	Apprenticeship programmes			
25.	RO 1	Apprenticeship at the workplace	The apprenticeship contract is a special labour contract, but still a labour contract, so employees are fully covered for the standard social insurances	Paid by employer and apprentice and partly subsidised by the State	
26.	SE	Apprenticeship in upper secondary schools	Pregnancy benefit, parental benefit at the sickness benefit level and basic level, temporary parental benefit, income-based old age pension, sickness benefit, rehabilitation and rehabilitation allowance, occupational injury compensation, income-related sickness or activity compensation, benefit for care of closely related persons, child pension, adjustment pension, widow's pension	Other*	

	If costs are partly paid by the State/region/ municipality, through what financing instruments? To what extent the costs are covered?	What is the level of apprentice social insurance as % of the annual gross income of apprentices?
	Different instruments, such as grants for companies, e.g. subsidy practical learning; State fund healthcare. They provide general compensation for employers on costs related to apprenticeships (budget is not labelled to a specific cost).	
	Grant for companies	
	The health insurances are partly subsidised by the Government, through budgetary transfers related to specific costs	approx. 46% (EUR 1,100 per apprentice)

No	Country/ scheme code	Apprenticeship schemes	What are the key rights of apprentices covered by social insurance?	Who pays for apprentice social insurance?	
27.	SK	Dual education and training	Pension, unemployment, maternity leave	Fully paid by the State	
28.	UK 1	Degree level apprenticeships (England)	Health, pension, unemployment, annual leave, maternity leave	Partly paid by the State (this only applies to those national insurance contributions the employer needs to pay. The apprentices still pay the national insurance)	
29.	UK 2	Apprenticeships (England)	Health, pension, unemployment, annual leave, maternity leave	Partly paid by the State (this only applies to those national insurance contributions the employer needs to pay. The apprentices still pay the national insurance)	

(*) In Sweden, many aspects of social insurance depend on residence rather than on employment status. Employment-related social insurance costs for apprentices occur only if the employer hires the apprentice on an apprentice employment contract, which is relatively rare. In such a case, the general Labour Code applies regarding the apprentice's social insurance, and employers, employees (apprentices) and the public sector all contribute to this insurance

Source: Detailed survey.

	If costs are partly paid by the State/region/ municipality, through what financing instruments? To what extent the costs are covered?	What is the level of apprentice social insurance as % of the annual gross income of apprentices?
	Tax deduction for companies	
	Tax deduction for companies According to the legal specification, the employer saves 13.8% National Insurance Contributions (NIC) which would be due on the gross pay between the secondary threshold (9,247 EUR per year) and the apprentice upper secondary threshold (49,020 EUR per year – reference year: tax year 2016/17). In terms of actual money saved, the NIC changes equate to total savings of 6.7% for an average apprenticeship pay of 15,539 EUR per year for level 2 and 3. This differs from above 13.8% above since there is a (secondary) threshold below which no employer NIC is paid (Note the percentage will vary according to the level of apprenticeship pay).	

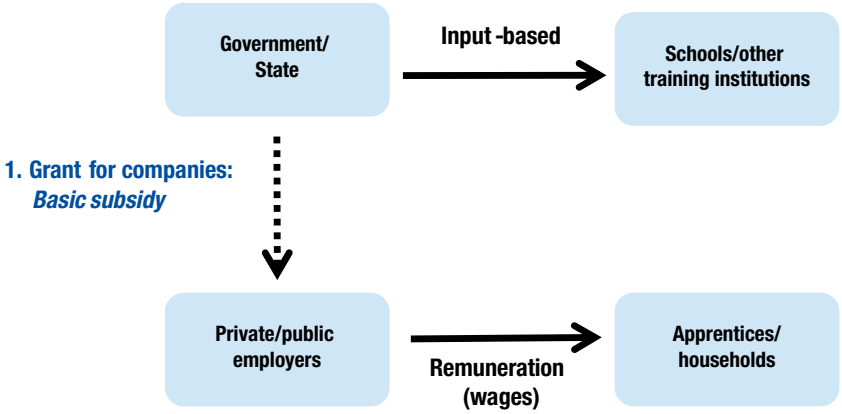
ANNEX 5.

Brief apprenticeship scheme financing descriptions

The graphs below represent the most significant (not all) financial flows of all 29 national apprenticeship financing arrangements analysed in this study. Financial flows are presented in the form of stylised illustrations: an arrow may not necessarily represent just one financing instrument (e.g. two tax incentives and, in addition, a grant for companies) given that the direction of the financial flows (source-recipient of these instruments) is the same. The graphs indicate only the main financing instruments (in terms of amount of funding disbursed and number of beneficiaries): minor ones are not indicated in graphs or analysed in this study. Graphs indicate whether financing of off-the-job training (schools and other training institutions) is input- or output-based. They also indicate the form of support to apprentices (whether they receive wages, grants, allowances and/or other support (meal subsidy, etc.) and from whom). Financing arrangements of some countries are more complex due to the presence of national or sectoral training funds (DK, FR, HU, IE, NL and UK).

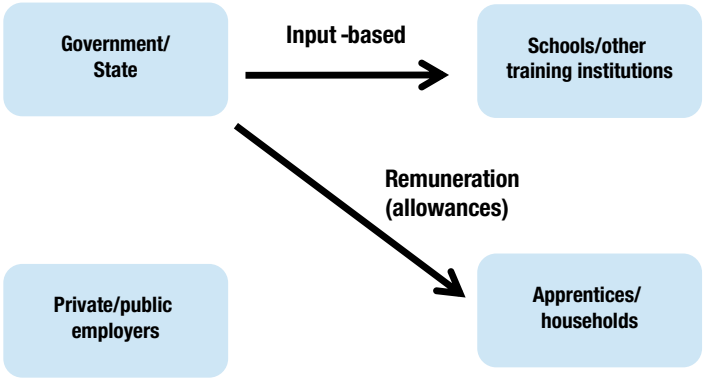
The graphs are based on data collected during this study and may be subject to change at the national/regional level. Bold lines indicate relatively higher volumes of financing compared to dotted lines that indicate lower volumes within the same financing arrangement. It is assumed that financing of off-the-job training by the government is substantial for all apprenticeship schemes. In cases where data on the level of financing are not sufficient/available, figures are estimated based on the overall financing information gathered on a specific scheme.

AUSTRIA 1: Dual apprenticeship (*Lehre/duale Ausbildung*)



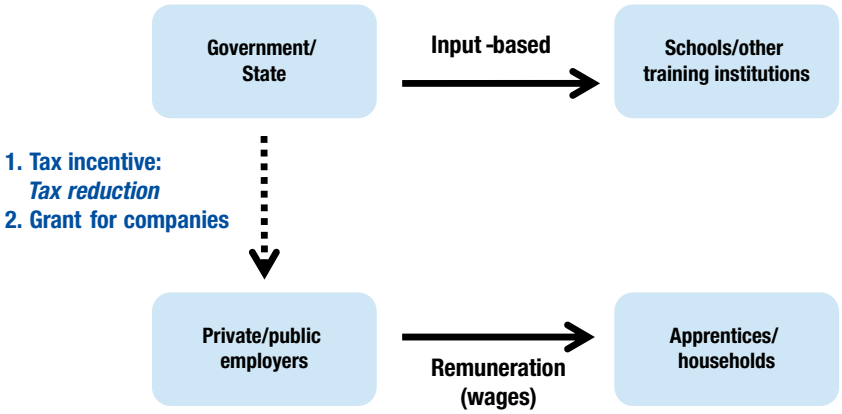
Duration of apprenticeship: 2-4 years
Apprentice remuneration: wages paid by employers
Remuneration covers: on- and off-the-job training
Remuneration setting: collective agreements
Remuneration variation: by apprenticeship year and trade
Remuneration level in PPS per year: 13 207.55
Remuneration level in PPS per hour: 8.32
Average time on-the-job training: 1 587 hours per year
Main financing instruments: (1) Grant for companies
Types of costs covered: (1) various costs

AUSTRIA 2: Supra-company apprenticeship - safety net of dual aprentceship (*Überbetriebliche Lehre*)



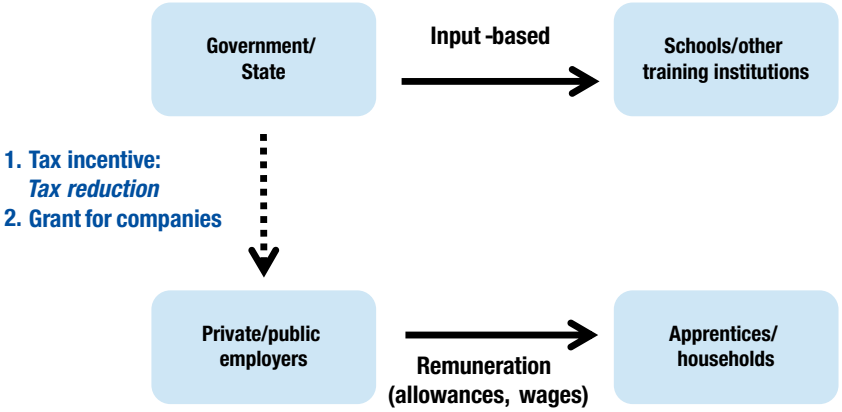
Duration of apprenticeship: 1 year or 2-4 years
Apprentice remuneration: allowances paid by the State
Remuneration covers: on- and off-the-job training
Remuneration setting: central
Remuneration variation: by apprenticeship year
Remuneration level in PPS per year: 7 356.58
Remuneration level in PPS per hour: 4.64
Average time on-the-job training: 1 587 hours per year
Main financing instruments: None (costs are covered by the State).

