

Testimony of Silvia Annen, Federal Institute for Vocational Education and Training, Germany

Thank you, Chairwoman Davis, Ranking Member Smucker, and honorable members of the Subcommittee on Higher Education and Workforce Investment for inviting me to testify today. I work with the German Federal Institute for Vocational Education and Training (BIBB). The BIBB is the recognized competence center for researching and developing initial and continuing vocational education and training in Germany. It performs its tasks based on the Vocational Training Act (BBiG) and works closely with the federal government, the German federal states (Länder) and the social partners (employer organizations, trade unions). Our institute is committed to the principle of a dialogue between research, politics and practice and promotes innovation in national and international vocational education and training. Today in my testimony, I have been asked to introduce the German Dual VET (Vocational Education and Training) system. This system provides a nationally recognized vocational training framework by working with the industry to determine qualifications and training.

The dual system of vocational education and training is a major reason why Germany has such a vibrant economy and the lowest youth unemployment rate in the EU. It equips apprentices with sound qualifications through its unique combination of theory and practice, learning and working (hence the name “dual system”). Participants are thus offered a debt-free, highly attractive and recognized training and career path after the end of compulsory schooling – either as an alternative to university education or as a complementary option. Job skills are a key ingredient for commercial success in the United States as well as in Germany. German companies - also those in the U.S. - are particularly well positioned to provide their workers with these skills, drawing on their experience with Germany’s vocational education and training system.

General Characteristics of the German Apprenticeship Model

In Germany, the federal government stipulates the statutory framework and thus creates legal certainty for all those involved, but there are two main components to the system. The **company component** of dual training is regulated in a nationally standardized manner. The **school-based component** guarantees that specific regional characteristics (e.g. relevance of certain language skills in certain federal states) are taken into account (federal structure with 16 Länder). A statutory framework is required in order to create harmony between the two learning venues in the dual system. All of this together guarantees equivalence and recognition of a training occupation across Germany.

In Germany, 52.4% of people utilize the Dual VET to enter the labor market. Dual VET provides a track in the vocational training system of Germany (though not the only one) and typically leads to

employment earlier than higher education. In addition, **access from Dual VET to Higher Education, and vice versa, are mutually possible.** Dual VET qualifications open up a range of professional opportunities for graduates. VET certificates are **nationally recognized throughout Germany** as qualifications for employment as well as for continuing education. Because certificates are nationally recognized, graduates have the advantage of being able to find work throughout Germany – a key criteria in ensuring labor force mobility.

Overall, the German Dual VET contributes positively to national economic performance and competitiveness, facilitates labor market matching and ensures the social and economic integration of young people into the labor market. This is e.g. demonstrated by the low rate of youth unemployment. In Germany, the youth unemployment rate is 5.1% (May 2019), which is the lowest in the EU.

Who determines standards for in-company training (training regulations)?

The implementation of Dual VET within companies is closely regulated by government and implemented by in-company instructors. The in-company training standards (training regulations) include a set of skills, knowledge and competences for each occupation to be trained (occupational profile/standard). They determine how a company must teach this occupation, as minimum requirements (training standard) and what a trainee needs to know in order to pass the exam (examination standard). These and many other standards are necessary to guarantee uniformity and national applicability of the training and certification.

The Dual VET standards are based on the real-world employment requirements, with economic need often driving the updating/development of national Dual VET standards. Employers identify new requirements within their workplaces, which lead to new occupational qualifications. A consensus between the social partners is mandatory to start the development of a new or the updating of an existing occupational qualification. In practice, the social partners and the government negotiate and adopt new standards for in-company training (training regulations) under the guidance of the BIBB within multi-stakeholder expert groups, which represent employers and employees as well as the federal government and the federal states. These groups meet at the BIBB on average 5 times over a period of about half a year to discuss and develop the training regulations. The education standards for vocational schools (framework curricula) are developed and updated in parallel and are coordinated with the in-company training standards (regulations). Dual VET standards simply formalize previously agreed upon standards by all relevant stakeholders. Hence, the standards are not simply imposed from above, but, when finally promulgated, are already accepted by the same stakeholders who are tasked with implementing and monitoring them. Most importantly, they are agreed to by employers who require these skills. These standards guide the delivery, monitoring, supervision and support of Dual VET nationwide.

