

Germany's dual vocational training system: a model for other countries?

Prof. Dr. Dieter Euler

A study commissioned by the Bertelsmann Stiftung



Germany's dual vocational training system: a model for other countries?

Prof. Dr. Dieter Euler

A study commissioned by the Bertelsmann Stiftung

Contents

Foreword	4
Summary	6
I. Starting points: why is it unfeasible to export vocational training systems in their entirety?	11
II. Essential elements of a dual vocational training system	19
1. Broad objective: vocational training as a means of achieving economic, social and individual goals	19
2. The main objective of vocational training: to produce skilled workers with flexible qualifications who are mobile and capable of working in their chosen fields	23
3. Alternating learning situations in accordance with the dual principle	30
4. Vocational training as a task to be carried out in partnership between the government and the business community	36
5. Joint funding of vocational training	39
6. Complementary programs run by schools or non-business entities	46
7. Codifying quality standards	49
8. Qualifications of teachers and training personnel	52
9. Balance between standardization and flexibility	55
10. Creating a solid basis for decisions and design	59
11. Social acceptance of vocational training	61
III. Transfer Revisited	66
References	68
Appendix 1	72
Appendix 2	74
Appendix 3	75

Foreword

Change is a journey, not a blueprint.

In the European Union, there are currently 5.7 million young people under the age of 25 without a job. In Greece and Spain, the unemployment rate for this age group is over 50 percent. The affected countries are looking for ways to improve the transition between school and employment and are increasingly turning their sights on the dual vocational training system. Combining theoretical reflection in vocational schools with practical in-company experience not only ensures that the business world will have skilled workers with real-life training, but also facilitates the young people's transition into the labor market.

The European Union and its member states share this view. Interest in the dual vocational training model is greater than ever. In its strategy paper "Rethinking Education," the European Commission makes the compelling statement, "Work-based learning, such as dual approaches, should be a central pillar of vocational education and training systems across Europe, with the aim of reducing youth unemployment [...]."

Countries such as Spain, Greece, Portugal, Italy, Slovakia and Latvia are looking at adapting their vocational training systems in line with Germany's dual system. But a strong interest in the dual system extends even beyond the borders of Europe, with India, China, Russia and Vietnam having already arranged to cooperate with the German government.

The objective is not for these countries to adopt the German vocational training system in its entirety. After all, experience shows that Germany's dual system is suitable as a model but not as a blueprint. Any country wishing to import a foreign system of vocational training must take existing framework conditions into consideration and implement the dual vocational training in line with the country's own educational, social and economic objectives. Thus, the objective should be to prudently import adapted elements of another country's system, but not an exact copy of it.

The following expert opinion shows how countries can adopt different aspects of the dual model. To this end, the dual vocational training system has been broken down into eleven components that can be viewed individually. How is the dual system financed? How can theory and practical training be combined in a meaningful way? How are examinations conducted? The expert opinion shows how individual components can be imported and what options exist for substituting certain elements. The study extends beyond the scope of the German system, to the international level. Other countries also have vocational training systems with dual elements that can equally be taken into consideration.



Not only does this international perspective facilitate a qualified discussion about importing training models, it also provides insight that can further benefit the German system. After all, the vocational training system here in Germany also has areas in which reforms are needed: for instance, despite the fact that there are open apprenticeship positions, there are still a large number of young people without a training position. The German vocational training system is not flexible enough to accommodate the heterogeneous backgrounds of the various young people. Modified structures are needed in order to continually be able to respond to demographic, economic and technological challenges.

The purpose of this study is to stimulate dialogue from different perspectives, thus enabling us to learn from each other and with each other. We owe a special debt of gratitude to Prof. Dr. Dieter Euler, whose profound knowledge of Germany's dual system and outstanding overview of the subject on the international level have made this study possible.



Dr. Jörg Dräger

Member of the Executive Board,
Bertelsmann Stiftung



Clemens Wieland

Senior Project Manager
Learning for Life Program
Bertelsmann Stiftung

Summary

It is often suggested that Germany should export its vocational training system to other countries. Some argue that this would promote economic growth in the importing countries while others see it as a way of dramatically reducing the rate of (youth) unemployment. So far the results have been disappointing, as most evaluations of attempts to export the German system show little long-term effects. Despite considerable effort from the German side, the dual vocational training system has been adopted only by a few countries in Central Europe.

A closer look shows that importing a system, or parts of it, involves more than mere duplication. It is a process of selecting and adapting certain components to suit the objectives and conditions of the potential importing country. In the case of a vocational training system, a country seeking to reform its existing system does not simply replace it with that of Germany or any other country. Instead, it reviews the experiences of various countries and selects the features that best fit its own goals, structures and culture, adapting them as necessary.

There is no quick and easy way to export a vocational training system, or individual components, to other countries. Each country's social, cultural and economic conditions determine the methods and strategies to be used in this process.

The vocational training systems that exist today are the result of certain historical and cultural forces. Germany's dual system, like those of other countries, has been shaped by prevailing legal norms, traditions, pedagogical principles and institutional structures. This leads to two main conclusions:

- A national vocational training system is a tool for achieving certain objectives, and these objectives can differ from one country to another. There is no "best" system; each one can be judged only by its success in achieving those objectives.
- A vocational training system is influenced by other social subsystems, and exporting it is possible only if conditions in the respective countries are comparable.

Rather than having just one system, nearly every country has various types of vocational training that are implemented using a range of pedagogical approaches. Vocational training systems are generally "mixed systems" that include varying proportions of both dual and school-based training.



There is no correlation between the quality of vocational training and its type. In both dual and school-based training, the quality of implementation may range from very good to very poor. Differences are probably greater within each type of training than between different types. Moreover, it is increasingly common for school-based programs to include periods of practical training in companies or at sites that serve multiple companies (in accordance with the “dual principle” of combining theory and practice).

For the purposes of export, a vocational training system should be viewed not as a single entity, but rather in terms of its various components. Two main questions will be addressed in this study:

- 1. Which elements of Germany’s dual system are essential and provide a basis for exporting it to other countries?**
- 2. How can those elements be structured to make them more readily adaptable to conditions in the importing country?**

We address these questions in the following steps:

- After analyzing the literature and the relevant legal sources, we identify and discuss eleven essential elements of the dual system.
- Since it is unlikely that the system will be exported in its entirety, for the reasons outlined above, we describe ways of exporting it in modified form. These modifications are based on plausibility considerations as well as on empirical examples from Switzerland, the Netherlands, Austria, Denmark, Norway, Luxembourg and England.

A summary of the core aspects of the eleven essential elements of Germany’s dual system follows below, along with a discussion of their potential benefits for other countries and possible approaches to exporting a modified version of the system.

Essential element	1	2	3	4	5
	Broad objective: vocational training as a means of achieving economic, social and individual goals	The main objective of vocational training: to produce skilled workers with flexible qualifications who are mobile and capable of working in their chosen fields	Alternating learning situations in accordance with the dual principle	Vocational training as a task to be carried out in partnership between the government and the business community	Joint funding of vocational training
Explanation/ Potential benefit	• Three-fold purpose as a central reference point for the German vocational training system: promoting (1) economic productivity, (2) social integration and (3) individual development • Developing a skilled labor force, which can help promote innovation in business • Three-fold purpose in the context of the interests of stakeholders (the state, the business community, young people and parents); government is responsible for ensuring a balance of differing goals • Benefits: vocational training can be helpful in achieving objectives in multiple policy areas, which makes it possible to address a broad range of stakeholders and favorably influence opinions about vocational training	• Training is designed to meet the practical needs of the labor market • Occupational skills enable individuals to work in their chosen fields • Skills are applicable to a wide range of settings within the field, which allows individuals to be flexibly employed in a variety of businesses • Skill profile makes trained workers more mobile • In some cases skills are developed in a fixed process, without separate steps or interruptions • Skill development may in some cases be combined with aspects of career and occupational development • A responsible agency (usually the chamber of commerce or crafts) administers a centralized examination to assess trainees' skills, adhering to the principle that the teacher and the examiner should not be one and the same • Benefits: skills enhance workers' flexibility and mobility, reduce the danger of social marginalization and raise educational levels in a non-academic context	• "Dual principle" refers to the integration of theory and practice, thinking and acting, systematic and case-based learning • The business setting is essential for learning, since it is the only place where learning can occur under real-life conditions • How well the dual principle is implemented depends on how well the learning site is utilized and cooperation at that site • Benefits: with the dual approach, occupational skills are developed that are relevant to the labor market but not narrowly focused on the requirements of individual businesses	• Close cooperation between government and business (e.g. in formulating occupational profiles, administering examinations, finding training positions) • Cooperation may take a variety of forms, ranging from codified co-determination, to the "consensus principle," to informal agreements • Benefits: the relevant parties become active participants who are involved in implementing guidelines and agreements, which promotes social acceptance of vocational training	• The costs of the dual vocational training system are borne proportionately by the government and the business community • Not all businesses that are authorized to train workers actually do so • In the case of certain occupations, providing vocational training results in net income for the businesses involved • Benefits for businesses: vocational training programs can serve as an investment in a business's recruitment strategy; potential benefits from "free-riding" • Benefits for society: the financial involvement of the business community makes it possible to keep government expenditure for vocational training at a relatively low level
Approaches to exporting the system in modified form	• The focus is on the goals that have priority at the time, rather than on the entire range of objectives • Dual training programs should be introduced first in business sectors or industries where conditions are favorable	• A job's skill profile represents an ideal that can be pursued step by step • Developing a skill profile requires training that adheres to the "dual principle," but it can take place in a variety of settings • A skill profile may provide for different skill levels between courses of training, or include modular components within particular courses of training; this does not interfere with the standardization of the specified occupational profile • Skill assessment can take place in different forms (centralized/ decentralized; institutional authorities)	• The dual principle can be implemented using various combinations of locations, with varying amounts of time spent at each • In different ways and to differing degrees, periods of practical training in the company setting can be integrated into an alternating training system	• Other models are possible, in addition to Germany's social partnership approach, with graduated levels of responsibility (e.g. information, hearings, consultation, advice) • Participation structures may vary in their division of work and responsibilities (e.g. instead of exporting a specific professional association, its responsibilities may be assigned to existing institutions in the respective country) • As appropriate, existing avenues for participation may be utilized (at the national, regional, local and institutional levels)	• Diverse financing models allow companies to contribute at different levels (e.g. solidarity contribution, industry fund) • Companies in industries that derive net income from training should be expected to contribute first