BELGIUM-FR: Dual training (*Formation en alternance*)



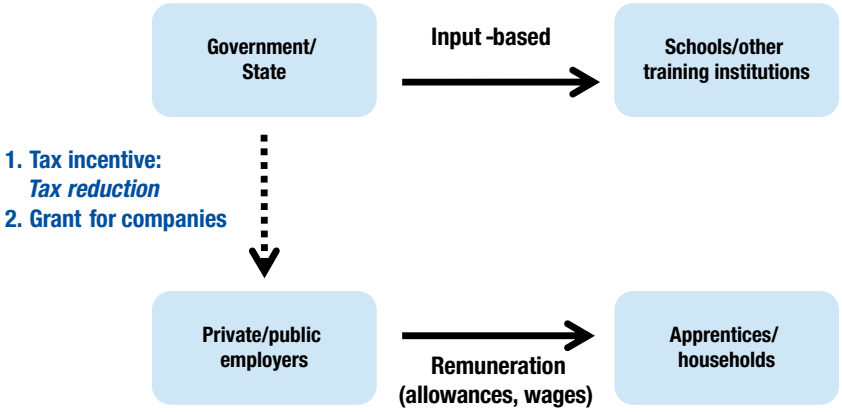
Duration of apprenticeship: 3 years
Apprentice remuneration: wages paid by employers
Remuneration covers: on- and off-the-job training.
Remuneration setting: central
Remuneration variation: by apprenticeship year
Remuneration level in PPP per year: 4 193.71
Remuneration level in PPP per hour: EUR 4.24
Average time on-the-job training: max. 988 hours per year
Main financing instruments: (1) Tax incentive, (2) Grant for companies
Types of costs covered: (1, 2) n/a.

BELGIUM-FL1: Apprenticeship for SMEs (*Leertijd*)



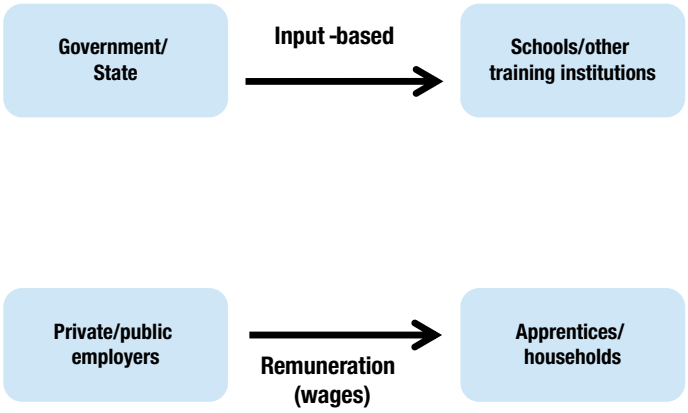
Duration of apprenticeship: 3-5 years
Apprentice remuneration: wages paid by employers
Remuneration covers: on- and off-the-job training
Remuneration setting: central
Remuneration variation: by apprenticeship year
Remuneration level in PPS per year: 5 486.80
Remuneration level in PPP per hour: n/a
Average time on-the-job training: n/a
Main financing instruments: (1) Tax incentive, (2) Grant for companies and (3) Grant for individuals
Types of costs covered: (1) apprentice wages and costs of social insurance, (2) n/a.

BELGIUM-FL2: Part-time vocational secondary education (*Deeltijdsberoeps Secundaironderwijs*)



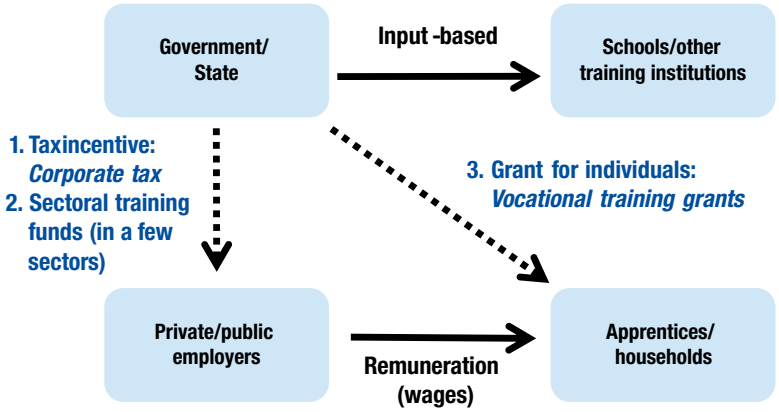
Duration of apprenticeship: 3-5 years
Apprentice remuneration: allowances paid by employers (alternation training contract), wages paid by employers (ordinary part-time employment contract)
Remuneration covers: on- and off-the-job training
Remuneration setting: central
Remuneration variation: by apprenticeship year and apprentice age
Remuneration level in PPP per year: n/a
Remuneration level in PPP per hour: n/a
Average time on-the-job training: min. 20 hours per week
Main financing instruments: (1) Tax incentive, (2) Grant for companies
Types of costs covered: (1) apprentice wages and costs of social insurance, (2) n/a.

CYPRUS: New modern apprenticeship (*Νεα Σύγχρονη Μαθητεία*)



Duration of apprenticeship: 3 years
Apprentice remuneration: wages paid by employers
Remuneration covers: on-the-job training
Remuneration setting: individual contracts
Remuneration variation: depends on the individual contract
Remuneration level in PPS per year: 3 409.10
Remuneration level in PPS per hour: 4.87
Average time on-the-job training: min. 700 hours per year
Main financing instruments: None. The apprenticeship scheme is jointly funded by EU.

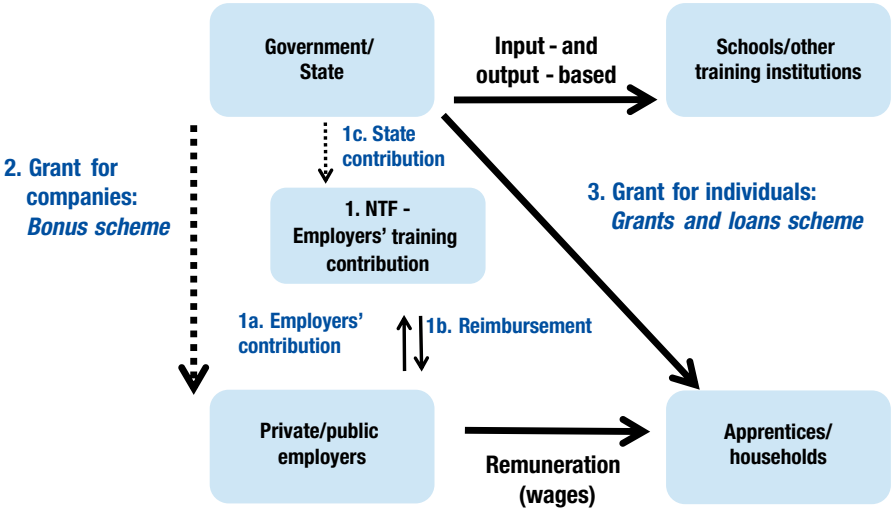
GERMANY 1: Dual VET (*Berufsausbildung*)



Duration of apprenticeship: 3-3.5 years
Apprentice remuneration: wages paid by employers
Pay covers: on- and off-the-job training
Remuneration setting: collective agreements
Remuneration variation: by apprenticeship year and trade
Remuneration level in PPS per year: 9 930.23
Remuneration level in PPS per hour: 7.36
Average time on-the-job training: 1 350 hours per year
Main financing instruments: (1) Sectoral training funds in 7 sectors only (2) Tax incentive, (3) Grant for individuals
Types of costs covered: (1) ([45]) apprentice wages (2) apprentice wages, social insurance costs of apprentices, gross wages of in-company instructors, costs of material and equipment as well as training and examination fees, (2, 3) living costs of apprentices.

