

EUROPEAN CASE STUDY

Cooperation in action: the dual vocational training system in Germany



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1. Introduction

Following its late, but rapid, industrialisation in the 19th century, Germany defined its “dual” system of vocational education and training (VET). In contrast to workplace-based or school-based models, the dual VET system combines an apprenticeship at the workplace with classroom-based education at a vocational school – hence the “dual” label.

Although the German system of vocational training also offers a wide range of school-based programmes, the dual system has, throughout the 20th century, become the hallmark of German VET. Perhaps the most striking feature of this system, for those unfamiliar with it, is the engagement of businesses (and employers in general) in the conception and implementation of dual apprenticeships: cooperation between employers, vocational schools, chambers, governmental bodies and labour unions is at the heart of dual vocational education. The dual system seeks to provide the labour market with the skilled workforce it requires and to equip young apprentices with market-relevant skills for their future professional lives. Given that it is employers who are the ultimate users of skills, it is eminently sensible to involve them in both the conception and the implementation of dual training programmes.¹

The purpose of this paper is twofold: on the one hand, it seeks to give an unfamiliar reader an overarching picture of the system, placing an emphasis on the importance of the cooperation between employers, governmental bodies, labour unions and other social partners; on the other hand, it outlines the current challenges of the dual system – issues that often pass unnoticed by outside observers.

The first section of the paper provides an introduction to the German dual system, explaining how it is structured and how it works. The second section is concerned with the central theme of the paper, namely cooperation between employers, vocational schools and other social partners. It provides a detailed description of the aspects in which collaboration is crucial as well as the roles and tasks of each collaborating partner at each stage of dual VET. The third section paints a portrait of the current state of dual VET in Germany, placing a

¹ In the Anglo-American world, the dual system of vocational education and training is often referred to as “apprenticeship training”. For the sake of simplicity, we only use the “dual” terminology.

special focus on its most urgent challenges. The fourth section contains a series of proposals that should help the German dual VET system to meet these challenges. Cooperation between vocational education and higher education is at the core of these proposals. By way of an example, the fifth and final section introduces a vocational-academic study programme that illustrates what this cooperation might look like in the future.

2. The dual system of vocational education and training in Germany

As in many other countries, the post-secondary education system in Germany is divided into two domains, the academic and the vocational. Both are, in turn, subdivided into two further tracks: in the academic domain we can distinguish universities from universities of applied sciences, while in the vocational domain we can distinguish school-based vocational education from dual vocational training.

For several decades now, as was pointed out in the introduction, the dual system of VET has been the hallmark of vocational education in Germany. The distinguishing feature of this system is the combination of a workplace-based apprenticeship with a classroom-based education. In contrast to school-based programmes that also include work-based learning, dual VET programmes follow the so-called “dual principle” (Euler 2013). According to the “dual principle”, in-firm and in-class training are equally constitutive elements of a dual vocational education: two sides of the same coin.

While many school-based programmes do include work-based learning, they often do so without coordinating the respective contents of school-based and work-based learning; work-based learning is more often than not considered as an add-on to the school curriculum. In dual VET programmes, by contrast, work-based learning is an integral part of the curriculum. Practical in-firm training allows apprentices to acquire a solid foundation of market-relevant skills for their professional future, while studying at a vocational school allows them time to investigate the scientific and theoretical aspects of their trade as well as to take courses in general education and foreign languages.

During the work-based part of their training, apprentices contribute to the productivity of their employer’s organisation; they therefore receive a monthly salary from their employer for the duration of the training. Employers shoulder the costs of training but they also benefit from

dual vocational education: employing apprentices in their production process allows them to save on skilled and unskilled workers' salaries, and training their own prospective employees allows them to save on recruitment costs as well as to guarantee that their future workforce will have the required skills (Muehlemann & Wolter 2014).

In general, vocational education and training is designed to contribute to economic, social and individual goals; more specifically, vocational training seeks to equip workers with the skills and competencies that allow them to be mobile and capable of working in their chosen professional fields (Euler 2013). Dual VET has a proven record in producing skilled workers, allowing employers to save on hiring costs, contributing to youth employability and supporting individuals in their transition into the labour market. In order to ensure that it contributes to these goals, dual VET is governed by a comprehensive legal framework that includes national and mandatory standards that must be followed by all sixteen federal states (Länder).