6	7	8	9	10	11
Complementary programs run by schools or non-business entities	Codifying quality standards	Qualifications of teachers and training personnel	Balance between standardization and flexibility	Creating a solid basis for decisions and design	Social acceptance of vocational training
• In addition to training under the dual system, certain sectors offer other types of training (e.g. healthcare professions, technical school degrees) • Because the dual system is dependent upon the creation of company-based training positions, it is the responsibility of the government to also provide subsidiary training programs that are run by school or non-business entities • Benefits: selective government interventions address economic and structural problems	• Government regulation of minimum standards to ensure high-quality training • Highly differentiated occupational profiles • Businesses implement regulations to varying degrees • Monitoring of standards may differ, depending on the situation in the training market and industry • Benefits: transparency regarding the level of skills acquired by trainees; transparent basis for both job applicants and companies in the application process	• Regulation of minimum standards for the personal, professional and pedagogical qualifications of "official" training personnel • Limited consideration of "unofficial" training staff, who are responsible for most practical training in the business setting (experienced staff, employees in specialized departments) • Benefits: an important factor for high-quality training; fewer terminated training contracts	• Training standards are designed to be flexible to accommodate differences in business size, sector and training requirements • Development of diverse structural models for drawing up training guidelines • Flexibility in conducting training (e.g. duration) • Benefits: taking into account the heterogeneous nature of trainees and businesses, while still meeting minimum standards	• Preparation and support for centralized changes, using specialized research, planning and statistical tools as well as monitoring instruments in vocational training • The Federal Institute for Vocational Education and Training (BIBB) is dedicated to the ongoing improvement of the system • Established research at universities as well as in non-university settings • Benefits: arenas for ongoing discussion and improvement of vocational training	• Vocational training has always enjoyed relatively high levels of social acceptance in countries that have a dual system • A closer look reveals substantial differences in acceptance across different occupations • Trends in supply and demand are a potential threat to society's acceptance of the dual vocational training system
• Subsidiary, equally high-quality training conducted by school or non-business entities allows for the gradual implementation of the system, in keeping with conditions in various industries and sectors • Dual training can be introduced step by step wherever conditions are appropriate	• Scope, degree of detail and binding nature of standards can be adjusted to suit the legal culture in the importing country and with a view to feasibility • Jobs may be structured and defined quite differently in importing country relative to Germany	• The quality of teaching staff does not depend on the type of training • Training of school teaching staff is integrated into national teacher training systems	• As in Germany, standards – with the exception of core standards – are adjusted to prevailing conditions • Standards may differ in their rigidity, and they may be modified at different times and in different sectors • Refraining from defining standards in great detail leaves room for implementation	• Gradual accumulation of relevant expertise, initially at existing institutions (e.g. universities, government agencies) • Using various types of (international) communication and relevant findings to reflect on and solve problems	• Given differences in the degree of acceptance among businesses and school leavers, it is important to analyze the situation and focus on specific areas • Training positions pave the way for entering attractive occupations and/or pursuing further schooling

Based on the conditions in the potential importing country, the process of exporting the dual system should include the following:

- Analyzing conditions in the importing country (e.g. priority objectives; institutional, cultural, curricular and pedagogical requirements);
- Determining strategic objectives;
- Engaging relevant stakeholders in the importing country;
- Reaching agreement on cooperation between the exporting and importing countries (e.g. advice, creating institutions, training); and
- Planning implementation/action.



I. Starting points: why is it infeasible to export vocational training systems in their entirety?

International organizations such as the OECD and UNESCO have devoted increasing attention to issues related to vocational training in recent years. The dual system of vocational training as it exists in Germany and Switzerland, and to a limited extent in countries such as Austria, Denmark, Norway, Luxembourg and the Netherlands (cf. OECD 2010: 14), is rated positively in these discussions. In its country report for Germany, for example, the OECD highlights the “international recognition” afforded to the dual system (Hoeckel, Schwartz 2010: 12).

Dual system recognized worldwide

At the same time, many countries are facing the challenge of making the transition from compulsory schooling into the employment system more effective. This should be considered in light of the fact that the economic need for skilled workers and young people’s need for relevant qualifications cannot be adequately met in the existing training structures. There are increasing calls for these challenges to be addressed through the adoption of a vocational training system based on the German model.

Addressing a shortage of skilled workers

It is often suggested that Germany should export its vocational training system to other countries as a means of overcoming economic or social problems existing in these countries. Bold slogans such as “Dual system – an export hit” and “Vocational training made in Germany – a model for success” are heard regularly in the political arena. Sometimes the training of skilled workers as a prerequisite for growth and innovation is emphasized, while at other times the reduction of youth unemployment and the social integration of young people are at issue.

Dual system an export hit?

The matter has not been debated merely at the rhetorical level: attempts to gain international support for vocational education and training already have a long tradition in Germany. Whereas the primary focus in the 1960s and 1970s was on promoting school-based training models, this has shifted since the 1980s to the promotion of dual or collaborative forms of vocational training. Today, considerable sums of money are invested in international vocational training collaborations (cf. BMBF 2012: 75) – not least out of a justified self-interest. “The export of German training and education services has ... a leverage effect for German industry, since the export of goods in the engineering or automotive industry, for instance, presupposes the existence of well-trained specialists abroad” (BMBF 2012: 74).

International vocational training collaborations

The export of vocational training also presumes the existence of a market which is to be opened up with new business models (cf. Lippuner 2012; Jonda 2012). Accordingly, numerous collaborations, projects and initiatives exist and are being promoted politically and implemented by organizations such as the Federal Institute for Vocational Education and Training (BIBB) and the German Society for International Cooperation (GIZ).

**Export performance
is critical**

For some years now, projects carried out by GIZ or its predecessor, the German Agency for International Cooperation (GTZ), have been evaluated by external experts. The “export performance” with regard to the implementation of a dual system of vocational training based on the German model is viewed critically (cf. Stockmann, Silvestrini 2013). Evaluations of similar projects in Switzerland point in the same direction (cf. Maurer et al. 2012).

Evaluations

Based on the projects evaluated in 2010/2011, Stockmann and Silvestrini (2013) concluded that projects with the aim of introducing dual or collaborative training structures were largely unsustainable. One of the projects evaluated aimed to introduce dual training structures in the Philippines (cf. Silvestrini, Garcia 2010). Between 1996 and 2007 a total of ten individual projects were promoted there with a common aim: the “nationwide introduction and establishment of dual and dualized training programs” (Silvestrini, Garcia 2010: 3). The evaluation focused on the relevance, effectiveness, efficiency, impact and sustainability of the interventions. The conclusion: “The evaluation team rate[d] the intervention as a whole as unsatisfactory ... since its sustainability appears to be rather inadequate” (Silvestrini, Garcia 2010: 5).

Limited export potential

To summarize, despite considerable efforts from the German side, Germany's dual vocational training system remains limited to a few countries in central Europe. It should also be noted that the dual system does not represent the only type of vocational training in any of these countries, but instead only a specific part of the vocational training system. Conversely, the influence of vocational training systems from England or Australia, which are frequently viewed as being under-regulated and not very effective from a German perspective, should not be underestimated in relation to international vocational training practice. The development of the European Qualifications Framework, for example, relied much more heavily on reference models from the English-speaking world than it did on German models (cf. Deißinger 2013).

Pitfalls of exporting

The dual system of vocational training – highly praised but seldom copied. What might be the reasons for this? We can get closer to the answer by considering a few analogies. What would you say if a German car manufacturer wanted to export its successful models designed for the German market to England or southern Europe? The objection would immediately be raised that the steering wheel does not go on the left in England, and that there is no need for heated seats in the warmer climate of southern Europe. This does not mean that there is no prospect of exporting the products, but that significant changes would have to be made to them first. Another analogy: very few people would think of simply going ahead and adopting German business communication customs in negotiations with partners from other countries. It would have to be considered, for example, that hierarchies and titles are more important in Russia or France than in Germany, but are less important in the Netherlands and in Switzerland. In Spain or the USA it is common to discuss private or personal matters, whereas in England only small talk is expected. A nod of the head signals refusal in Bulgaria, and while in Germany it is usual to address problems and deficits in business communication, these are not mentioned in other countries, where the opportunities and potential are stressed instead. These examples illustrate that attempting to carry over a



specific discussion strategy without proper consideration can lead to misunderstanding as well as confusion.

Potential barriers to export can also be illustrated by shifting the perspective. Several years ago in South Korea, for example, a system of shared financing was introduced to increase the number of in-company training positions. Companies with more than 300 employees that provided fewer training positions than the percentage specified by the government were forced to pay a relatively high training levy. The number of training positions increased considerably as a result of this. When the government reduced the amount of the training levy, the number of training positions available fell again (cf. Bosch, Charest 2006: 8). It would seem an obvious step to carry these experiences over into the German vocational training system. However, such a proposal would quickly be met with a number of objections in Germany, preventing it from being adopted in its entirety.

South Korea

Examples are not evidence but in view of the sobering experiences, they raise the question of the conditions under which it would be possible to export a vocational training system. What assumption underlies the aforementioned slogans (“Dual system – an export hit,” etc.) – the assumption of a mutual exchange or the assumption that Germany’s own system is superior? Or consider the stance of the optician who, upon being told by a customer that he can see no better with his new glasses than he could before, responds, “Take my glasses. I can see perfectly!”

Conditions for exporting
the system to other
countries

Exporting a vocational training system is obviously more complex than initially thought. The discrepancy between ambitious political agendas and stark reality is often justified by the fact that the German vocational training system with its historically rooted, political, institutional and legal conditions is too complex to be exported to countries without corresponding framework conditions. Such an explanation may have some element of truth, but ultimately it is too narrow. In particular, it fails to recognize the theoretical conditions for exporting components from one system to another (cf. Euler 2005).

Export theory:
import and export system

Exporting a training system from one country to another is not merely a matter of copying the original system, but much more a process of selection and adaptation by the potential importing country. A country will not adopt reforms in its own vocational training system with a view to importing a training model, but will instead define projects with which specific objectives can be achieved or specific target groups reached within the given context. Accordingly, it will selectively choose those elements of a system that appear to offer a benefit, and adapt them in such a way that they can be integrated into the existing structures and cultures.

Selection and adaptation
process

It therefore follows that the components of a (vocational training) system are neither relevant nor useless in and of themselves; they can only ever be classified as such in light of the prevailing conditions in the potential importing country. Accordingly, components of systems can in principle serve as a model if they can be integrated into the framework of the importing country.

Differentiations in the importing country

If we approach the export issue from the perspective of a potential importing country, then there are clear needs for differentiation. At a basic level it must be decided whether the importing country is a developing country, a newly industrialized country or a country with a developed national economy. At a more detailed level analysis is required regarding which existing structures and cultures offer a good basis for introducing new training programs, testing them and firmly embedding them in the long term.