([45]) Sectoral training funds cover apprentice wages in the corresponding sectors.

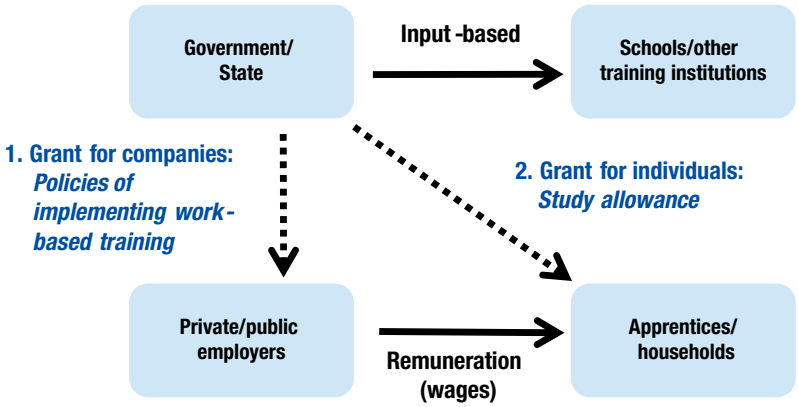
DENMARK: Apprenticeship (*Lærlingeuddannelser*)



Duration of apprenticeship: 2-4 years
Apprentice remuneration: wages paid by employers
Remuneration covers: on- and off-the-job training
Remuneration setting: collective agreements
Remuneration variation: by apprenticeship year, trade and apprentice age
Remuneration level in PPS per year: 15 556.54
Remuneration level in PPS per hour: 14.02
Average time on-the-job training: 1.110 hours per year
Main financing instruments: (1) NTF Employers' training contribution, whereby employers pay levy (1a) and can apply for reimbursements ([46]) (1b); the State contributes to NTF on the top of the levy (1c), (2) Grant for companies and (3) Grant for individuals (for those who do not have an apprenticeship agreement with a company yet and do not receive wages)
Types of costs covered: (1) apprentice wages, (2, 3) no specification of costs (any apprenticeship-related costs).

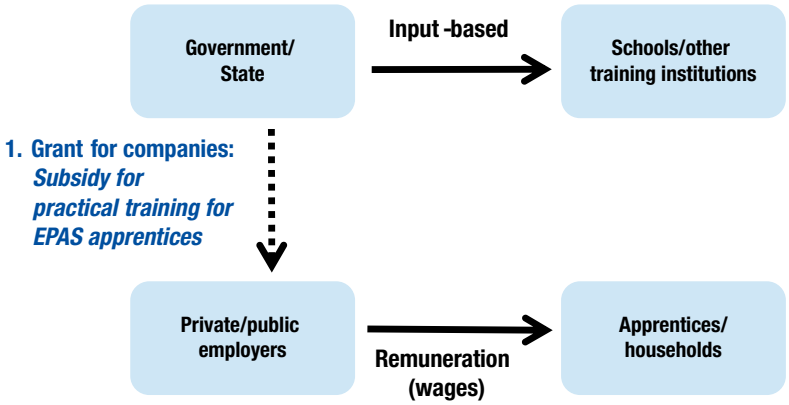
([46]) Students receive wages from the company for their work during the periods of apprenticeship. The Employers' training contribution reimburses the company for the apprentice wages when the apprentice is attending college (e.g. college-based periods of VET).

ESTONIA: Work-place based learning (*Töökohapõhineõppevorm*)



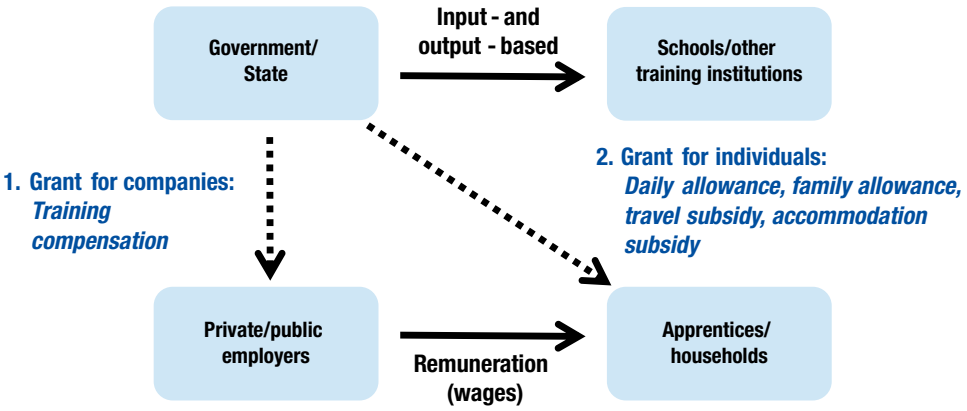
Duration of apprenticeship: 3 months - 2.5 years
Apprentice remuneration: wages paid by employers
Remuneration covers: on-the-job training
Remuneration setting: central
Remuneration variation: none, wages are fixed.
Remuneration level in PPP per year: 5 153.13
Remuneration level in PPP per hour: 4.95
Average time on-the-job training: 1 040 hours per year
Main financing instruments: (1) Grant for companies and (2) Grant for individuals.
Types of costs covered: (1) wages of in-company instructors, (2) travel and subsistence costs of apprentices.

GREECE: EPAS apprenticeships (*ΕΠΑΣ Μαθητείας ΟΑΕΔ*)



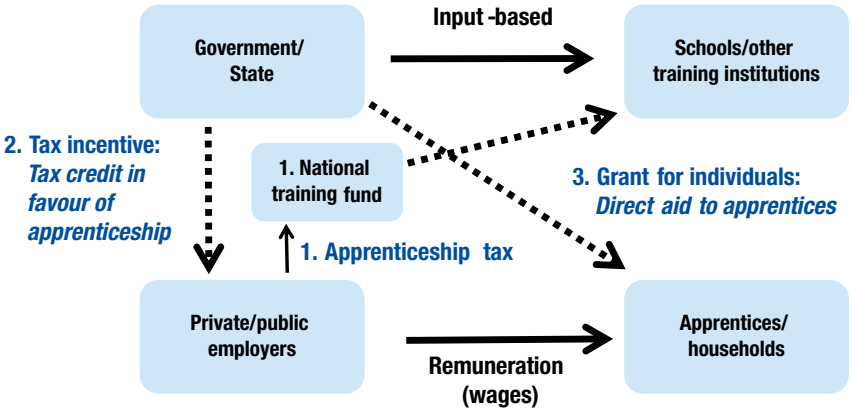
Duration of apprenticeship: 2 years
Apprentice remuneration: wages paid by employers
Remuneration covers: on-the-job training
Remuneration setting: central
Remuneration variation: none, wages are fixed.
Remuneration level in PPS per year: 3 289.96
Remuneration level in PPS per hour: 3.38
Average time on-the-job training: 972 hours per year
Main financing instruments: (1) Grant for companies
Types of costs covered: apprentice wages.

FINLAND: Apprenticeship training (*Ammatillinen perustutkinto*)



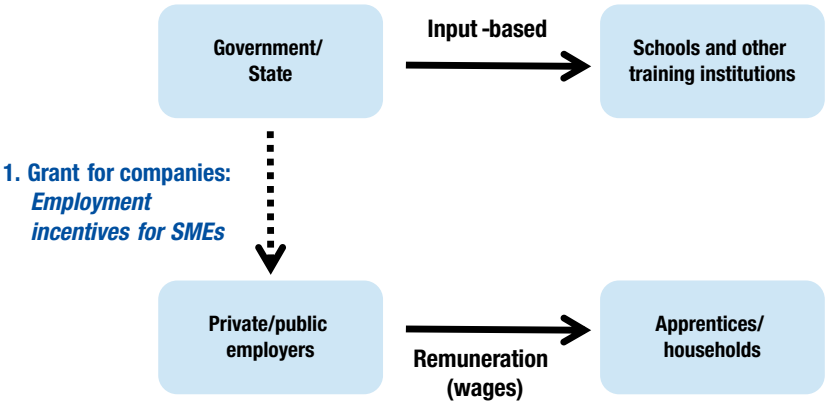
Duration of apprenticeship: 1-3 years
Apprentice remuneration: wages, paid by employers
Remuneration covers: on- and off-the-job training
Remuneration setting: collective agreements
Remuneration variation: by apprenticeship year, trade, qualification, place of living
Remuneration level in PPS per year: 15 767.96
Remuneration level in PPS per hour: 11.59
Average time on-the-job training: 1 360 hours per year
Main financing instruments: (1) Grant for companies and (2) Grant for individuals
Types of costs covered: (1) gross wages of in-company instructors, (2) travel and subsistence costs of apprentices.