There is some complexity here, given the highly federal structure of the German state: education – and thus vocational schools – fall within the jurisdiction of each individual state, while economic and labour policy – and thus apprenticeships – are a federal responsibility. A further degree of complexity occurs as a result of the high degree of corporatism in Germany: social interest groups (e.g., companies, unions, chambers, associations) actively engage in political processes (Rauner & Wittig 2009). The combination of federalism and corporatism results in a complicated distribution of responsibilities among the many actors involved in vocational education: the federal government, regional governments, vocational schools, chambers, companies, labour unions and other social partners. The smooth functioning of the dual system therefore rests on the cooperation between these partners, especially with regard to the definition of complementary study and apprenticeship contents, the coordination of alternating learning locations and regular updates of curricula and quality standards according to market demands.

The next section describes this cooperation between partners and stakeholders of dual VET in more detail.

3. Cooperation between employers, vocational schools and other social partners

Cooperation between partners and stakeholders is a key element of dual VET. It extends beyond the legal arrangements of dual VET, permeating the whole system and its daily functioning. Cooperation is particularly important in the process of defining the number of apprenticeship spots that are offered each year, in the delivery of training and instruction, and in the final examination and awarding of the diploma. In addition, cooperation is essential to quality assurance within the system and in the updating mechanisms that match curricular contents and standards to labour market demands. In each of these aspects different partners assume different roles and responsibilities. This section elaborates on the specifics, detailing the roles and tasks of each partner at each stage of the dual training process.

As with most post-secondary education programmes, access to dual vocational education is regulated by an application process. Contrary to other forms of education, however, the application process in dual vocational education does not start at an educational institution: it is the employer that runs the apprentice selection process, not the vocational school. Prospective apprentices must thus identify a company or employer – from amongst the 330 professions accredited in the vocational training system – that offers apprenticeships and apply for a training spot (Federal Institute for Vocational Education and Training [BIBB] 2015).

Admissions criteria vary between sectors and employers, with no minimum requirement besides having attended school for the legal minimum number of years. No school diploma is necessary, although completion of lower secondary education is usually encouraged; some programmes may even expect an upper secondary education diploma. If an application is successful, employer and apprentice enter a training contract and the apprentice can automatically register at a vocational school (Rindfleisch & Maennig-Fortmann 2015). The number of training spots offered is therefore dependent on the market: that is upon the specific demands of each sector, not on the preferences of prospective apprentices. Vocational schools are obliged to offer a spot to every apprentice that is admitted to a dual training programme.

Dual system partners forge national and regional agreements to help ensure a balance of supply and demand, looking to motivate firms to offer training spots and to make vocational training attractive for young people (Federal Ministry for Education and Research [BMBF]

2014). However, if there are more prospective applicants than training spots available – and if school-based programmes cannot cover the shortfall – then most rejected apprentices end up in the so-called “transition system”. This is an umbrella term for a mostly unsystematic conglomerate of preparatory courses meant to support prospective apprentices in their access to a vocational training. Participation in such courses does not, however, secure access to an apprenticeship in the future.

Dual VET programmes last between two and three-and-a-half years, with most programmes being approximately three years in duration. Learning happens at two different locations, in line with the dual principle: apprentices receive the practical part of their training at their employer’s facilities (on average about 70 percent), while the theoretical or scientifically-oriented part of their education takes place in a vocational school (approximately 30 percent of their time). Typically, apprentices spend three to four days a week in work-based learning, and one to two days a week at school. Alternatively, they may spend separate week-long blocks at each location, though this is less common (BMBF 2011). The quality of a dual VET programme depends on how well the two types of learning are integrated (Euler 2013).

During the company-based training, apprentices receive formal and systematic training under real-life working conditions, mostly by an in-company trainer. Throughout their training, apprentices assume different tasks of incremental complexity, thus ultimately contributing to their employer’s production process, for which they receive a monthly pay. During the school-based part of their education, which is financed by the Länder and is free of charge to the student, apprentices follow a problem-based curriculum related to their professional field, learning the scientific underpinnings of their trade or acquiring management skills. In addition, apprentices can also follow general education courses and study foreign languages with the aim of completing upper secondary education at a later point, or simply to improve their employability (Rindfleisch & Maennig-Fortmann 2015).

At the end of their training, apprentices face a final examination that determines whether they qualify to practice their trade as licensed professionals. The examination is organised by the respective chamber of the apprentice’s professional field, with the examination itself being conducted by an examination board composed of several stakeholders: companies or potential future employers (such as trade masters or expert technicians), employees (e.g. labour unions) and vocational school teachers (who are state employees) (BBIB-GOVET 2014). As a general rule, teachers and in-company trainers that were involved in the examinee’s training and education do not participate in the examination process. Upon

successful completion of the exam, the apprentice receives a dual VET certificate issued by the chamber of the apprentice's trade and recognised by the federal government (Vocational Training Act [BBiG] 2003). This federal seal of approval ensures that standards are maintained and that apprentices/new workers are mobile within Germany.