Export theory and practice

How can these theoretical aspects of export be translated to a specific situation? Let us imagine a country where no high value has been placed on vocational training by the government, businesses or the population until now. Anyone who manages and whose family can afford it aims to obtain a university degree. Even school qualifications below the university level are considered more important than in-company training programs. That is the starting situation for a possible initiative to overhaul the vocational training system. Is it likely, in a context such as this, that the German dual system with all of its legal, institutional, financial and pedagogical components can be imported as a blueprint? Hardly!

Exporting aspects of a system

A country that wishes to reorganize its vocational training system will check which aspects can easily be integrated into the existing structures – and which adaptations and modifications need to be made. It will look around at other countries and may find that some aspects from those other countries are a better fit. For example, there may be no need to establish a complex chamber system; instead, like in Switzerland, assessment and certification could take place in coordination with the learning sites. In short, the export issue should be considered in terms of individual features, and the importing country should review the situation in various countries and select those features that best match its own goals, structures and cultures, adapting them as necessary.

Evolution of the dual system

This observation corresponds with the finding that a vocational training system as it exists today is the result of historical and cultural forces. Germany's current dual system has been shaped by prevailing legal norms, traditions, pedagogical principles and institutional structures. It did not come about as the result of a rationally considered design on a drawing board, but instead developed gradually "as the result of a national social and cultural history" (DeiBinger 1997: 2).

Origin: on-the-job occupational training

Looking back, the core of the dual system lies in the historical model of on-the-job occupational training that existed within trades, and to which school-based and inter-company instruction were gradually added over time. The continued development was strongly influenced by technical and economic conditions that could no longer be adequately integrated into in-company and workplace-based training, resulting in the need for other learning sites (cf. Stratmann, Schlösser 1990). This historical and cultural background to vocational training systems leads us to two main conclusions:



1. A national vocational training system is a tool for achieving certain objectives, which may differ from one country to another. There is no “best” system; each system can be judged only by its success in achieving those identified aims. Schneider (1997: 5 et seq.) uses the example of Austria to show that assessments can differ, depending on the emphasis placed on specific analysis criteria (in his case: economic, democratic and individual). Some countries, for instance, view vocational training primarily as an economic policy instrument, whereas in Germany vocational training is also linked with social and educational objectives. The broad objective in Germany dates back to Kerschensteiner’s theory of vocational training, among other things, where he saw the vocational training system that was in place over 100 years ago as a means of integrating vulnerable (male) adolescents into society and reducing the risk of political radicalization (cf. Zabeck 2009: 491).
2. A national vocational training system is influenced by other social subsystems, and exporting it – or even individual features of it – is possible only if conditions in the respective countries are comparable. It can happen that the vocational training system in a particular country is less developed, but that the country’s system of advanced training plays a comparable role for the purpose of qualification and is more highly developed as a result (e.g. in Ireland or the USA; cf. OECD 2010: 37). The institutional context, the harmonization of the education and employment system, and cultural norms must be taken into particular account when considering the possibility of importing a training system.

Instrumental character

Context of social subsystems

Deißinger (1997: 180 et seq.) points out, for example, that in the French vocational training system, the corporatist element of a self-regulatory body or chamber is missing due to the centralized structure of French society, meaning that the German system in which this body plays a key role could not easily be imported. In his comparison of Germany and France, Lutz (1976) concludes that the lack of qualified personnel in France corresponds with workplaces that have a more pronounced division of labor and a stronger separation between managerial and operative work. This arrangement in the employment system is supported by structures in the education system. General schools turn out a larger proportion of managers and a comparatively low proportion of staff for intermediate positions. Correspondingly, skilled workers are largely recruited from the functional areas of the education system.

France

With regard to different cultural norms, England can be cited as an example of a country where training is largely left to employers. Accordingly, the occupation-based German approach and its strong emphasis on social partnership is viewed as being incompatible with English industrial relations (cf. Deißinger 1997: 2013). Although central government policy has long aimed at establishing an apprenticeship model, the companies remain independent within the framework of the dominant market model. Dual training positions are almost entirely publicly funded, and there are plans to introduce fees for dual training positions from 2014, much like the tuition fees paid by students (cf. Evans, Bosch 2012: 20).

England

South Korea A further example which highlights the significance of cultural framework conditions is the different reputation of qualifications awarded by general education schools (including universities) compared with vocational qualifications. In South Korea, for example, it is widely believed that vocational training is only undertaken by those who have not been accepted by the more highly regarded, non-vocational institutions (cf. Bosch, Charest 2006: 8).

Adopting a training system takes time There is no quick and easy way for a country to adopt a vocational training system, or even its individual aspects. Each country's social, cultural and economic conditions dictate the methods and strategies which are to be used in this process. Experiences in one country can at best provide the raw materials for developing adapted, needs-based models in other countries.

Vocational training systems are mixed systems A further aspect reinforces the aforementioned difficulties of exporting vocational training systems, while at the same time providing possible approaches for constructively tackling the issue. Instead of having just one system, virtually every country has various types of vocational training, combinations of learning sites and curricular models that are implemented using a range of pedagogical approaches depending on the sector, field and size of the company, among other things. The same is also true of the German vocational training system: as well as dual training-based occupations there are also school-based vocational training courses. The structural models of vocational training vary greatly, and the training received by bakers and bankers differs not only in terms of content, but also as a result of the size of the typical training enterprises. The differences continue when one compares two supposedly identical vocational training systems, such as the German and the Swiss systems. The dual systems of the two countries differ significantly in terms of their legal basis, the authority granted to learning sites for administering examinations, the duties and responsibilities of vocational schools, and the cost structures, among other things.

Definitions On the other hand, similarities can be drawn between systems that are often regarded as separate. There is no longer any fundamental difference in the combination of theory and practice ("dual principle") between dual and school-based types of vocational training, but there is variation in the proportions of these two key areas and in the forms of implementation. It therefore follows that a consideration of a country's vocational training system requires several distinctions and clarifications to be made:

- Vocational training systems are generally "mixed systems" that include varying proportions of both dual and school-based training. This feature is therefore not unique to the dual system.
- The term "dual system" can lead to misunderstandings, at least when communicating in a cross-cultural setting. Duality can relate to learning sites, for instance, but also to intertwined pedagogical processes. In the first case, "duality" relates to the alternation between learning in the company and at school (although the significance of additional learning sites is not taken into account). In the second case, the "dual principle" refers to the combination of theory and practice, i.e. the combination of a case-by-case and systematic approach. The dual principle can be implemented regardless of the type of training, including as part of school-based courses of training.



- There is no correlation between the quality of vocational training and its type. In both dual and school-based training, the quality of implementation may range from very good to very poor. Differences are probably greater within each type of training than between different types.
- As a result, the boundaries within and between the types of training in different countries are increasingly blurred. Many of the essential elements of the German dual system can also be identified in the systems of countries that are at first sight associated with other training types and the reverse is also true.

It is also important to consider that terms may be used differently in different countries. One example of this is the German term “Kompetenz,” which is currently in wide use though it carries a different meaning from the word “competence” in England or Australia, for example (cf. Deißinger 2013: 344; Gonon 2013: 73 et seq.). The German term “Bildung” (training, education) is merely paraphrased in the English language. Differences in meaning even exist across variants of a common language, such as the key German term “Beruf” (vocation, occupation), which is used differently in the context of the Swiss vocational training system.

Interpretations of
key terms

For the purposes of export, a vocational training system should be viewed not as a single entity, but rather in terms of its various components. Two main questions should be kept in mind:

Analysis of the essential
elements

1. **Which elements of Germany’s dual system are essential and provide a basis for exporting it to other countries?**
2. **How can those elements be structured to make them more readily adaptable to conditions in the importing country?**

We address these questions in the following steps:

Approach

- After analyzing the literature and the relevant legal sources, we identify and discuss eleven essential elements of the dual system.
- Since it is unlikely that the system will be exported in its entirety, for the reasons outlined above, we describe ways of exporting it in modified form. These modifications are based on plausibility considerations as well as on empirical examples from other countries.

Specific experiences from seven countries that are useful to reflect on for different reasons will be considered in depth (the numbers in brackets refer to the essential elements in Section II.):

Reflection on examples
from other countries
Switzerland and Austria

- Vocational training in Switzerland and Austria emerged in social, economic and historical contexts that are similar to the German system. Both countries have a broad focus, but differ, at least in part, in the ways in which they achieve this focus (II.1). One distinctive feature of the Swiss vocational training system is the two-tier system of training, while a second is the way in which the final training examinations are administered (II.2). In recent decades, vocational training in Austria has developed from a dominant dual structure into a system in which dual and school-based training exist alongside each other as two equal, complementary types of training recognized as being equivalent (II.6). In addition, integrated vocational training and courses of training with modular systems constitute new structural forms worthy of reflection (II.2).

- The Netherlands

 - In the Netherlands, the school-based and dual vocational training systems were combined some time ago to create one complementary structure. The result was a sophisticated structure with two equivalent types of training (II.6), qualifications at different levels (II.2), and strong ties to regional education centers with a different partnership between the state and the business sector (II.4).
- Denmark and Norway

 - Denmark and Norway are two Scandinavian countries in which interesting implementation variants have emerged with regard to the essential elements. Particularly worthy of mention are the specific relationship between basic and specialized training (II.2), financing methods (II.5), the introduction of a training guarantee (II.6), and flexible forms of organizing vocational training including the introduction of modular systems (II.9).
- Luxembourg

 - In the continuous modularization of vocational training, the vocational training reform in Luxembourg includes a structural component that can also be reflected on as an alternative (II.2, II.9).
- England

 - England is interesting to reflect on, even though the English model of vocational training is sometimes regarded as the antithesis of the dual system of vocational training that exists in Germany. It has already been mentioned, however, that approaches from the English vocational training system have a strong influence on European vocational training policies. Less well known is the long history of the English apprenticeship system, which dates back to the medieval guilds. After the Second World War, England had a highly developed apprenticeship system, and around 240,000 apprentices were trained under this system during the 1960s. This number fell to around 50,000 during the 1990s (cf. Evans, Bosch 2012: 17). Interesting features of the English system include the notion of skills and the curricular concepts associated with it (II.2), the role of the business sector in vocational training (II.4), and the codification of standards within the framework of National Vocational Qualifications (NVQ) (II.7).