FRANCE 1: Apprenticeship contract (*Contrat d'apprentissage*)



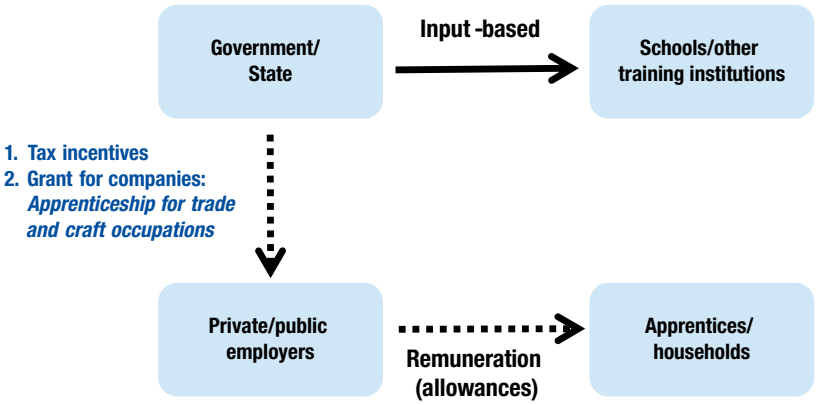
Duration of apprenticeship: 1-3 years
Apprentice remuneration: wages paid by employers
Remuneration covers: on-the-job training
Remuneration setting: central
Remuneration variation: by apprenticeship year, apprentice age and type of diploma
Remuneration level in PPP per year: 8 059.20 EUR
Remuneration level in PPP per hour: n/a
Average time on-the-job training: n/a
Main financing instruments: (1) National training fund - all companies pay apprenticeship tax to joint collective bodies, which allocate the levy revenue to training centres e.g. companies are not direct beneficiaries of NTF, (2) Tax incentive, (3) Grant for individuals – it is financed by Regional Aid Funds for Apprentices, which are governed by collective bodies.
Types of costs covered: (1) off-the-job training costs, (2) apprentice wages, (3) travel and accommodation costs.

FRANCE 2: Professionalisation contract (*Contrat de professionnalisation*)



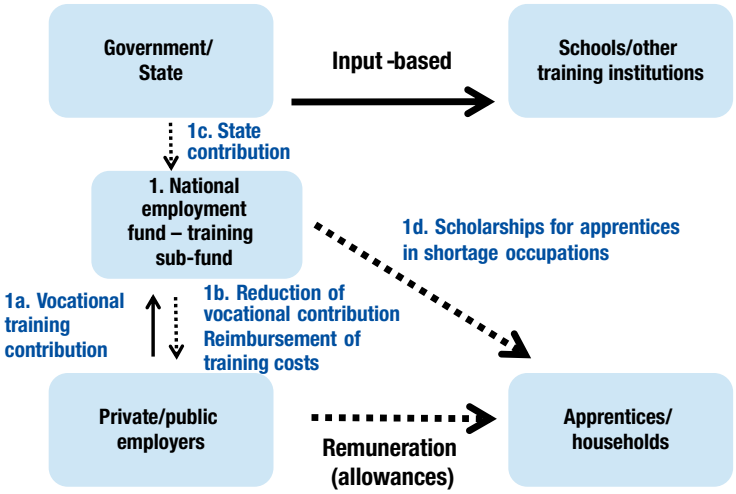
Duration of apprenticeship: 6 months – 2 years
Apprentice remuneration: wages paid by employers
Remuneration covers: on-the-job training
Remuneration setting: central
Remuneration variation: by apprentice age and qualification
Remuneration level in PPP per year: 13 157.88
Remuneration level in PPP per hour: n/a
Average time on-the-job training: 35 hours per week
Main financing instruments: (1) Grant for companies
Types of costs covered: no specification of costs (any apprenticeship-related costs).

CROATIA: Unified model of education (*Jedinstven model obrazovanja*)



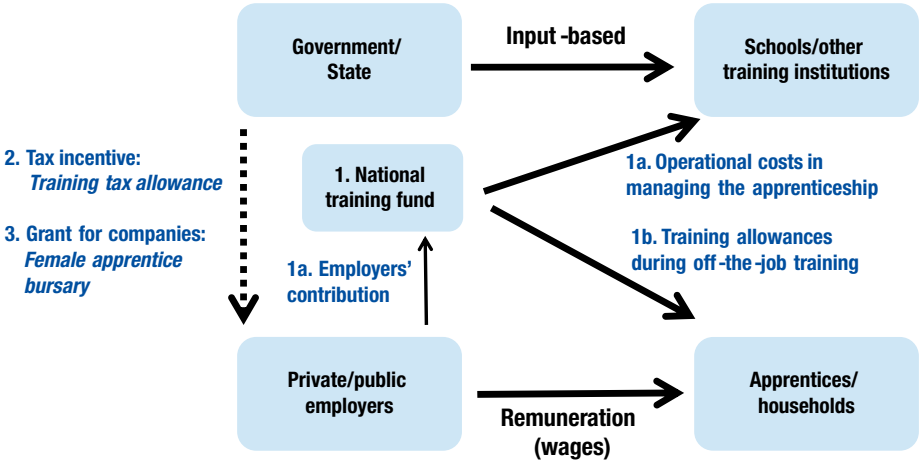
Duration of apprenticeship: 3-4 years
Apprentice remuneration: allowances paid by employers
Remuneration covers: on-the-job training
Remuneration setting: central
Remuneration variation: by apprenticeship year
Remuneration level in PPS per year: 774.08
Remuneration level in PPS per hour: 1.27
Average time on-the-job training: 610 hours per year
Main financing instruments: (1) Tax incentive and (2) Grant for companies (jointly funded by EU)
Types of costs covered: (1) apprentice allowances and costs of material and equipment, (2) wages of in-company instructors.

HUNGARY: Apprenticeship – dual vocational training based on the apprenticeship training contract (*Tanulószerződésen alapuló duális szakképzés*)



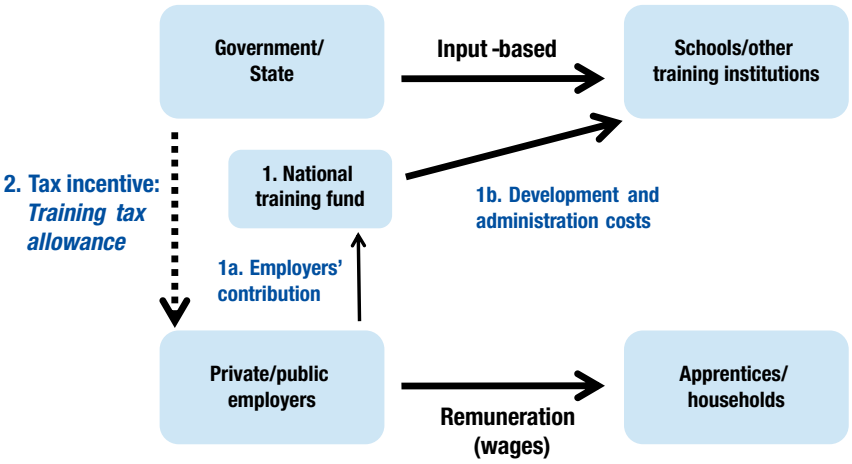
Duration of apprenticeship: 3 years
Apprentice remuneration: allowances paid by employers
Remuneration covers: on- and off-the-job training
Remuneration setting: central
Remuneration variation: by apprenticeship year, apprentice diligence and performance
Remuneration level in PPS per year: 1 232.52
Remuneration level in PPS per hour: 1.99
Average time on-the-job training: 620 hours per year
Main financing instruments: (1) National employment fund – training sub-fund (1a) employers pay vocational training contribution, (1b) they can reduce their payment obligations (related to the vocational contribution) and can also get training expenses reimbursed from the training sub-fund, (1c) the State contributes to NTF on the top of the levy, (1d) scholarship for apprentices in shortage occupations
Types of costs covered: apprentice allowances and costs of social insurance, wages of in-company instructors, costs of material and equipment and other costs (apprentice meals and travel costs).