Two learning venues

A central characteristic of the German dual system are the two learning venues where training takes place, which share training and qualification responsibilities. The federal government regulates company-based training on a national level, whereas school-based training is regulated by the federal states (Länder). While nationally standardised laws govern learning within the work process/at the company, each federal state (Land) has cultural sovereignty, so that federal state laws apply in respect of occupationally related teaching at the vocational school. A process of harmonisation stipulated in a **joint declaration** takes place between the training regulations for the companies and the skeleton

curricula used at the schools. In Germany, there is a coordinated legislation process in place where essentially the political committees of the federal government and of the federal states have to approve both. About 70% of the training takes place in the companies and 30% in vocational schools. The two regulatory instruments (training regulations and school curricula) form a joint basis for training in the dual system.

Important framework conditions of the German model

The Dual VET system works in Germany based on a number of important conditions. Germany's long-standing training history and the highly developed economic structure is important to the system, as it translates into a high demand for skilled employees on the labour market. Success factors are the strength of small and medium-sized enterprises (SME), the general interest, commitment and capability of companies to train as well as the strong and competent representation of employer and employee interests. The German VET system is sustained by a broad-based acceptance of VET standards through a strong involvement of the social partners in VET and a culture of cooperative engagement. In addition, the strong regulatory capacity of the government, competent VET teachers and trainers as well as the fact that the general education system makes young people ready for VET support the persisting success and high economic and societal meaning of the system. Without these structural conditions in place, Dual VET would not work in the same way and a wholesale transfer of German Dual VET to other countries where these conditions are not in place would be difficult to implement.

The **quality assurance** guaranteed within the system is essential for its acceptance and success. The key aspects in this regard are the cooperation of the government, the business community and the social partners (e.g. within the examination board, regarding the development of VET standards), the learning within the work process (e.g. in-company training = 70%), the acceptance of national standards (e.g. Dual VET standards, training certificate), the qualified VET staff (e.g. competent trainers and VET teachers) and the institutionalised research and advice (e.g. BIBB National TVET Report, VET standards). These quality features could provide some guidance toward which elements of the Dual VET could be utilized for strengthening quality of VET in other countries.

Federal Regulation (Vocational Training Act, Crafts and Trades Regulation Code)

The German **Vocational Training Act** applies to vocational education and training, insofar as it is not provided in vocational schools subject to the school laws of the federal states. The Vocational Training Act comprises the following sections: general regulations; training relationship; Organisation of VET; Research, planning, statistics, the legal foundation of the Federal Institute for Vocational Education and Training (BIBB); regulations regarding fines as well as transitional and final provisions. The law is very extensive.

The **Crafts and Trades Regulation Code** regulates the craft trades (e.g. plumber, carpenter). The regulations comprise the exercising of craft trades in the private sector, VET and continuing training in the craft trades, the master craftsman examination and the self-administration of this economic sector. In the field of vocational education and training, the Vocational Training Act and the Crafts and Trades Regulation Code predominantly cover the same areas. The part of the Crafts and Trades Regulation Code that covers vocational education and training can be understood as a special law accompanying the Vocational Training Act.

Coordination mechanism on the national level

Two very important stakeholders of the Dual VET are the **Board at BIBB** as well as the **multi-stakeholder expert groups**. The Board at BIBB articulates a joint VET stakeholder position. It is the central national political coordination mechanism of Dual VET in Germany (also called “parliament of VET”) and where all stakeholders jointly steer the VET system. The multi-stakeholder expert groups also meet at the BIBB to develop the training regulations for all occupations to which the Vocational Training Act and/or the Crafts and Trades Regulation Code apply. Representatives of the employers and employees, the employer organizations and the trade unions as well as the federal ministries, and the federal states (Länder) form the multi-stakeholder expert groups. The umbrella organizations of the employer and employee side nominate the representatives (4 on each side; 1 coordinator and 3 experts). Within these groups the standards meeting the requirements of the world of work are jointly developed and formalized in training regulations.

Content of training regulations

Training regulations as the fundamental basis for company-based training include the occupational title, describe the occupation, and define the duration of training (2 or 3 years). They stipulate the training profile (skills, knowledge and competences required) in binding terms, the general training plan (content and time structure), which the training company uses to draw up a company training plan on an individual basis, as well as the examination requirements. The company training plan forms part of the written training contract. Training advisors from the competent bodies (chambers of commerce, crafts etc.) support and monitor training companies in the development of their company training plan.

In a recognised training occupation, training may only take place in accordance with the training regulations. The training regulations are important because they secure a nationally standardised foundation for every training occupation. They also ensure the formation of employability skills, thus contributing to quality assurance in vocational education and training and ensuring examination certificates are valid/comparable across companies and provide a basis for the specialist labour market and marketability of work skills.