II. Essential elements of a dual vocational training system

Broad objective: vocational training as a means of achieving economic, social and individual goals

1

Summary

Explanation/ Potential benefits	• Three-fold purpose of the German vocational training system: promoting (1) economic productivity, (2) social integration and (3) individual development • Developing a skilled labor force, which can help promote innovation in business • Three-fold purpose in the context of the interests of stakeholders (the state, the business community, young people and parents); government is responsible for ensuring a balance of differing goals • Benefits: vocational training can be helpful in achieving objectives in multiple policy areas, which makes it possible to address a broad range of stakeholders and favorably affect opinions about vocational training
Approaches to exporting the system in modified form	• The focus is on the goals that have priority at the time, rather than on the entire range of objectives • Dual training programs should be introduced first in business sectors or industries where conditions are favorable

Explanation

Specific features of the German vocational training system	The German system of vocational training is noted for its combination of three goals. These three goals are determined by consensus among policy makers in the field of education at the state and federal level, as documented in the National Report on Education, for example. The purposes of education, as detailed in the report, relate to the individual's capacity for self-regulation, equality of opportunity and participation in society, as well as human resources (Autorengruppe Bildungsberichterstattung 2008: 2).
Three-fold purpose of vocational training	Collectively, the three goals reflect the interests of society, business and the individual. In the context of vocational training, they can be defined as follows:
Individual dimension	• The <i>individual dimension</i> refers to the role of vocational training in developing the skills individuals need to meet challenges on the job as well as in other aspects of their life. Vocational training should provide an opportunity for individuals to shape their own life, develop to their full potential, and increase their self-efficacy and motivation to learn.
Social dimension	• The <i>social dimension</i> refers to vocational training as a means of promoting the social integration of the younger generation, both in the workplace and in society at large. A vocational training system should be designed to prevent social marginalization and integrate young people smoothly into training and employment.
Economic dimension	• The <i>economic dimension</i> refers to the role of vocational training in ensuring a high level of economic, business and individual productivity. The economic focus is on developing human resources by ensuring that there are enough workers with adequate skills, and increasing their number and level of qualification. The business goal is to make sure that companies have an adequate supply of qualified workers. At the individual level, the goal is to ensure that individuals are employable and able to earn a living. Also important from an economic perspective is the efficiency of the vocational training system itself.
"Incremental innovations" through vocational training	Another purpose of training skilled workers is to promote innovations in the business world. It is generally agreed that basic innovations are generated by researchers and scientists at universities. In addition, there are so-called "incremental innovations" – the small, everyday process improvements that are not produced by great inventors, but are rather the result of thoughtful problem-solving by the people who implement and test new processes and products on a daily basis. Such incremental innovations are achieved when well-trained, skilled workers not only perform their assigned tasks, but also identify, describe and solve problems in innovative ways, in a process that leads to steady improvement.
Conflicts among goals	Goals can sometimes conflict with one another, and those conflicts can be resolved in a variety of ways, depending on the interests and authority of the stakeholders involved. The government is responsible for maintaining a balance among the three goals and ensuring equal treatment when conflicts arise.



Approaches to exporting the system in modified form

The objectives of vocational training in other countries differ substantially, and thus may be very similar to Germany's goals, or very different. In Switzerland, for example, vocational training serves quite broad purposes, as it does in Germany, and the goal of developing general occupational skills defines how training is structured. The English system is at the other end of the spectrum. In England, vocational training focuses on developing the skills needed for a specific job. "In the English-speaking world, skills are viewed from a decidedly non-pedagogical perspective. Their main purpose is to serve such economic goals as 'international competitiveness,' 'productivity' and 'employability'" (Argülles, Gonczi, cited in Deißinger 2013: 337).

Objectives of different countries

What does all of this mean for Germany's vocational training system as a model for other countries? The broader the objectives of vocational training, the greater its potential significance in society – provided that those objectives are not merely programmatic. When (adapted) versions of a dual vocational training system promote economic, social and individual goals, they gain greater legitimacy. This seems to be particularly significant in countries where a university education is the prevailing standard, while vocational training is only an afterthought.

Consequences for export

In Germany, the three goals of vocational training set a very high standard in terms of productivity. It therefore comes as no surprise that efforts and success in pursuing these goals differ substantially at any given time. Over the past decade, young people have had a more difficult time taking their place in society, since many of them have not initially been able to find a training position with a company, and some have not found one at all. As a result, many are stuck working as unskilled or semiskilled laborers. When countries consider importing the German system, they need not take an all-or-nothing approach. Rather than adopting all of the system's goals at once, or to the same degree, they can take a gradual approach. Even then, however, certain issues arise.

Aspiration and reality

One unresolved question concerns the relationship between vocational training and the way in which the workplace is generally organized. If a dual vocational training system can only exist when skilled workers play a major role in the workplace, then the question is whether it is even an option in countries where this is not the case. In extreme cases, the answer is probably no: In countries where the workplace is polarized, with academically trained workers making decisions and unskilled or semiskilled workers carrying them out, there would be no place for workers trained under the dual system; they would not be able to find employment suitable for the context of training. Usually, however, the situation is not so clear-cut. Certain industries or types of businesses often include "enclaves" with different kinds of organizational structures, where workers who have completed vocational training under the dual system not only find employment, but are actively sought after.

Vocational training and the organization of the workplace

Advanced apprenticeships in England

In England, for example, there are a few industries that offer what are known as “advanced apprenticeships,” which resemble vocational training under the dual system. Efforts are currently underway to expand apprenticeships to sectors that offer favorable conditions for such an approach (cf. Evans, Bosch 2012). In other countries, subsidiaries of German or Swiss companies provide “dual training,” again in contrast to the mainstream. In Japan, large companies are investing substantial sums in training their future employees, not least because of the needs of a labor market that focuses on innovation and quality (cf. Busemeyer 2012: 11). In the present context, this means that the German system might be adopted if “enclaves” exist where the labor market relies on skilled workers. The process should begin there, after which expansion to other sectors might be considered.



The main objective of vocational training: to produce skilled workers with flexible qualifications who are mobile and capable of working in their chosen fields

2

Summary

Explanation/ Potential benefits	• Training is designed to meet the practical needs of the labor market • Occupational skills enable individuals to work in their chosen fields • Skills are applicable to a wide range of settings within the field, which allows individuals to be flexibly employed in a variety of businesses • Skill profile makes trained workers more mobile • In some cases skills are developed in a fixed process, without separate steps or interruptions • Skill development may in some cases be combined with aspects of career and occupational development • A responsible agency (usually the chamber of commerce or crafts) administers a centralized examination to assess trainees' skills, adhering to the principle that the teacher and the examiner should not be one and the same • Benefits: skills enhance workers' flexibility and mobility, reduce the danger of social marginalization and raise educational levels in a non-academic context
Approaches to exporting the system in modified form	• A job's skill profile represents an ideal that can be pursued step by step • Developing a skill profile requires training that adheres to the "dual principle," but it can take place in a variety of settings • A skill profile may provide for different skill levels between courses of training, or include modular components within particular courses of training; this does not interfere with the standardization of the specified occupational profile • Skill assessment can take place in different forms (centralized/ decentralized; institutional authorities)

Explanation

The goal of developing general occupational skills

Individual and economic goals can be specified in more detail in the context of developing “general occupational skills” through vocational training, an objective that guides relevant activities at the federal and state levels. Section 1, paragraph 3 of the German Vocational Training Act (2005) describes the goals of vocational training outside of the school context: “Vocational training must, in a well-regulated program, impart the occupational skills, knowledge and qualifications (ability to perform vocational tasks) that are needed to pursue a skilled occupation. In addition, it must allow the trainee to gain the necessary vocational experience.” In its resolution of March 15, 1991, which is still in force, the Standing Conference of the Ministers of Education and Cultural Affairs of the German states formulated the following objective for vocational schools: they are to facilitate the acquisition of “vocational abilities that combine technical or professional skills with general personal and social skills.” This is the source of the distinction that is made between technical or professional skills, personal skills and social skills, all of which are included under the ability to perform vocational tasks.

The concept of vocation

Note also that in the sphere of vocational training, “the ability to perform vocational tasks” refers to a skill profile that reflects not only the current needs of a (training) business or an industry, but the concept of vocation. This means that vocational training must serve purposes that extend beyond the needs of a single business. Vocation can be viewed in terms of agreement on a skill profile, which is formally defined in an occupational profile within the framework of training guidelines. Providing this skill profile is intended to ensure fulfillment of the requirements of the Vocational Training Act (the ability to pursue a skilled occupation as well as to meet the needs of a changing labor market). The concept of vocation should be viewed in the context of employment markets organized by vocational group, and it focuses not only on developing relevant skills, but also on preserving the “social type” of the individual skilled worker. Accordingly, vocational training in Germany is closely associated with the structure of the workplace and the employment system.

Economic and individual effects

The broad goal of vocational training is two-fold: From an economic perspective, vocational training is expected to create a broad foundation upon which well-trained skilled workers can fulfill a variety of roles and respond to the changing needs of the business world. From an individual perspective, the aim is to promote mobility and reduce workers’ dependence on specific companies. This is particularly important, given that only 60 percent of workers are hired by the business in which they have completed their training (cf. BIBB 2012: 199). This approach achieves a balance between teaching skills that are currently relevant to a specific company and teaching the skills of the future, which promote flexibility and the ability to adapt to changing conditions.



While there is little disagreement that in-company training is necessary for achieving vocational competence, some argue that it is essential because it promotes personal development and socialization. However, it is uncertain

- whether simply working in a company setting promotes a vocational identity (indeed, no one has ever become better informed by simply walking into a library);
- to what extent an individual's identity is shaped by characteristics of a vocation, or whether it is instead related to characteristics of the company or of the tasks performed;
- whether one might also develop a vocational identity in contexts other than a dual program of company- and school-based training; and
- whether the development of a vocational identity might largely depend on the individual's existing personality traits.

Socializing effect
is in dispute

Although training in vocational skills takes place at the learning sites, responsibility for assessing those skills lies with the so-called "responsible agencies", namely the chambers of commerce and crafts. When final examinations are administered, care is taken to ensure that teachers do not evaluate their own students. Accordingly, learning sites are not involved in the examination process. Final examinations are generally held in block form upon completion of training. Exceptions are made in certain occupations, where the final evaluation takes into account testing that begins approximately in the middle of training and extends over a period of time.

Responsibility for testing

Approaches to exporting the system in modified form

Four questions should be kept in mind when a country contemplates adopting the German system:

1. Does the potential importing country share the same understanding of a skill profile that allows workers to fulfill their job responsibilities? And is developing those skills its goal for vocational training?
2. Can vocational skills be developed only within the framework of a dual vocational training system?
3. Is there a belief, as there is among some people in Germany, that vocational training should take place in an uninterrupted process that is not divided into separate steps or modules?
4. How will the structure of final examinations be integrated, in which timing and responsibilities are specifically defined?