IRELAND 1: Apprenticeship



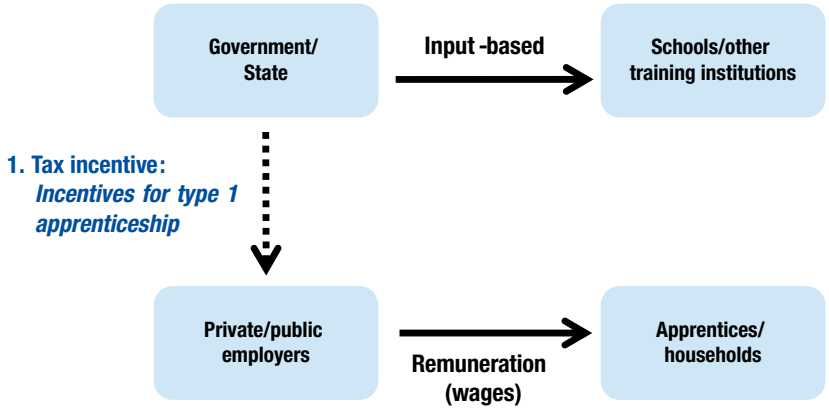
Duration of apprenticeship: 4 years
Apprentice remuneration: wages paid by employers
Remuneration covers: on-the-job training
Remuneration setting: collective agreements and individual contracts
Remuneration variation: by apprenticeship year and trade.
Remuneration level in PPS per year: 10 012.86
Remuneration level in PPS per hour: 6.26
Average time on-the-job training: 1 600 hours per year
Main financing instruments: (1) National training fund (2) Tax incentive, (3) Grant for companies.
Types of costs covered: (1a) The funding from the NTF goes to the network of further education and training providers to cover cost of developing the curriculum and of providing the off-the-job, (1b) training allowance paid to apprentices during the off-the-job training period, (2) costs of material and equipment, training and exam fees, travel and subsistence costs of apprentices, (3) apprentice wages.

IRELAND 2: Employer-led apprenticeship



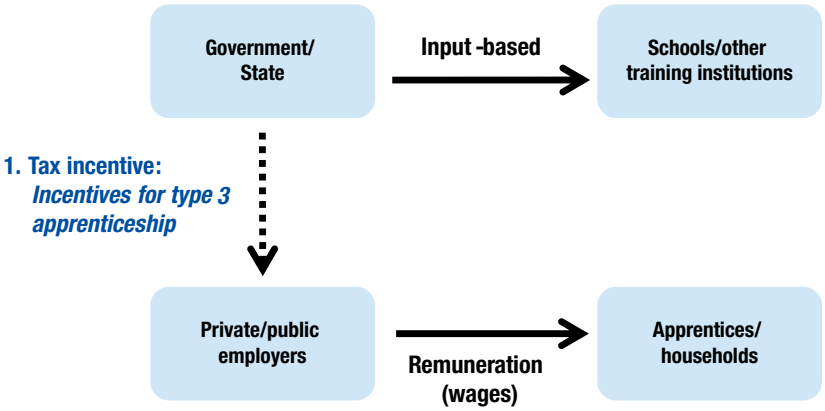
Duration of apprenticeship: 2-4 years
Apprentice remuneration: wages paid by employers
Remuneration covers: on- and off-the-job training
Remuneration setting: individual contracts
Remuneration variation: depends on the individual contracts
Remuneration level in PPP per year: 21 436.28
Remuneration level in PPP per hour: 15.10
Average time on-the-job training: 1 420 hours per year
Main financing instruments: (1) National training fund and (2) Tax incentive.
Types of costs covered: (1a) The funding from the NTF goes to the industry consortium e.g. industry association or education provider, to cover development and administration costs associated with the apprenticeship, (2) costs of material and equipment, training and exam fees, travel and subsistence costs of apprentices.

ITALY 1: Type 1 Apprenticeship (*Apprendistato per la qualifica e il diploma professionale*)



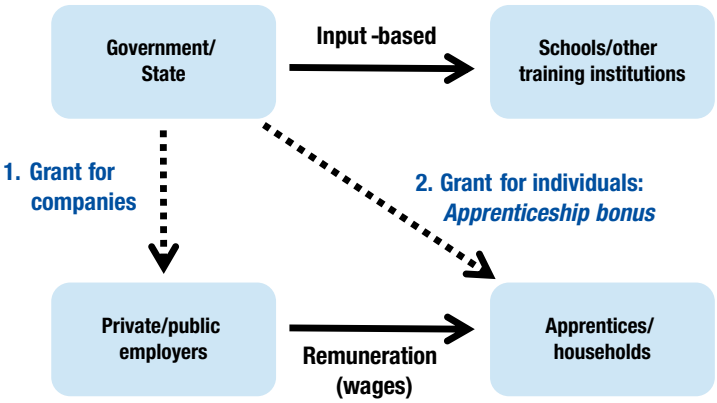
Duration of apprenticeship: 6 months to 4 years
Apprentice remuneration: wages paid by employers
Remuneration covers: on-the-job training
Remuneration setting: centrally by law, by collective agreements and by individual contract
Remuneration variation: by apprenticeship year and trade
Remuneration level in PPS per year: 20 958.08 - data for the trade sector only
Remuneration level in PPP per hour: n/a
Average time on-the-job training: n/a
Main financing instruments: (1) Tax incentive
Types of costs covered: (1) apprentice social insurance costs.

ITALY 2: Type 3 Apprenticeship (*Apprendistato di alta formazione e ricerca*)



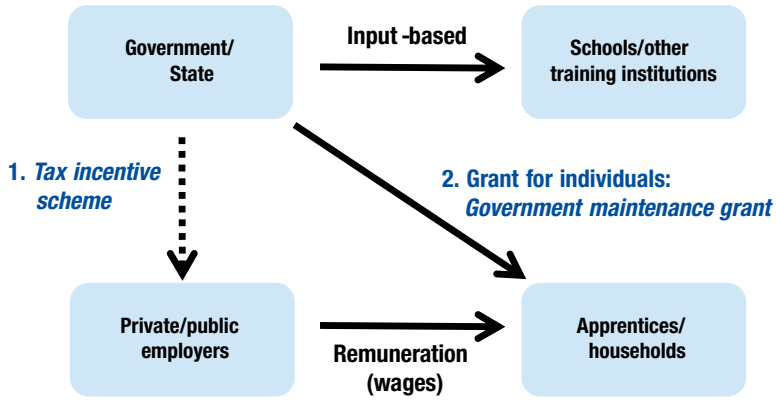
Duration of apprenticeship: 6 months to 4 years
Apprentice remuneration: wages paid by employers
Remuneration covers: on-the-job training
Remuneration setting: centrally by law, by collective agreements and by individual contract
Remuneration variation: by apprenticeship year and trade
Remuneration level in PPS per year: 20 958.08 - data for the trade sector only
Remuneration level in PPS per hour: n/a
Average time on-the-job training: n/a
Main financing instruments: (1) Tax incentive
Types of costs covered: (1) apprentice social insurance costs.