How is training within the companies implemented?

The company provides systematic training under real-life working conditions (in-company trainer, up-to-date equipment, etc.) based on in-company training standards defined in the training regulations. Step by step, trainees take over duties and tasks in the workplace. Dual VET is work-based because it is implemented for the most part in the company and requires trainees to take on „real“ duties and tasks of the workplace. It is based on the principle of strong involvement of the business community, because companies know best which competencies they need/demand. As such, companies deliver 70% of the training. Through strong company involvement in Dual VET in Germany, companies are provided with a pool of VET graduates with skills and competencies that closely match their labour market needs.

Each training company must offer appropriate facilities (premises, machines etc.), and an appropriate ratio between training, training places and skilled workers. Furthermore, the staff must demonstrably be in possession of personal and professional aptitude, appropriate occupational and vocational teaching skills, knowledge and competences (Ordinance on Trainer Aptitude, AEVO).

The **training contract** between the company and the trainee is the legal basis for the training. It stipulates the type, content and time structuring as well as the aim of the vocational qualification aspired, the commencement, duration, regular daily training time, remuneration, probationary period, leave etc., and the rights and duties of both parties.

Supervision and Monitoring, Examinations

The federal government delegates its monitoring function to the chambers of commerce or trade. They register training contracts, monitor companies and staff and advise both trainers and trainees. They also form **examinations boards**, which have an equal number of members from the employer and employee sides. At least one teacher represents vocational schools. In general, the board does not include those who trained the trainee. The examinations boards conduct intermediate and final examinations. Final examinations are conducted in all recognised training occupations organised by the chamber organisations. Admission to the final examination requires a written record of training and the participation in the intermediate examination (after half of the training). The object of the examination is that candidates demonstrate their employability skills. Following the examination, final certificates are issued that are recognized nationally.

Role of the Federal States, Vocational Schools

The **Länder (states) School Laws** stipulate the mandatory attendance at a vocational school, which commences after expiry of the period of full-time compulsory schooling. Because of the cultural sovereignty of the federal states stipulated in the German constitution, compulsory schooling in Germany is governed by the respective federal state laws.

The **school laws of the federal states** stipulate the conditions under which teaching and learning take place, the rights and duties of teachers and learners and the aims of teaching. They determine the skeleton curriculum, which means the learning objectives and subjects as well as the written and oral transcripts of records (relevant to final evaluation of trainees by the school). The federal states may deploy a “skeleton curriculum” provided by the Conference of the Ministers of Education and Cultural Affairs directly without making changes or else implement this into their own curriculum.

Vocational schools offer lessons in vocational (2/3) and general education (1/3) subjects free of charge based on vocational education standards defined in the framework curriculum for vocational subjects and based on the framework curriculum for general school subjects – all as classroom-based learning.

Facts and figures

Trainees: On average 52.4% of the population enters Dual VET. 41.9% graduate (in comparison to a 32.3% graduation rate in the higher education system). In 2015, the average age of trainees at the beginning of their apprenticeship was 19.7 years. About 1.3MM trainees are educated in 326 recognized training occupations covering all industry sectors. 5.1% of all employees at any given time are trainees. Dual VET offers high employment security, as 95% of its graduates are employed, while only 80% of untrained are employed. In Germany, the youth unemployment rate is 5.1% (May 2019), which is the lowest in the EU. The trainees receive an average training allowance of about €854 per month (~\$961 USD / month as of 10/7/19). The remuneration increases by the years of training and is paid monthly. The amount is aligned to the collective wage agreement applicable in the branch or to a guidance value stipulated by the chamber which may be undercut or exceeded. The minimum wage currently does not apply to trainees or young people who have not completed a vocational qualification. In 2018, 36.9% of all new apprentices were female.

Employers: 428,000 out of a total 2.1MM companies provide training (20.0%). They train more than 500,000 new trainees every year and hire 68% of Dual VET trainees as temporary or permanent employees after the training. Employers invest on average €18,000 per apprentice per year (62% of which is training allowance). Approximately 70% of the investment is recouped by the productive contribution of trainees during the training period.

Federal and state governments: They share expenses for the VET system with the employers. The annual public expenditure for Dual VET is € 7.29BN (€3,031BN for 1,550 public vocational schools providing part-time VET; €3.33BN for steering, monitoring and further supporting measures). Employers contribute €7.7BN, which leads to overall net cost of Dual VET of €14,99BN.