Four questions about
adopting the German
system

1. In answer to the first question, there is likely to be agreement regarding the attractiveness of a skill profile that allows workers to perform vocational tasks, and that this approach will help meet the needs of the future. As in Germany, however, numerous challenges are associated with implementation at the learning sites. First, there is the question of how teaching and training processes are to be structured: the development of a skill profile is sometimes limited by the pedagogical skills of teachers and training personnel and by general conditions at the learning site. Studies have also shown that not all trainees achieve the skill levels defined in occupational

The goal of developing
general occupational skills

profiles. Examining the case of mechatronics engineers, Nickolaus (2013: 33 et seq.) found that by the end of training, only 3.3 percent of trainees had reached the level of knowledge specified in the curriculum, and only 13.8 percent met the standard for independently solving complex vehicle-related problems. It is important, therefore, to distinguish between target skill levels and the levels trainees actually achieve. When contemplating adopting the German system, a country might consider focusing on the skills that are most important in its specific context rather than adopting an occupational profile in its entirety.

Vocational skills and combinations of learning sites

2. Vocational skills represent a goal that is closely associated with the need for flexible workplaces and mobility among skilled workers. However, the dual system is not the only option for achieving this goal; other combinations of learning sites and/or modular sequences may lead to the same result.

Alternative organizational forms

In other words, vocational skills can be developed through other kinds of training programs, and implementation can take many different forms. It is important in this context to determine whether the company setting is indispensable (or primarily responsible) for the development of vocational skills, or whether other learning sites can serve the same purpose.

If vocational training is to prepare workers to be mobile and meet the broader requirements of an occupation, rather than focusing only on the needs of a specific company, then it is problematic to concentrate on a single business. The more specialized a business is, and the more rapidly an occupation is changing, the more crucial it is for trainees to acquire skills that extend beyond the requirements of that specific business. This highlights the importance of combining in-company training with school-based and inter-company instruction.

Vocational skills and different levels of training

3. Other countries that also have a dual system do not share the understanding that vocational training should not be divided into separate levels or modules – a principle which, in Germany, is associated with a specific concept of vocation. In some cases these separate levels may be distinguished between courses of training, while in other cases there may be a modular structure within a particular course of training.

Switzerland

There are a variety of systems that distinguish between different levels of training courses:

- In Switzerland, there are two separate levels of vocational training, each with its own certification: Trainees completing the lower level, which requires a less demanding, two-year training course and qualifies the worker for a low-level kitchen job, for example, receive Switzerland's federal vocational certificate (Eidgenössisches Berufsattest, EBA). Trainees who complete a three- or four-year training course, which is required for cooks, among others, receive a certificate of proficiency (Eidgenössisches Fähigkeitszeugnis, EFZ). EBA training qualifies the trainee to transfer into EFZ training.
- The Netherlands offers four different levels of vocational training, which can be either dual or school-based: assistant training (level 1, max. 1 year), basic vocational training (level 2,

The Netherlands



2–3 years), skilled vocational training (level 3, 3–4 years), middle management/specialist training (level 4, 3–4 years). Dual training is overrepresented at the lower levels and underrepresented at higher levels (cf. Hövels, Roelofs 2007: 2 et seq.). Roughly 700 separate types of certification are available in the Netherlands across the various levels. Most training courses are further divided into partial qualifications or modules. Trainees receive a document confirming that they have successfully completed each partial qualification; after completing training in all of the partial qualifications, they are awarded a certificate. There is no final examination. Some examinations are held at companies, but most are administered at schools by the teaching staff (examinations throughout training).

- After completing compulsory schooling, approximately 30 percent of young people in Denmark begin vocational training (cf. Christensen 2009: 2). This begins with a broad, basic course in one of twelve fields, usually lasting for six months; students then continue their training in one of roughly 120 skilled occupations (cf. Ebner 2009: 4). The basic course is held in schools, and successful completion is required in order to move on to a dual training course. Students receive a certificate upon completion of the basic course. Specialized training begins with a phase of in-company training followed by alternating periods of school- and company-based instruction. These training programs last between two and five years. If young people are unable to find a training position with a company after completing the basic course, they can sign a contract with the respective school or with an educational center and continue their training there (cf. Grollmann et al. 2004; Graf, Wettstein 2005). This guarantees that they will be able to finish their training.

Denmark

Courses for acquiring partial qualifications were introduced to accommodate the needs of young people with lower educational achievements: “First, these partial qualifications must be recognized by the relevant expert committee as proof of labor market skills; second, they must allow the trainee to pursue further training, with credit for completed work, with the goal of earning a journeyman’s or skilled worker’s certificate without losing any time” (Grollmann et al. 2004: 642).

- Three levels of apprenticeship are offered in England (cf. Evans, Bosch 2012: 19): (1) intermediate apprenticeships, duration: 9–12 months; (2) advanced apprenticeships, duration: 1–2 years; and (3) higher apprenticeships, duration: 3–4 years.

England

Those who favor differentiating between levels and certifications within an occupational field point to corresponding differentiations in the labor market. This would lead to the establishment of areas involving “simple skilled labor” or “skilled routine tasks,” opening up new training and job opportunities for young people with lower educational achievements. However, critics argue that there is no empirical support for such differentiations. They also contend that a foundation of “surplus qualifications” is required if necessary innovations are to be introduced in the workplace and business, and that it is therefore not a good idea to lower skill and training levels.

Differentiating
between levels

Modularization within
occupational profiles
Austria

Occupational profiles may also have a modular structure within training courses. The following examples show that modularization can be part of a uniform occupational profile:

- In Austria, the Vocational Training Act was amended in 2006 to provide a legal basis for modularizing occupations that require training. In such occupations, training consists of three modules (cf. Federal Ministry of Economy, Family and Youth 2012: 27):
 - An initial basic module is devoted to teaching trainees the knowledge and skills they need to perform basic tasks in the respective occupation. This module generally lasts at least two years, but in exceptional cases it may be completed in one year.
 - In the main module, trainees acquire the knowledge and skills needed to work in the chosen specialty (e.g. ventilation engineering within the field of plumbing and building services). Completing this module requires at least one year. Trainees must spend a total of at least three years in the basic and main modules.
 - In a so-called “special module,” trainees acquire the necessary knowledge and skills for dealing with specialized services and products or for product manufacture. This takes between six and twelve months.

Luxembourg

- Luxembourg is currently overhauling its system of basic and advanced vocational training. Reform efforts are primarily focused on introducing a modular, skill-based structure for vocational training (cf. Euler, Frank 2011). In the Luxembourg context, “modularization” means that all of the country’s roughly 120 courses of training are being divided into “building blocks” that offer separate, certified “partial qualifications.” These building blocks can be completed in a time-limited period of six to twelve months. Each building block is relatively complex and generally represents a substantial field of activity within the given occupation. Building blocks are usually further subdivided into modules, each of which represents a logical training unit. Each module is defined by the skills to be taught and tested at the learning site by the responsible staff members. Training and examinations take place in schools and businesses, with relevant proportions depending on the occupation and the level of training. The respective responsibilities of schools and businesses for the training modules and examinations are determined when training guidelines are developed. In addition to taking module-based examinations, trainees are required to complete two integrated projects in the middle and at the end of the training period, focusing on occupation-relevant tasks that involve multiple building blocks. These integrated projects are evaluated by central examining boards appointed by the relevant ministry; the examinations assess the vocational skills trainees have acquired in the course of multiple modules. Successful completion of the integrated projects is required in order to pass the vocational training course as a whole.



4. The need for an array of institutional structures is often identified as a major obstacle to importing Germany's vocational training system. The role and responsibilities of chambers of commerce and crafts should be noted in this context. It might be worth considering if certain tasks and responsibilities could be organized differently.

Reliance on institutional structures

A look at Switzerland's approach to final examinations, which differs considerably from Germany's, shows that this is possible. In Switzerland, a portion of the examination is formulated by a national examination board consisting of representatives of vocational schools, the social partners and the cantons' vocational training departments. The individual parts are administered at vocational schools, in businesses or in training centers where inter-company courses are held. So-called "examination specialists" chosen by the cantons are in charge of monitoring examinations.

Examination procedures in Switzerland

The appendices contain descriptions of examination guidelines for three popular training-based occupations in Switzerland: tradesperson; mechanic; hairdresser. While details differ, certain general principles apply:

Special features

- In contrast to the German system, which relies on chambers of commerce and crafts, in Switzerland examinations are held under the authority of the canton, which means that the government bears direct responsibility.
- The three training sites – vocational schools, businesses and inter-company sites – and the skills taught there are taken equally into account in the examination. Final grades are generally based in equal parts on trainees' performance in the school and business settings.
- In the case of most occupations, care is taken to ensure that appropriate kinds of examinations are given to produce a valid assessment of all aspects of the relevant skills.
- Some testing is done throughout the course of training, for example, trainee performance in the school as well as the business setting is assessed.

3

Alternating learning situations in accordance with the dual principle

Summary

Explanation/ Potential benefits	• "Dual principle" refers to the integration of theory and practice, thinking and acting, systematic and case-based learning • The business setting is essential for learning, since it is the only place where learning can occur under real-life conditions • How well the dual principle is implemented depends on how well the learning site is utilized and cooperation at that site • Benefits: with the dual approach, occupational skills are developed that are relevant to the labor market but not narrowly focused on the requirements of individual businesses
Approaches to exporting the system in modified form	• The dual principle can be implemented using various combinations of locations, with varying amounts of time spent at each • In different ways and to differing degrees, periods of practical training in the company setting can be integrated into an alternating training system



Explanation

Training that alternates between the school and the business setting provides opportunities to combine theory and practice, and it allows trainees to learn in real-life situations and become part of a company and working culture. It is essential to combine case-by-case and systematic learning in the training process. This helps young people develop vocational skills that are relevant to the labor market, but not limited to a certain company.

The case-by-case and the systematic approach

Different learning sites, each with its own specific learning culture, promote learning by allowing trainees to experience new things, explore questions and broaden their horizons. Practical in-company training facilitates holistic learning in real-life situations, while training sites outside of the workplace offer opportunities for in-depth reflection and for tailoring the learning process more closely to each trainee's situation. Multiple learning sites that are organized in different ways make it less likely that training will be merely functional, on the one hand, or unrealistically idealistic on the other.

Benefits of the dual approach

Practical learning can take place in the school setting, just as theory can be part of in-company training, which contradicts the widespread yet problematic view that businesses teach only practical skills and schools only theory. It is also important to note that the theoretical and practical information taught in different settings usually differs. Schools do not focus on real-life business situations, but instead they generally deal with simulated situations that relate to practical issues but are designed for the classroom. Businesses rarely take a systematic look at overarching theoretical questions, but instead discuss experiences in the business or industry.