LUXEMBOURG: Apprenticeship contract (*Contrat d'apprentissage*)



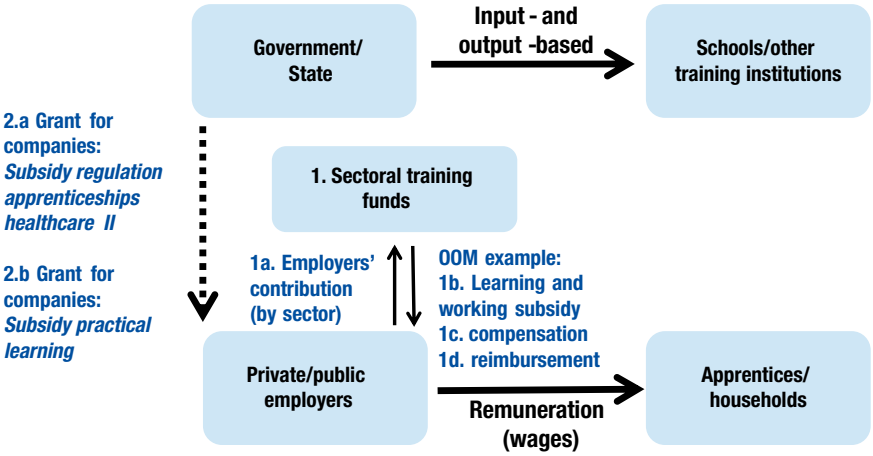
Duration of apprenticeship: 3-4 years
Apprentice remuneration: wages paid by employers
Remuneration covers: on- and off-the-job training
Remuneration setting: central
Remuneration variation: by apprenticeship year, trade, qualification
Remuneration level in PPS per year: 9 649.72
Remuneration level in PPS per hour: 19.8
Average time on-the-job training: 480 hours per year
Main financing instruments: (1) Grant for companies and (2) Grant for individuals
Types of costs covered: (1) n/a, (2) apprentice wages

MALTA: MCAST apprenticeships



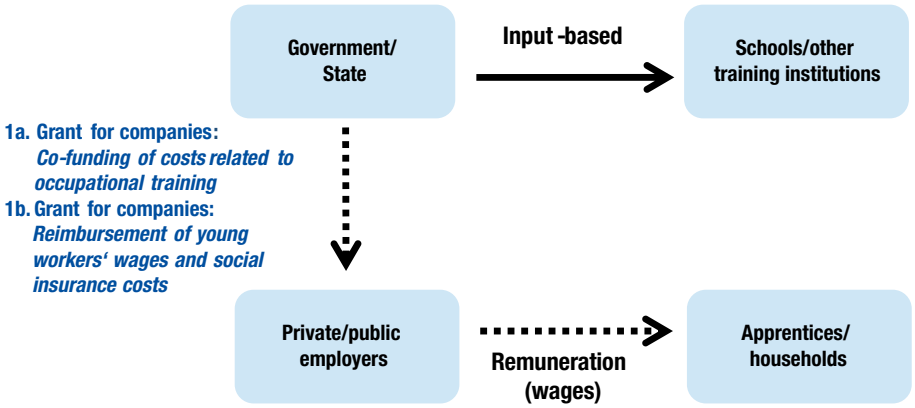
Duration of apprenticeship: 1-3 years
Apprentice remuneration: wages paid by employers
Remuneration covers: on-the-job training
Remuneration setting: central
Remuneration variation: by apprenticeship year
Remuneration level in PPS per year: 3 459.36
Remuneration level in PPS per hour: 4.94 EUR
Average time on-the-job training: 700 hours per year
Main financing instruments: (1) Tax incentive and (2) Grant for individuals
Types of costs covered: (1) costs for on-the-job training such as tools and working clothes, maintenance of the workplace, (2) no specification of costs (any apprenticeship-related costs).

THE NETHERLANDS: Dual pathway (*BeroepsbegeleidendeLeerweg*)



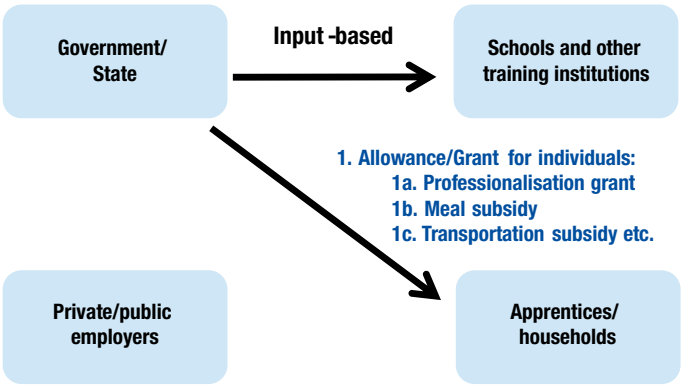
Duration of apprenticeship: 1-4 years
Apprentice remuneration: wages paid by employers
Remuneration covers: on-the-job training
Remuneration setting: collective agreements
Remuneration variation: by apprenticeship year, trade, age and qualification.
Remuneration level in PPS per year: 14 358.96
Remuneration level in PPS per hour: 11.22
Average time on-the-job training: 1.280 hours per year
Main financing instruments: (1) Sectoral training funds (e.g. OOM - Learning contribution for the sectoral training funds for metalworkers) and (2) Grants (two) for companies. The sectoral training funds cover different costs of employers. In the case of OOM three types of financial support are given: (1a) a learning and working subsidy (lump-sum payment), (1b) additional compensation, which tops up the learning and working subsidy based on a cooperation arrangement of employers in the metal sector (lump-sum payment) and (1c) reimbursement of costs (for training an in-company trainer)
Types of costs covered: (1a, 1b, 2) no specification of costs (any apprenticeship-related costs), (1c) training of in-company instructors.

POLAND: Vocational preparation of young workers (*Przygotowanie zawodowe młodocianych*)



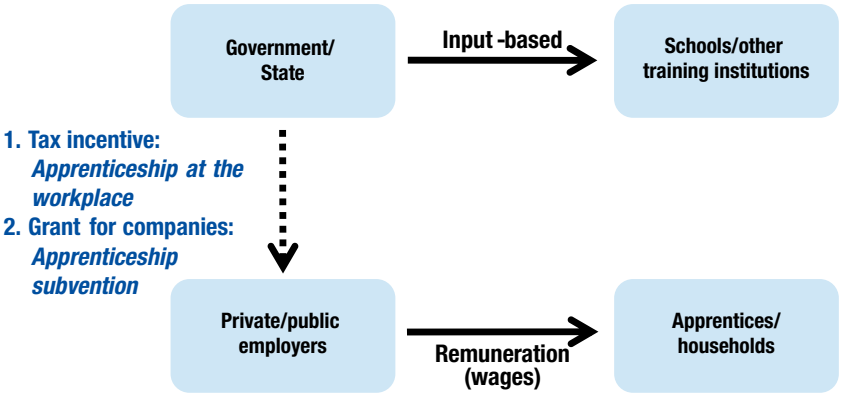
Duration of apprenticeship: 2-3 years.
Apprentice remuneration: wages paid by employers
Remuneration covers: on- and off-the-job training
Remuneration setting: central
Remuneration variation: by apprenticeship year
Remuneration level in PPS per year: 1 119.36
Remuneration level in PPS per hour: 3.45
Average time on-the-job training: 324
Main financing instruments: Grants for companies (1 and 2)
Types of costs covered: (1) wages and social insurance costs of apprentices, (2) any apprenticeship-related costs.

PORTUGAL: Apprenticeship programmes (*Cursos de apprendizagem*)



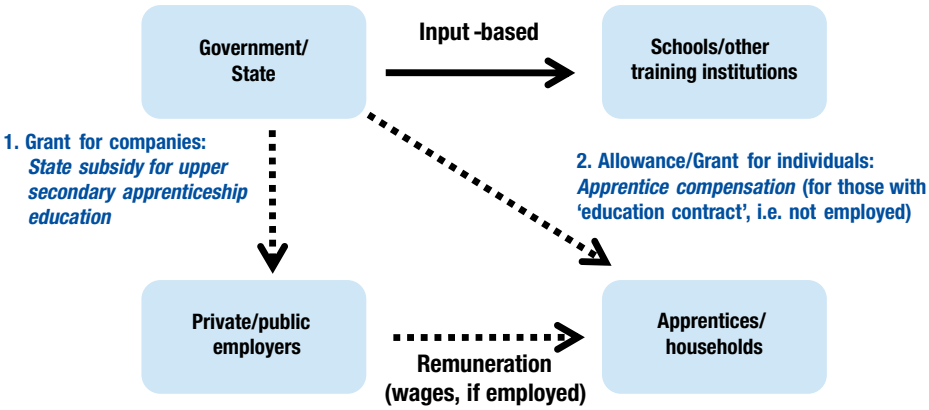
Duration of apprenticeship: 2.5 years
Apprentice remuneration: allowances paid by the State
Remuneration covers: on- and off-the-job training
Remuneration setting: central
Remuneration variation: depends on attendance and absences, hours spent for on-the-job training
Remuneration level in PPS per year: 601.14
Remuneration level in PPS per hour: 1.20
Average time on-the-job training: 500 hours per year
Main financing instruments: (1) Grant for individuals (jointly funded by EU)
Types of costs covered: The State support includes a 'professionalisation grant' (allowance), a meal subsidy, a transportation subsidy and in special cases: accommodation allowance and housing subsidy.