Permeability of the system

The promotion of permeability in the education system is an important educational policy issue in Germany. The term is no longer just understood to mean the transition from vocational to academic education. Rather, permeability today stands for the facilitation of a wide range of flexible educational pathways within and between vocational and academic education and training.

In recent years, a number of formal foundations have been laid to make the German education system more permeable. In particular, easier **access to higher education for people with vocational qualifications** has now become established throughout the country, as has the possibility of having vocational skills recognized for a course of study. The **path from higher education to vocational education** has also moved more into focus, with the result that in many places there are attractive offers for students leaving university that open the way to a vocational education career. Universities and vocational training institutions offer numerous measures ranging from individual counselling to bridging courses in order to shape the transition from higher education to initial and continuing vocational education and training. Within vocational education and training, there are a variety of further training opportunities that build on one another and offer promising development opportunities. The vocational route offers qualifications up to the second highest level (level 7) of the **German Qualification Framework** (PhD on level 8). The German Qualification Framework (DQR) provides for the first time a framework which encompasses all qualifications within the German

education system across every field of education (general, vocational and higher education). In addition, courses that combine academic and vocational education and training are becoming increasingly popular.

Permeability is also reflected in the programs for **combination of vocational and higher education (dual courses of study/work-study programs)**. Companies team up with higher education institutions (e.g. universities of applied sciences) to offer “dual study”-programs which combine university studies - usually ending with a Bachelor’s degree - and practical training in a company.

Current challenges of Dual VET in Germany

The main challenges regarding Dual VET for the German government are an expected shortage of skilled workers, the decrease in the supply of young people for the labour market caused by demographic shifts, and the trend of more young people choosing university over Dual VET. Furthermore, the strong regional disparity with regard to Dual VET training place demand and supply as well as the inclusion of disabled people and a large number of migrants are challenging the system now. In this regard, the federal government put various programs and support measures in place to facilitate the integration of these groups. There are also additional difficulties for many people in entering the Dual VET and hence the labor market. Overall, it is challenging to meet the demand of employers for skilled workers. At the same time, a strength of the Dual VET system is displayed in the fact, that through institutional research and monitoring challenges and problems are known very early on, providing policy makers with evidence for required action.

Reforms; updating of the legal framework and of training regulations

The German Vocational Training Act was reformed in 2005 and is currently again under revision. The key aspects of the current reform are the following: strengthening and further development of higher-qualifying vocational education and training (specialist, BA professional, MA professional); strengthening and promoting permeability within vocational education and training (training by stages, recognition of other training pathways) and occupational retraining constant mandatory consideration of technological and digital development; improvement of framework conditions for examinations; promoting integration and inclusion; minimum remuneration for apprentices.

In the 2005 reform the central elements of change were: more room for maneuverability and more flexibility for the development and testing of new training occupations; introduction of part-time vocational training; modernization of legal standards for the examinations; inclusion of vocational training research in statutory tasks (BIBB); modernization of the legal structures (Vocational Training Promotion Act was integrated into the Vocational Training Act).

Altogether, young people and young adults can currently choose from a total of 326 recognized dual training occupations. The fact that BIBB, together with the responsible federal ministries, the social partners and experts from in-company practice, have revised a total of **138 training regulations** since 2008 and adapted them to the current economic, technological and social requirements illustrates how adaptable and versatile dual vocational training is in Germany.

Impact of digitalization

On a macro perspective, in the economy as a whole, the number of people in employment remains virtually unchanged. However, working worlds differ in terms of the type of jobs by about 5 to 7 million jobs in 2030/2035. Structural change towards a digital society will accelerate.

On a micro perspective, almost all training occupations are affected by digitalization, but the degree of digital penetration varies widely. Hence, very different industry- and occupation-specific solutions are developed, as no uniform strategies can be identified. Overall, work organization becomes more networked, interfaces increase, and a systemic understanding becomes more important. As qualification requirements in occupational profiles change, basic IT skills are becoming standard as well as more and more mixed occupations are emerging alongside core IT occupations.

Furthermore, the training personnel in companies, vocational schools and inter-company vocational training centers (ÜBS) are becoming more than ever a decisive factor and require appropriate qualification. Appropriate equipment of the learning locations with teaching and learning-promoting media will be a crucial success factor and media didactic competence of training and further training personnel is central to the design of modern learning environments. Further training is generally becoming more important, especially for training personnel.

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