Cooperation between employers, vocational schools, chambers and other social partners is the hallmark of the application-instruction-examination process. It also underpins the process of quality assurance and the way in which curricula are adapted to meet market demand. Quality assurance within the dual system is a recurring and on-going process involving the government, the chambers and social partners such as labour unions or employer associations. Roles and tasks are as follows (BBIB-GOVET 2014):

- The most important political actors at the federal level are the Federal Ministry of Education and Research (BMBF) and the Federal Ministry for Economic Affairs and Energy (BMWi). The BMBF is generally responsible for monitoring how the system is functioning through institutionalised research around indicators such as yearly participation rates, the apprenticeship market or the diversity of the apprentice population. Such research is conducted every year by the Federal Institute for Vocational Education and Training (BIBB), which is also responsible for the development of dual VET standards. However, it is the BMWi that enacts these standards, which govern the in-firm part of vocational education.
- At the level of the states, education in vocational schools is governed by vocational curricula, which are coordinated at the federal level through "framework curricula". In addition, each state has a commission for vocational education that advises the state government on matters related to vocational education. These committees are composed of representatives of employers, employees and state authorities.
- Employers and unions are involved at all levels of the organisation and governance of vocational education. Employers have a direct impact on VET through in-firm training and through the chambers. The latter are mostly responsible for the work-based side of dual VET. They monitor in-company training, register training contracts, mediate disputes between apprentices and employers and certify companies that wish to engage in dual VET. Chambers also serve as advisors on VET for interested companies (e.g. in the search for potential applicants). Furthermore, labour unions and employer associations are responsible for negotiating training allowances for apprentices and cross-checking the quality and development of in-company training.

Dual VET curricula are updated as and when employers identify new skills or new tasks. Negotiations take place between social partners and the government (under the guidance of the BIBB) to devise new, in-company training standards. The vocational school curriculum is then modified to ensure the continued coordination of training and instruction between employers and schools (Rindfleisch & Maennig-Fortmann 2015).

It is apparent that the dual system of vocational education in Germany is underpinned by a structure of intense cooperation. All partners in this cooperation follow the “consensus principle”, according to which government and business, but also social partners, must reach an agreement on vocational education policy. Consensus between stakeholders increases the acceptability of vocational training, although it may also be an obstacle to reform and innovation. During the past decade, there have been a few cases where the consensus principle has not been upheld, yet these remain the exception. In general, the social partnership in German vocational education seems to benefit from this principle (Euler 2013). Working together, stakeholders help secure the many positive benefits that the system produces. Indeed, the dual VET system is much admired internationally for such benefits (especially the low youth unemployment rates and highly skilled workforce that Germany enjoys). Nevertheless, the system is not without challenges as the next section explains.

4. Challenges facing the dual system of vocational education

The first indication that all may not be well with the German VET system has come from the steady decrease in participation rates for dual apprenticeships (which is happening in parallel with a steady rise in the number of first-year university students). In 2000 as many as 582,416 people embarked upon dual vocational training, while only 314,539 enrolled in a university degree. In the past ten years, the situation has reversed: 2013 was the first year in which more youths enrolled in a university degree than in a dual apprenticeship programme (510,672 first-year university students against 491,380 first-year apprentices - Authoring Group Bildungsberichterstattung 2014).

While it may seem paradoxical against the backdrop of a decreasing population of apprentices, the dual VET system in Germany is also facing a challenge of accessibility and satisfaction of demand. Every year around 150,000 youths fail to engage in initial vocational training, moving into the job market without any kind of completed post-secondary education. At the same time, about 250,000 people fail to access the VET system directly each year, thus falling into the so-called “transition system” (BMBF 2014); caught in this “transition

system”, prospective apprentices take up preparatory courses that do not guarantee their access to an initial training programme. The situation is exacerbated by the fact that young people with disabilities or from migrant backgrounds, in particular, experience difficulties in finding a training spot in dual VET. Lack of access to initial vocational training – whether school-based or dual – is especially concerning given the lifetime impact of low qualification levels.