ROMANIA: Apprenticeship at the workplace (*Ucenicia la locul de munca*)



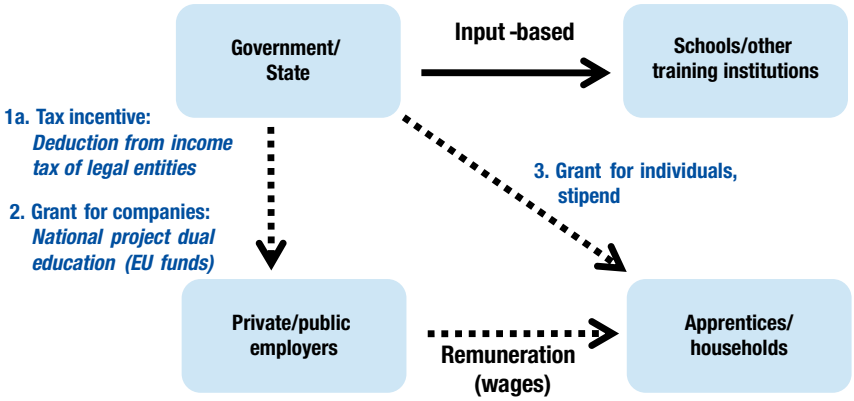
Duration of apprenticeship: 1-3 years
Apprentice remuneration: wages paid by employers
Remuneration covers: on- and off-the-job training
Remuneration setting: central
Remuneration variation: none, wages are fixed.
Remuneration level in PPS per year: 4 810.68
Remuneration level in PPP per hour: 3.73
Average time on-the-job training: 1.290 hours per year
Main financing instruments: (1) Tax incentive and (2) Grant for companies
Types of costs covered: (1) no specification of costs (any apprenticeship-related costs (2) apprentice wages

SWEDEN: Apprenticeship in upper secondary schools (*Systém duálného vzdelávanie*)



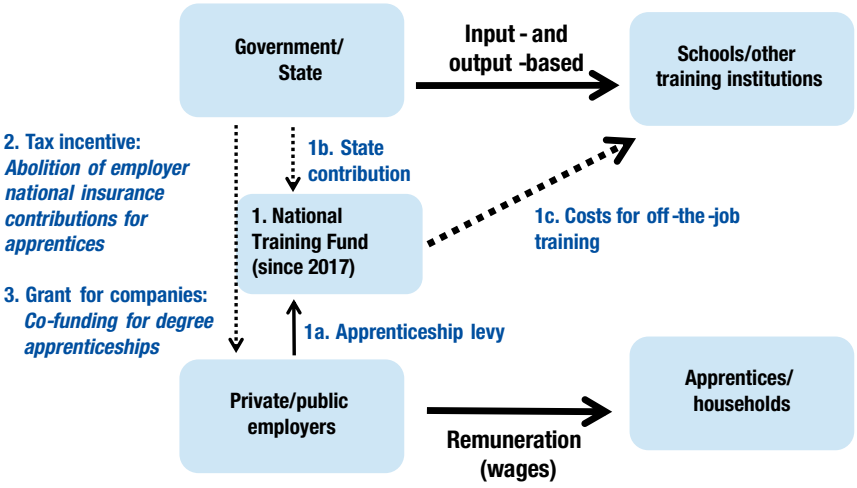
Duration of apprenticeship: 3 years
Apprentice remuneration: wages paid by employers (if apprentices are employed) and allowances paid by the State (if apprentices are on 'education contract)
Remuneration covers: on-the-job training
Remuneration setting: collective agreements (wages), central allowances
Remuneration variation: apprenticeship year and trade (wages), none allowances
Remuneration level in PPS year: 1 429.74 (allowance)
Remuneration level in PPS per hour:
Average time on-the-job training: n/a
Main financing instruments: (1) Grant for companies. The grant is paid to the education provider which should further forward at least 75% of it to the employer.
Types of costs covered: (1) no specification of costs (any apprenticeship-related costs).

SLOVAKIA: Dual education and training (*Systém duálneho vzdelávanie*)



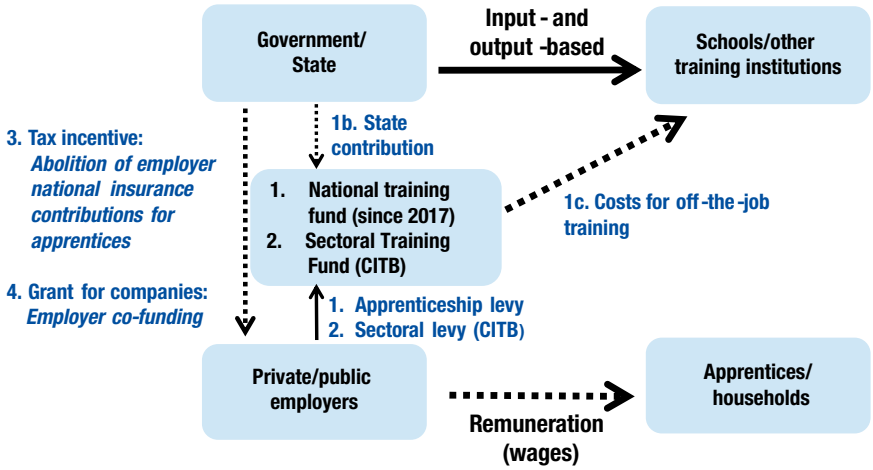
Duration of apprenticeship: 2-3 years
Apprentice remuneration: wages paid by employers
Remuneration covers: on-the-job training
Remuneration setting: central
Remuneration variation: none, wages are fixed.
Remuneration level in PPS per year: 1 383.84
Remuneration level in PPS per hour: 1.73
Average time on-the-job training: 800 hours per year
Main financing instruments: (1) Tax incentive for companies (2) Grant for companies
Types of costs covered: (1) no specification of costs (any apprenticeship-related costs) (2) costs of material and equipment.

UNITED KINGDOM: Degree level apprenticeships (England)



Duration of apprenticeship: 1-6 years (typically three to five for bachelor degree)
Apprentice remuneration: wages paid by employers
Remuneration covers: on- and off-the-job training
Remuneration setting: central
Remuneration variation: by apprenticeship year and age
Remuneration level in PPS per year: 9 615.56
Remuneration level in PPS per hour: 6.51
Average time on-the-job training: n/a
Main financing instruments: (1) National training fund – employers pay Apprenticeship levy, (2) Tax incentive and (3) Grant for companies. At the time of this research, the Apprenticeship levy was replacing the grant system for companies i.e. the grants were being phased out while the levy was being phased in, which meant that two different financing systems co-existed.
Types of costs covered: (1, 3) off-the-job training costs, (2) apprentice wages and costs of social insurance.

UNITED KINGDOM: Apprenticeships (England)



Duration of apprenticeship: 1-3 years
Apprentice remuneration: wages paid by employers
Remuneration covers: on- and off-the-job training
Remuneration setting: central
Remuneration variation: by apprenticeship year, age and qualification
Remuneration level in PPP per year: 7 075.53
Remuneration level in PPP per hour: EUR 5
Average time on-the-job training: n/a
Main financing instruments: (1) National training fund and sectoral training funds, (2) Tax incentive and (3) Grant for companies. At the time of this research, the Apprenticeship levy was replacing the grant system for companies i.e. the grants were being phased out while the levy was being phased in, which meant that two different financing systems co-existed.
Types of costs covered: (1, 3) off-the-job training costs, (2) apprentice wages and costs of social insurance.

ANNEX 6.

Strengths and weaknesses of selected financing instruments

A6.1. Training funds

The discussion below is mainly based on Cedefop's work on training funds (Cedefop, 2008, in particular) and a more recent OECD study (2017a). It concerns the effects of training funds on the companies that contribute to the funds, companies that benefit from them, and the broader impact on training.

Training funds have distributional effects: the companies that train numerous apprentices benefit from the training fund the most as they pay less than they receive from the fund. This trend can also be observed from the data collected which show that the numbers of beneficiaries of the training funds are much smaller than the numbers of contributors.

Training funds can also help to overcome the lack of incentives to train apprentices in sectors with high risk of poaching. By imposing a levy on all companies, the winners are those companies that take advantage of the fund.

The fact that the main financing of training funds is via fixed compulsory financial contributions implies an added stimulus for companies to use these contributions. It also ensures a continuous flow of resources to training and apprenticeship activities, irrespective of the economic situation (as these compulsory contributions are fixed), and an added flow of skilled employees for the labour market ([47]). Compulsory financial contributions help to increase awareness among employers and employees of the importance of training: experience from the UK shows that training investment fell in sectors where compulsory levies were removed in the late 1980s and early 1990s.