Business and school

Various combinations of learning sites, with different amounts of time spent at each, can achieve similar benefits. A distinction should be made between the "dual system," which refers to a specific configuration of training sites and institutional frameworks, and the "dual principle," which refers to making the best possible use of the respective learning opportunities. The dual principle is therefore a core element of the dual system, but it might also be implemented in connection with other combinations of learning sites.

"Dual system" and "dual principle"

It is also important to remember that training quality depends not on the potential that exists, but on how training is actually carried out at the learning site. "Alternating learning" refers to a potential rather than to a reality that can be empirically measured. A plural, alternating system may have the effect of isolating one learning site from another, which can lead to fragmented content and interfere with learning. In that case, trainees may simply acquire a series of disconnected experiences, and as a result engage in separate learning processes, one aimed at passing the examination, the other focused on practical success.

Potential relative to empirical findings

Approaches to exporting the system in modified form

Combining theory and practice

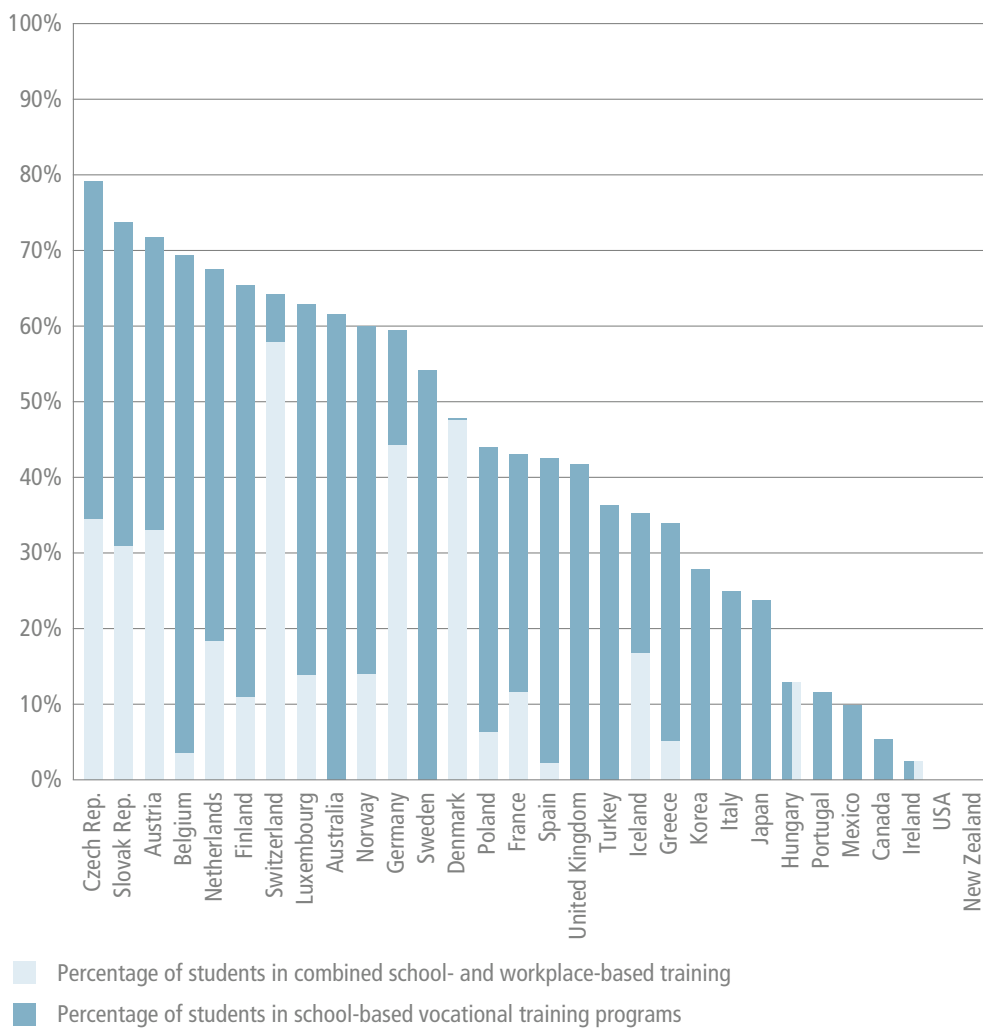
Alternating learning situations, in accordance with the dual principle, is an essential element of the dual system, but this approach can also be found with other combinations of learning sites. The essential feature is a combination of theory and practice, reflection and action, thinking and doing, case-by-case and systematic learning. Company-based learning phases that relate to work processes are particularly important in this context, but vocational training outside of the dual system may also include such practical components. Examples include in-company orientation periods and internships.



Many countries offer various forms of alternating vocational training, as shown in the following OECD overview:

A dual approach
in other countries

Figure 1: Vocational training as a percentage of upper secondary education (ISCED 3) (2006)



Source: OECD (2008), Education at a Glance 2008: OECD Indicators, Table C1.1

BertelsmannStiftung

Most vocational training programs include elements of practical in-company and/or workplace-based learning; the amount of time devoted to these elements varies.

Figure 2: In-company training as a percentage of a vocational training course

	Proportion of the entire vocational training spent in practical (in-company) training				
	75% or more	between 50% and 75%	between 25% and 50%	under 25%	Varies based on setting, program, field, etc.
Australia ¹					■ ■ ■ ■
Belgium (Fl)	■	■	—	—	■ ■ ■ ■
Denmark	—	■ ■ ■ ■	—	—	—
Germany	—	■ ■ ■ ■	■	—	—
Finland	■ ■ ■ ■	—	—	—	—
France	■	■ ■ ■ ■	—	—	—
Netherlands	■	■ ■	■ ■ ■	■	■ ■ ■ ■
Norway	—	■ ■ ■ ■	—	—	■
Austria	■ ■	■	■ ■	■	—
Sweden	—	—	■ ■ ■	—	—
Switzerland	■	■ ■ ■ ■	—	—	■
Czech Rep.	—	■	■ ■ ■ ■	—	—
Turkey	—	■ ■ ■ ■	—	■	—
Hungary	—	■	■ ■ ■	■	—
USA	—	—	■ ■ ■ ■	—	—

Note: Estimated percentage of vocational training programs at the upper secondary level (ISCED 3):

— 0% ■ 1-25% ■ ■ 26-50% ■ ■ ■ 51-75% ■ ■ ■ ■ 76-100%

¹ Most upper secondary (ISCED 3) training programs take place outside of the school setting.

Source: Kuczera, M. The OECD International Survey of VET Systems. Cited in OECD 2010: 65.

Bertelsmann Stiftung



Vocational training in the Netherlands is one good example. Like Austria, the Netherlands has a very low unemployment rate for young people under the age of 25 (2011: Netherlands – 7.6 percent; Austria – 8.3 percent; Germany – 8.6 percent; by comparison: EU-27 – 21.4 percent; cf. Dornmayr, Nowak 2012: 4). That is one reason why the Dutch approach to vocational training has attracted considerable interest.

The Netherlands

In 1996, the Netherlands passed the Adult and Vocational Education Act (WEB), which merged two previously separate areas of vocational education: basic training in the school setting and in-company or dual basic training. This created two training pathways: the school-based track (BOL) and the dual track (BBL), which were designed to lead to the same skills and certifications. The two pathways are intended to interact and communicate with each other, with the goal of guaranteeing vocational training for all young people. School-based training has become much more attractive in recent years, and now accounts for some 75 percent of all vocational training (cf. Hövels, Roelofs 2007: 77). Moreover, businesses are showing considerable interest in hiring workers upon completion of school-based training (cf. Hövels, Roelofs 2007: 79).

Legislative reforms

The dual principle is a basic element in both pathways; in other words, school-based training also includes practical, business-related components. Between 20 and 60 percent of the content in school-based training courses is practical; in dual programs the corresponding share is at least 60 percent. Both types of vocational training are dedicated to achieving certain broad objectives: imparting the skills necessary for entering the labor market, laying the foundation for further education, and teaching the social and cultural skills that are required to participate in society (cf. Hövels, Roelofs 2007: 8).

Application of the dual principle

A look at the Netherlands shows that alternating learning within the scope of the dual principle can take place in many different forms and at a variety of learning sites. The dual system, with its specific combination of learning sites, is a special case. Practical, in-company training, which is capable of producing a great deal of learning, is a scarce resource in the dual system as well as in other forms of vocational training, and it should be used as efficiently as possible in a given country or business sector.

Practical experience in companies is a scarce resource

4

Vocational training as a task to be carried out in partnership between the government and the business community

Summary

Explanation/ Potential benefits	• Close cooperation between government and business (e.g. in formulating occupational profiles, administering examinations, finding training positions) • Cooperation may take a variety of forms, ranging from codified co-determination, to the "consensus principle," to informal agreements • Benefits: the relevant parties become active participants who are involved in implementing guidelines and agreements, which this promotes social acceptance of vocational training
Approaches to exporting the system in modified form	• Other models are possible, in addition to Germany's social partnership approach, with graduated levels of responsibility (e.g. information, hearings, consultation, advice) • Participation structures may vary in their division of work and responsibilities (e.g. instead of exporting a specific professional association, its responsibilities may be assigned to existing institutions in the respective country) • As appropriate, existing avenues for participation may be utilized (at the national, regional, local and institutional levels)



Explanation

Close cooperation between the business world and government is characteristic of the dual vocational training system, and this is evident in the way the principles of corporatism and federalism are combined. The federal and state governments perform regulatory and support tasks, while certain important responsibilities are handled by companies or partnership-based bodies such as the responsible agencies.

Corporatism and federalism

The states are responsible for the school-based portion of dual training as well as for most training courses that take place entirely in the school setting. The social partners are involved in developing and updating training guidelines, among other things. Since businesses cannot be compelled to offer training positions, the social partners are responsible for ensuring that an adequate number of training opportunities are available. The federal government coordinates complex negotiating processes, with responsibility for vocational training distributed among various ministries. The Federal Institute for Vocational Education and Training (BIBB) plays an essential role in coordinating guidelines and in research relating to vocational training. The role of the Federal Employment Agency (BA) in vocational training has become more important as the so-called “transitional sector” has expanded.

Responsible players in the system

The term “consensus principle” refers to mutual agreement by representatives of government and business regarding vocational training policy. Even in difficult economic times, productive cooperation has continued. For example, in 1984, when metalworkers staged a major strike aimed at introducing the 35-hour work week, the trade union IG Metall and the employers’ organization Gesamtmetall worked closely together to reorganize the metalworking industries and established forward-looking guidelines for employees as part of newly formulated training guidelines. The principle that reforms of the vocational training system should not be implemented against the will of the social partners was adhered to for many years. Over the past ten years it has sometimes been violated, such as when two-year training courses were introduced.