The causes of this failure to provide access to an initial training lie in the market mechanisms that govern the dual system: vocational education depends on whether companies offer training spots that youths are interested in. Therefore, mismatches in qualifications, or in regional socio-economic composition, can lead to imbalances in supply and demand in the vocational training market. For this reason, several actors and stakeholders in Germany have been demanding a training guarantee similar to the one currently in place in Austria.²

The fall off in numbers of apprenticeships is surprising given that, in the next fifteen years, Germany is expected to experience a shortage of workers in those occupations that typically form part of apprenticeship programmes. The main cause of this shortage is that workers born in the 1950s and 1960s, who were mostly trained in vocational education programmes, are soon to retire. According to the Federal Institute for Vocational Education and Training (BIBB) and the Institute for Employment Research (IAB), 17.4 million workers will leave the labour market during the period 2012–2030; around sixty percent of them entered the working world with a vocational education, while only eighteen percent did so with a university education (Maier et al. 2014, 5).

Given this potential workforce gap, the importance of Germany’s vocational training system cannot be over-estimated. Decreasing participation in dual VET and the failure of the system to provide access to many youths interested in a vocational programme are therefore serious problems that affect the whole of the national economy as well as society at large.

If dual VET is to meet these challenges, it must be made flexible enough to adapt to today’s educational, social and economic context. It is important to increase both the attractiveness of the system and its capacity to include groups that have been hitherto excluded or under-

² Apprenticeship and traineeship seekers consistently outstripped the number of places offered by Austrian companies between 2002 and 2011. In order to combat this the Austrian government introduced a training guarantee in 2008, promising a suitable job, apprenticeship or training place to all young people within three months of them registering as unemployed or in search of an apprenticeship (European Commission).

represented. An important area of reform is the permeability between vocational and academic education, which is addressed in the following section.

5. Permeability & cooperation between vocational and academic education

The steady decline in dual vocational education and the recent shift in Germany's post-secondary education system seem to have brought vocational and academic education into some kind of competition. Proponents of the traditional division between academic and vocational education complain that Germany is undergoing an "academisation madness" (Nida-Rümelin 2014), while their opponents claim that vocational education is a "dead end" path in the 21st century (for more details on this debate, see Euler & Severing 2015). The terms of these debates are, however, misguided: they portray academic and vocational education as two separate and almost irreconcilable systems and, most importantly, offer no scope for productive resolution.

The overlap between vocational and academic education is growing, with vocational programmes offering more academic or scientific content and academic programmes including a growing number of practice-related elements in their curricula (e.g. internships, traineeships). The current turbulence in the vocational education system cannot therefore be overcome by furthering the division between the academic and vocational pathways. The existing overlap between the two domains is far too large for it to make sense to continue insisting on a fundamental incompatibility between vocational and academic education. On the contrary, the sustainability of German vocational education – and arguably the sustainability of the whole post-secondary education domain – depends heavily on the revision of the relationship between academic and vocational programmes. Specifically, the challenge consists in redefining the points of contact between university and vocational education. The following recommendations offer four ways of doing this (Bertelsmann Stiftung 2015).

Improve the permeability between vocational and academic tracks

Access to university should be made easier for those who have completed a vocational education. Equally, the vocational system should facilitate the transition into dual VET of university students who decide to drop out of their academic programmes. Efforts should also be geared toward a better recognition – in both directions – of completed courses and acquired competencies, especially between discipline-related programmes. Universities must develop and enlarge their offer for vocationally-trained individuals, while companies and

vocational schools must expand their offer to university graduates. Only by ensuring this kind of compatibility between the two systems can fairness and openness be achieved.

Develop new models of integrated education

Such programmes should comprise elements of both vocational and academic education in a non-hierarchical fashion. Programmes of this kind could allow young people to become familiar with both types of post-secondary education and therefore enable them to make better decisions about the direction they choose. In addition, such integrated programmes could also be made available to students without a university entrance qualification, thus furthering their access to university-level education.

Incorporate the advantages of dual VET into new study programmes

Dual vocational education has many advantages in terms of integrating young people in the labour market and allowing companies to identify/train skilled workers. Most notably, dual VET provides a curricular combination of theory and practice, the joint conception of education programmes with several partners and stakeholders, a nationally-recognised certification system, and the opportunity for young apprentices to gather professional experience and make contacts during their training. The question is whether these advantages can be translated into new study programmes. One well-established programme that already incorporates these beneficial aspects is the so-called “dual studies” bachelor, which combines an academic bachelor with initial dual vocational training. More efforts in this direction are desirable.

Ensure cooperation between vocational and academic education policymaking

The stark division between vocational and academic education is not only evident in the defined educational goals, organisational forms and certification systems of the two systems, it is also reflected in the division between the political institutions responsible for each domain of post-secondary education. In order to implement the recommendations above, there must be close cooperation between those authorities that govern vocational education and those that are responsible for academic education. These institutions have had few points of contact or opportunities for exchange so far, yet without this cooperation the success of a more integrated and permeable post-secondary education system remains unlikely.