The mutualisation of available resources allows smaller companies to benefit from existing funds in a way that may result in receiving more to finance apprenticeship activities than their initial contributions (Cedefop, 2008). This

([47]) See European Commission et al. (2005).

is particularly the case of the UK Apprenticeship levy, where the smallest companies are exempted from paying the levy but still qualify for benefitting from the financing instrument (ETUC at al., 2006). By way of contrast, it is not always clear that SMEs (especially the smallest enterprises) fully benefit from available resources, as large companies have more options to apply for existing grants and bring apprentices to their workplaces than their smaller counterparts (OECD, 2005). For instance, available information from the UK CITB levy shows that large employers have claimed apprenticeship grants more often in the last two years compared to micro companies (70% and 56%, respectively).

Training funds can have non-economic effects, such as involving companies in managing the training fund and identifying training priorities. This goal is reflected in the data collected on the organisations involved in the management of the instrument. Training funds have the most non-State actors involved in governance compared to other financing instruments. Training funds can strengthen cooperation and dialogue on training and other areas, including employment policy and safety and health at work.

Training funds also suffer specific weaknesses. Compulsory levies are sometimes perceived by employers as an additional tax burden on top of already high employment costs, reducing enterprise competitiveness (ILO and Gasskov, 2001). Obviously, this perception is higher among those enterprises paying their contribution but not benefiting directly from supported activities, and can be exacerbated where companies see high bureaucracy and administrative burdens linked to the reception of financial support; this is particularly critical for SMEs. For instance, the French apprenticeship financing system has undergone recent reform intended, among other elements, to reduce the number of joint collecting bodies and improve the transparency of the system. Also, the UK Construction Industry Training Board (CITB) is currently reviewing its grant system in order to simplify the complexity of its levy and grants system, which explains (partially) why the CITB levy is not spent in full due to a lack of demand (CITB and Pye Tait Consulting, 2016). Other problems ([48]) include 'deadweight effects', where schemes end up supporting activities that would have been provided by enterprises in any case, particularly true among large enterprises, and the risk of 'dullness', as some training funds may benefit from captive resources, irrespective of the quality of the services and activities provided.

([48]) See Cedefop (2008).

Sectoral training funds may help to align training supply with specific sectoral labour needs, but they may overly concentrate employer perspectives and needs rather than those of employees.

A6.2. Tax incentives

The discussion below is mainly based on Cedefop's work on tax incentives (Cedefop, 2009, in particular) and more recent OECD studies (see OECD, 2017 and Kuczera, 2017a). The strengths and weaknesses of tax incentives (with a focus on those for companies) are summarised in the table below.

Strengths	Weaknesses
Relevant and efficient instrument reducing aggregate underinvestment in education and training, both by enterprises and individuals.	Tax incentives, especially those universally applied (where all enterprises are eligible), may result in large deadweight costs, given that some enterprises would be involved in training activities whether the incentives were available or not.
	Tax incentives fail to provide equal opportunities for all groups in accessing education and training. They usually favour those already overrepresented, e.g. large enterprises, highly educated employees.
Tax incentives can play a positive role in increasing the involvement of smaller enterprises and individuals (apprentices).	Overall, tax incentives are much more difficult to use to steer the system towards investments in skills of certain groups. They may lead to negative displacement effects, with one age group of beneficiaries preferred at the expense of the other due to eligibility requirements.
	Lack of awareness about existence of the tax incentives. Incentives are often not known by many enterprises, though the largest ones are more aware and benefit more. The fact that, in most companies, responsibility for training and responsibility for finance/accounting are separated adds to this problem.
In comparison to other financing incentives, relatively low levels of bureaucracy and low additional cost both for the government and for the employer as tax incentives are usually built on existing institutional arrangements	To some extent, they increase administration costs and reduce public revenues, so their proper use, quality administration and auditing are a major challenge for the tax authorities and the government. Incentives increase the costs of tax administration and reduce the transparency of the tax and public finance systems because they are often not subject to the same methods of internal control and statutory authorisations as other kinds of expenditure.
	Tax authorities have neither the capacity nor the expertise to monitor closely firm spending on training. This may also lead to concerns about the quality of the training financed through tax measures.

Strengths	Weaknesses
Incentives, if universally applied, are easy to understand and handle by users and the government. In such cases conditions for applying are usually transparent and checking of applications afterwards is usually not intense.	Uncertainties in the tax treatment of some training expenses. These are often decided on an ad hoc and subsequent basis by tax authorities or court decisions. Such uncertainties can have a negative impact on the willingness of enterprises/ to engage in education/training.
Take-up of tax incentives is likely to be higher than that of grants: in contrast to these measures (which often require the individual or employer to file an application in order to benefit), tax incentives are simply part of the annual tax return process and so are easier to access	Beneficiaries must generally wait until after the end of the tax year to be able to claim them, which might be a problem for those individuals and companies for whom immediate liquidity constraints are a barrier to participation. Direct grants are more attractive in this respect (it is clear how much money they get and when they get it). Further, the tax incentive amount is often unknown in advance for the taxpayers, as it is determined in the tax assessment and depends on the individual's marginal tax rate which is not known by many employees.
Tax incentives are often relevant in tangible monetary terms.	
Tax incentives allow total freedom in choosing training participants and contents.	Tax incentives provide limited stimulus to increase training in years when employers do not expect positive profits, yet it is precisely during these slack periods that the economic costs of foregoing production during training are lowest.

Source: Cedefop 2009, OECD 2017 and Kuczera 2017a.

ANNEX 7.

The research team

Name	Role
Jörg Markowitch	team leader
Antonio Corral	team member
Simonas Gaušas	team member
Günter Hefler	team member
Iñigo Isusi	team member
Žilvinas Martinaitis	team member
Viktor Fleischer	team member national expert - Austria
Vassil Kirov	national expert - Belgium and Luxembourg
Mariya Dzhengozova	team member national expert - Bulgaria
Marija Pavkov	national expert - Croatia
George Stavrides	national expert - Cyprus
Lubomír Valenta	national expert - Czechia and Slovakia
Clara Ellegaard	national expert - Denmark
Audronė Sadauskaitė	team member national expert - Estonia and Lithuania
Vesa Kokkonen	national expert - Finland
Isabelle Recotillet	national expert - France
Dieter Dohmen	national expert - Germany
Dimitrios Karantinos	national expert - Greece
Éva Farkas	national expert - Hungary
Tom Martin	national expert - Ireland
Roberto Angotti	national expert - Italy
Ilze Buligina	national expert - Latvia
Suzanne Gatt	national expert - Malta
Bert-Jan Buiskool	national expert - the Netherlands
Katarzyna Pydzińska	national expert - Poland
Marta Teixeira Pinto	national expert - Portugal

Liliana Voicu	national expert - Romania
Darko Mali	national expert - Slovenia
Jessica Durán	team member national expert - Spain
Anna-Karin Gustafsson	national expert - Sweden
Anna Savolainen	national expert - Sweden
Beate Baldauf	national expert – United Kingdom

EN

Financing apprenticeships in the EU

Cedefop's study Financing apprenticeships in the EU is a first-time effort in systematically collecting and analysing information on financing arrangements for apprenticeship schemes in EU countries and the UK. The data were collected through national expert surveys and the results are presented in two forms. An online database www.cedefop.europa.eu/en/tools/financing-apprenticeships provides detailed financing information for each apprenticeship scheme, while the report focuses on the main findings and offers comparisons of financing arrangements. The study looks at the main costs of apprenticeship and how they are shared between employers, apprentices, State, schools and other training providers. It examines the mechanisms for collection and redistribution of financial resources (focusing on incentives for employers and apprentices) and the volumes of funding involved. It demonstrates the wide variety of ways in which apprenticeships are financed and proposes a typology of financing arrangements for apprenticeships. The study aims at better understanding the patterns of financing apprenticeships and contributing to policy learning.

4192 EN – TI-04-20-716-EN-N – 10.2801/36563

CEDEFOP | European Centre for the Development of Vocational Training

Europe 123, Thessaloniki (Pylea), GREECE
Postal address: Cedefop service post, 57001 Thermi, GREECE
Tel. +30 2310490111, Fax +30 2310490020, Email: info@cedefop.europa.eu

visit our portal www.cedefop.europa.eu

Publications Office of the European Union

ISBN 978-92-896-3096-2