Consensus principle

Approaches to exporting the system in modified form

The consensus principle tends to increase the level of acceptance of vocational training and promotes its implementation, because the social partners and labor market organizations are also included in the decision-making. The downside, however, is that it leads to a more tedious and sluggish process of introducing reforms, and sometimes prevents them entirely. Thus certain forms of social partnership, if not subjected to limits, may result in rigidity, the exercise of veto power and a reluctance to consider innovative ideas. A dominant role of labor market organizations, for example, might lend excessive influence to narrow or entrenched interests, leaving no room for innovative views. The German model of a social partnership, then, is one possibility among many for encouraging cooperation between government and business.

Consensus principle: for and against

Alternative models of participation

Countries that lack established structures for cooperation might consider a model in which cooperation is initiated by the government and structured to reflect prevailing conditions in the country, without the elaborate codification that exists in Germany. Low-threshold forms of cooperation might include information sharing, consultations, hearings or advice. Such arrangements might be structured either flexibly or formally, they would require no sophisticated infrastructure on the part of the business institutions and bodies involved, and their implementation could be differentiated to suit the respective business area. The involvement of stakeholders at the national, regional, local or institutional level should also be considered. Many countries already have structures for participation that might be useful; however, they are at a different level relative to Germany.

Denmark

Denmark, where cooperation is institutionalized at the regional level, is one example. "The representatives of regional business have considerable influence on the work of vocational schools ... employer and employee representatives are represented in the management of the vocational schools in a regional vocational school advisory board as well as in specialized advisory bodies" (Grollmann et al. 2004: 640).

The Netherlands

The Netherlands has a similar type of regional cooperation. Occupational profiles and basic curricula are drawn up and codified at the national level. Regional education centers (ROC) play a central role in carrying out vocational training. They offer both types of training and decide independently which programs are to be offered in the two pathways and at various levels. The high degree of autonomy at the regional level reflects a principle sometimes ascribed to vocational training in the Netherlands, namely that everything is allowed that is not expressly prohibited (cf. Frommberger 2001: 2). Under certain conditions, education centers can "make independent decisions regarding the pedagogical design of their educational and training processes (including modularization, a flexible relationship between school-based and dual training pathways, recognition of previously acquired knowledge ...)" (Hövels, Roelofs 2007: 6). They also play a major role in examinations and certification. In contrast, the responsibility of the government is limited to defining general conditions (e.g. financing, quality assurance and curricular standards). The social partners are involved at a number of levels, particularly the regional level.

Other examples

Similarly, responsibilities for specific tasks (guidelines, examinations) might be structured more flexibly than they are in Germany, in keeping with existing infrastructures. A look at the practices of certain countries that have implemented the dual system, in at least some areas, yields instructive examples. In Switzerland and Luxembourg, for instance, final examinations are administered not by a chamber of commerce or crafts, but more commonly by the learning sites themselves. In Denmark, regional committees that include representatives of the respective occupation and the social partners are in charge of selecting and monitoring businesses, providing further training for instructors and administering examinations (cf. Spöttl et al. 2009: 38).



5

Joint funding of vocational training

Summary

Explanation/ Potential benefits	• The costs of the dual vocational training system are borne proportionately by the government and the business community • Not all businesses that are authorized to train workers actually do so • In the case of certain occupations, providing vocational training results in net income for the businesses involved • Benefits for businesses: vocational training programs can serve as an investment in a business's recruitment strategy; potential benefits from "free-riding" • Benefits for society: the financial involvement of the business community makes it possible to keep government expenditure for vocational training at a relatively low level
Approaches to exporting the system in modified form	• Diverse financing models allow companies to contribute at different levels (e.g. solidarity contribution, industry fund) • Companies in industries that derive net income from training should be expected to contribute first

Explanation

Financing by the government and the business community

The partnership between government and business also extends to financing. The government and the business community contribute in different ways to financing vocational training. The money spent by companies is offset by the productive contributions of their trainees and other factors that generate benefits for the respective business. The 2012 report on education expenditure shows that in the area of vocational training, contributions from the public sector totaled 57.2 percent (federal: 18.5 percent; states: 27.6 percent; local communities: 11.2 percent), while private entities contributed 42.8 percent of the total (cf. German Federal Statistical Office 2012: 29).

Costs and benefits for businesses

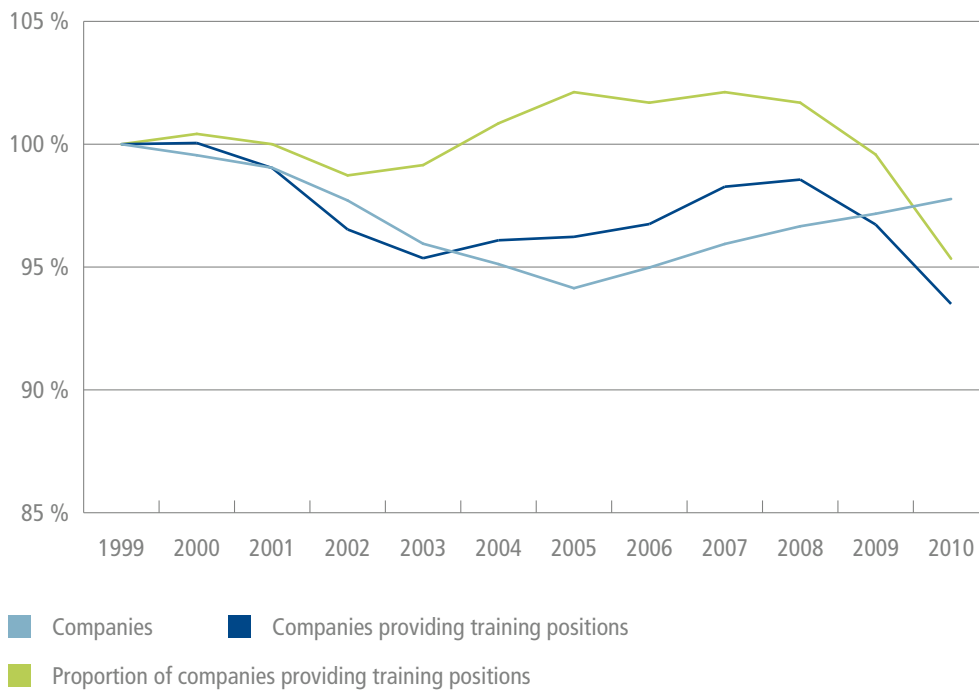
A detailed examination shows an uneven distribution of costs and benefits across companies. While some businesses train more workers than necessary, others fail to meet their quota or provide no training at all. In other words, they shift costs to other companies and the government, in effect acting as free-riders. This is particularly significant if (a) there is indeed an imbalance between industries or companies in the number of young people trained, and (b) the companies that train more workers than their quota actually pay considerably more for such training than they receive in benefits.

Empirical findings

A variety of indicators shed light on this situation, in particular the rate of company participation in training and the rate at which companies hire their trainees (cf. BIBB 2012: 189 et seq.). The proportion of businesses participating in training declined in 2010 to an all-time low of 22.5 percent, continuing a trend that had been observed for years:



Figure 3: Trends in company participation in training 1999–2010



Source: Employment statistics from the Federal Employment Agency (BA); reference date: December 31 of each year; calculations by the Federal Institute for Vocational Education and Training (BIBB) cf. BIBB 2012: 190

| BertelsmannStiftung

The rate at which companies hire young people as they transition from training to employment sheds light on the extent to which vocational training serves as an investment in recruiting skilled workers. The higher that rate is, the more effective the investment. However, it is important to remember that there may be many reasons why trainees are not hired: perhaps the company had no intention of hiring in the first place, for example, or it was planning to hire only a few trainees. Trainees themselves, for their part, may make a conscious decision to pursue another career path or further schooling (enrolling in a university, for example).

Rate at which companies
hire their trainees ...

Figure 4: Trends in the rate at which companies hire trainees 1999–2010, by company size

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

Source: IAB-Betriebspanel 2000–2010, cf. BIBB 2012: 199.

| BertelsmannStiftung

... and willingness to provide training

A company's willingness to provide training is affected by a cost-benefit calculation, among other things. BIBB has collected data on these two issues for many years, most recently in a 2007 survey. The survey produced the following figures for all areas of training:

Figure 5: Costs and returns per trainee and year

Types of costs	in €
Gross costs	15,288
composed of:	
Payroll costs of the trainees	9,490
Payroll costs of the trainers	3,292
Equipment and material costs	691
Other costs	1,814
Returns	11,692
Net costs	3,596

Source: BIBB Cost-Benefit Survey 2007, cf. BIBB 2012: 262.

| BertelsmannStiftung

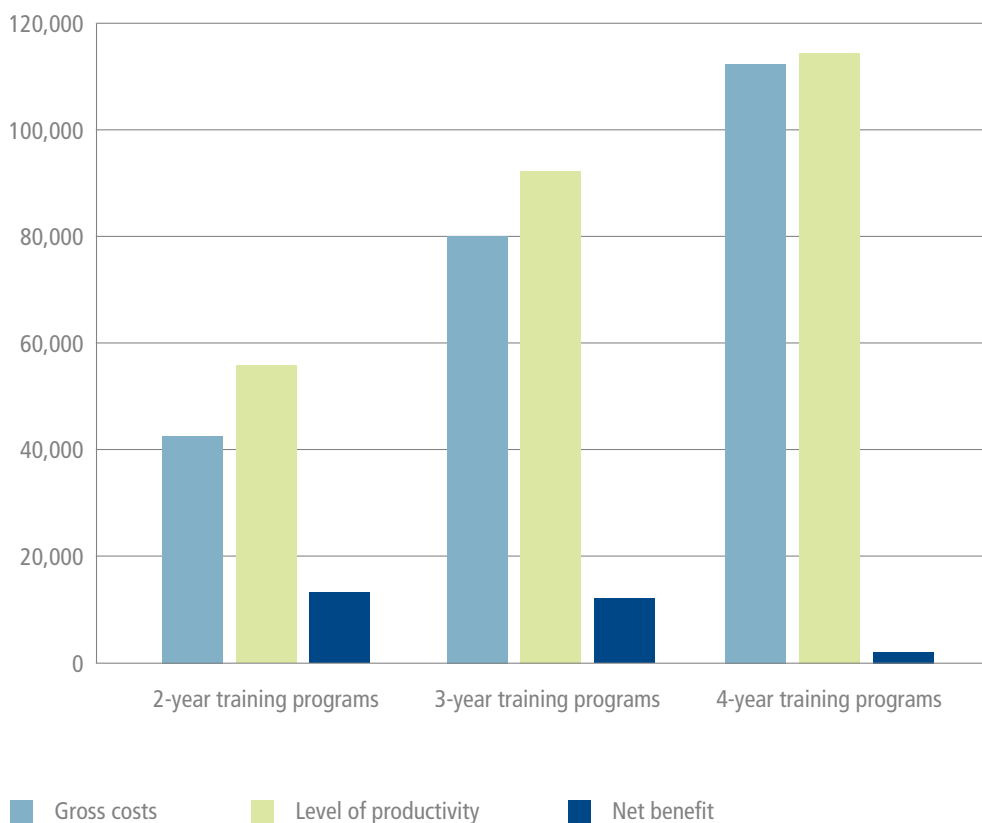


Beyond this global perspective, a closer look at individual business sectors and occupations shows that certain occupations are associated with higher net costs, while in other cases businesses reap substantial net returns.