The dual system: a model for other countries?

Despite its challenges, the dual system continues to be a point of reference for countries looking to reform their vocational education system – especially because of the low levels of

youth unemployment associated with dual vocational training programmes. The key to the high employability of graduates from dual programmes in Germany is, without a doubt, the involvement of companies in the design and implementation of vocational education. Is the dual system in Germany a model for other countries? If so, what exactly can other countries learn from the German experience?

Countries interested in introducing dual features in their vocational education system should bear two things in mind. First, the main criterion of quality in dual VET is not the number of apprentices enrolled. Rather, it is the degree of success in their school-to-work transition, that is, whether graduates find a job after their training. Second, countries should also be aware that companies are the ultimate users of apprentices' skills. That is why it is sensible to involve them in dual VET. In fact, if there is one lesson that other countries can learn from the German experience, it is this: to bridge the gap between learning and labour market, companies have to play an active role in the vocational education system. In short, there is no dual system without companies.

But how can companies be convinced to engage in vocational education? Appealing to their social responsibility has no enduring impact. It is better to provide economic arguments: training apprentices can be cost-effective for companies. For several years now, ex-post studies in Germany and Switzerland have proven this, and a recent ex-ante simulation study in Spain suggests that dual VET can also be profitable for companies in countries without a long tradition in the dual system (Wolter and Muehleemann 2015). Governments looking to promote dual VET should thus focus on economic arguments.

6. Concluding remarks: new partners, more cooperation

With its origins in 19th and 20th century German society, the dual system of vocational education was shaped by social and economic conditions that are very different from those of contemporary Germany. From being a rather homogenous society, with a relatively small population of academically educated professionals and a larger share of vocationally trained workers, Germany has become a highly diverse society with more highly educated professionals and fewer vocationally trained workers. At the same time, the world of work no longer exhibits a firm distinction between those who are vocationally or academically trained. Many professions and occupations are situated at the intersection of the two and the youth of today are increasingly interested in an education that combines aspects of both. The strict separation of vocational and academic education is therefore no longer valid and must be revised. Unless this happens, there is a danger that *both* academic and vocational education become somewhat irrelevant for 21st century Germany.

The solution to these problems lies less in reform of vocational education itself, and more in a reconfiguration of the whole post-secondary education domain, including universities. Increasing the permeability between the academic and vocational tracks is one of the keys to this reconceptualisation. This means, in short, more cooperation between employers, governmental bodies, labour unions and chambers – but also universities. Facilitating the transfer of completed course units from vocational to academic institutions and *vice versa* is an important first step. Cooperation between the dual system and universities also means conceiving new hybrid programmes composed of both vocational and academic elements.

Some programmes of this kind are already underway, with the “dual studies” bachelor being by far the most developed and wide-spread of these. Although it only accounts for a small percentage of the apprentice population, the numbers enrolled in dual studies bachelors have steadily increased since the first pilot projects of the 1970s. Combining a vocational training with a bachelor’s degree in a related field, this new hybrid form of education offers not two but three learning sites for student-apprentices: university, company and vocational school or learning centre. As in dual vocational programmes, the contents of the vocational training and the academic bachelor are coordinated, yet in this case they lead to two independent degrees. Applicants must have obtained access to university, but the first selection filter is the company that will provide the training. Most importantly, dual studies bachelors require the collaboration between a university and a company or employer (Thies 2015). The complex cooperation structure that underpins the dual system is thus expanding to include universities, further blurring the boundaries between vocational and academic education.

Moving on from the old academic-versus-vocational debate, the post-secondary education system in Germany will probably develop into an ever more complicated web of cooperation between economic, educational and political actors. Dual studies bachelors are but the beginning; the landscape of emerging hybrid models is worth a separate paper. These developments represent a breath of fresh air for vocational education: through the dual studies bachelor and similar programmes, more young people are likely to take up vocational training (Thies 2015).

At the same time, the growth of the intersection between academic and vocational education should not be seen as the death knell of the dual system. On the contrary, the future of the German educational system also depends on strengthening the existing dual system. More opportunities must be given to those groups that have been too often excluded from dual VET programmes (Bertelsmann Stiftung 2015). The challenge therefore lies in strengthening

the whole post-secondary education system – including universities, vocational programmes and everything else in between – in order to give young people fair chances to fulfil their professional potential and provide the labour market with the skilled workers that it needs.

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