A differentiated view

Similar studies have looked at Switzerland's dual vocational training system, and it is interesting to note that they show a higher level of returns, or net benefits, than in Germany.

Figure 6: Costs and returns in Switzerland's vocational training system
(Figures for the year 2004, in Swiss francs)



Source: Mühlemann et al. 2007: 42, cf. BBT 2011: 19.

BertelsmannStiftung

Approaches to exporting the system in modified form

Financial participation and ability to compete

From the business perspective, the role of a company in financing vocational training may reduce participation in the dual training system if it is perceived to be not only a burden, but also a competitive disadvantage relative to companies that do not train workers. This is generally relevant at the industry level, since certain cost burdens can affect companies' competitive positions.

Alternative strategies

Companies that lack experience with the dual vocational training system or an existing "training culture" are less likely to be convinced of the benefits of participation. Even at a time when demographic shifts have led to a shortage of skilled workers, perhaps making companies more likely to provide training, it will probably take more than a few plausible arguments to induce them to actually put in place the necessary personnel and material infrastructures. As far as financing is concerned, the following alternative strategies might be considered, rather than having companies bear the entire cost of training:

Shifting the burden

Industry-specific solidarity contribution

- Adjusting the respective shares of (government-financed) school-based phases and (privately funded) in-company training.
- Introducing an industry-specific solidarity contribution, such as that in Germany's construction industry, where an equalization fund has been established through collective bargaining. Under this system, all construction companies pay a percentage of their payroll costs into this fund, which is used to compensate companies for the fees and costs associated with inter-company training and/or a share of the wages paid to trainees. A similar approach is found in Switzerland, where a vocational training fund has been set up by professional organizations ("Organisationen der Arbeitswelt"); the government is able to make participation in this fund mandatory for all companies in a given industry (Art. 60 of Switzerland's Vocational Training Act).

Solidarity contribution at the level of the chamber of commerce or crafts

- A solidarity contribution at the level of the chamber of commerce or crafts, with some inter-company training activities financed by contributions from all of the associated companies. This approach, however, requires the existence of a chamber of commerce structure or similar institutional or association-based structures.

Shared financing

- In Germany, there have been repeated and widespread calls for shared financing, but so far they have not gained political traction. This sort of system exists in countries like Denmark, where every company makes a contribution to a fund based on the number of its employees. A foundation manages and distributes this money, which is used to pay the costs of attending vocational school and to finance inter-company training; in addition, subsidies are paid to companies that provide training positions (Grollmann et al. 2004: 643). Ninety percent of the wages paid to trainees are paid from this fund, which relieves much of the burden on companies (cf. Graf, Wettstein 2005).

Government subsidies

- A share of the costs of training is covered by government subsidies in the form of grants, awards, etc. The English apprenticeship system is funded largely by government subsidies. For example, the National Apprenticeship Service covers 100 percent of wages paid to trainees, and companies also receive compensation for providing training positions (cf. Evans, Bosch 2012: 20).



- Another option would be to add a year of government-funded basic vocational preparation in a limited number of occupations, to be followed by dual training run by companies. As a result, young people entering company training would already have achieved a certain skill level and could be assigned to more productive tasks, which would substantially reduce the financial burden on companies.

Adding a year of basic vocational preparation

This type of system is found in Norway, for example, where training has been guaranteed since the mid-1990s (cf. OECD 2010: 50). All students attend secondary school until the 10th grade. At that point they decide whether to go directly to a university or begin vocational training, which lasts four years. The first two years are spent at school, with the first being an orientation year and the second devoted to basic vocational training in one of 15 occupational areas. The trainee then contracts with a company to participate in a two-year course of practical training in one of Norway's 220 recognized training-based occupations. Company- and school-based training phases alternate with one another, with the specific arrangements depending on the respective occupation. Training concludes with a final examination and the awarding of a certificate. Young people who are unable to find a training position have the option of school-based training that ends with a comparable final examination.

Norway

6

Complementary programs run by schools or non-business entities

Summary

Explanation/ Potential benefits	• In addition to training under the dual system, certain sectors offer other types of training (e.g. healthcare professions, technical school degrees) • Because the dual system is dependent upon the creation of company-based training positions, it is the responsibility of the government to also provide subsidiary training programs that are run by school or non-business entities • Benefits: selective government interventions address economic and structural problems
Approaches to exporting the system in modified form	• Subsidiary, equally high-quality training conducted by school or non-business entities allows for the gradual implementation of the system, in keeping with conditions in various industries and sectors • Dual training can be introduced step by step wherever conditions are appropriate



Explanation

A weakness of the dual system of vocational training is seen to lie in its dependency on the provision of in-company training positions. If there are not a sufficient number of training positions available, either for economic or structural reasons, then this leads to imbalances in the training market and creates the risk of young people with a poorer academic record in particular being denied access to qualified vocational training. This situation, outlined only briefly here, has led to a so-called “transitional sector” forming over the past 20 years alongside the vocational training system, in which even today hundreds of thousands of young people gain no or only delayed access to vocational training.

Without going into the background to these developments at this point, a positive trend toward the existence of separate vocational training programs run by schools or non-business entities can be recognized, which would allow young people to obtain a qualification formally recognized as being equivalent. These follow the same training guidelines as the dual vocational training system and are usually financed by the state. The most disputed point in the discussion of vocational training policy is whether a sufficient number of training programs and positions are available.

Other types of vocational training exist in Germany separately from the dual system, for example, in the social and healthcare professions (e.g. healthcare professionals and nurses, geriatric caregivers, educators) and in the form of vocational training that leads to full qualification for a particular occupation not covered by the Vocational Training Act (BBiG)/Crafts Code (HWO) at vocational schools (cf. BIBB 2012: 213 et seq.).

Approaches to exporting the system in modified form

In virtually all countries where dual vocational training systems similar to the German one exist, there is a mixture of dual and other types of vocational training (cf. Section II.3). The proportions or ratios between these complementary programs differ between the different countries. The attractiveness and reputation enjoyed by the different types of vocational training among the target groups in these countries also varies greatly. In Austria, for example, an important system of full-time vocational schools has established itself alongside the dual system, and the situation is similar in the Netherlands and Denmark. In this context it is interesting to note that the percentage of young people with a secondary school qualification in these countries is higher and youth unemployment lower than in Germany (cf. Busemeyer 2012: 12 et seq., 29).

The examples from the Netherlands, Denmark and Norway outlined above document the efforts taken to guarantee training to young school leavers. Unlike in Germany with its vast transitional sector, efforts in these countries are focused on linking different forms of vocational training with a comparable final examination. The same intention underlies the Austrian vocational training system.

Variations in the vocational training offered by companies

Possible alternatives

Practice: mixed systems

International examples

Austria Vocational training is a matter of great importance in Austria. Around 40 percent of young people in Austria undertake training in a legally recognized profession after completing compulsory schooling. Another 40 percent choose medium- or higher-level secondary technical and vocational colleges. Overall, a total of around 80 percent of Austrian students opt for a vocational course of training, with around half of them pursuing the dual training pathway and half pursuing the school-based pathway. Full-time vocational schools are divided into medium-level secondary technical and vocational colleges (e.g. medium-level secondary commercial colleges, medium-level secondary colleges for occupations in the food and beverage industry), higher-level secondary technical and vocational colleges (e.g. higher-level secondary commercial colleges, higher-level secondary colleges for occupations in the food and beverage industry, higher-level secondary colleges for tourism), and schools specializing in healthcare fields. The higher-level secondary technical and vocational colleges award students a qualification entitling them to enter an institution of higher education, as well as the final vocational training qualification.

Integrative vocational training Besides the coexistence of school-based and dual training pathways, integrative vocational training (cf. Federal Ministry of Economy, Family and Youth 2012: 32 et seq.) has been introduced in Austria, creating a flexible model for people at a disadvantage on the labor market. The aim is to make it possible for these people to obtain a vocational qualification and be integrated into working life. Two possibilities exist for integrative vocational training: Firstly, the statutory duration of the training can be extended by one or, in exceptional cases, up to two years. Secondly, a partial qualification can be obtained (duration: 1–3 years) for one or more occupations requiring training.

Positive effects Since the introduction of integrative vocational training in 2003, there has been a continual rise in the number of young people being trained either through extended training or in the form of a partial qualification. In total, around 5,500 trainees were undertaking integrative vocational training at the end of December 2011. The results of a recent study (cf. Dornmayr 2012) on the entry into a profession by workers who completed integrative vocational training courses between 2003 and 2011 reveal, among other things, that integrative vocational training is effective and shows positive effects in the sense of improved labor market integration. Both the short- and long-term labor market integration of workers who have completed integrative vocational training courses is considerably smoother than that of those who do not complete their training.

Ensuring that qualifications are recognized as being equivalent The existence of equivalent complementary programs run by schools or non-business entities proves that it is possible for the dual system to be carried over at least in part. In virtually all countries with an organized vocational training system, several different pathways exist which frequently interact and communicate with each other, so that sufficient numbers of training programs are available overall. It is crucial in this regard to ensure that equivalent qualifications are awarded, although these need not – as is the case in Germany, where examinations are administered by a chamber of commerce or crafts – be tied to specific institutional requirements.



7

Codifying quality standards

Summary

Explanation/ Potential benefits	• Government regulation of minimum standards to ensure high-quality training • Highly differentiated occupational profiles • Businesses implement regulations to varying degrees • Monitoring of standards may differ, depending on the situation in the training market and industry • Benefits: transparency regarding the level of skills acquired by trainees; transparent basis for both job applicants and companies in the application process
Approaches to exporting the system in modified form	• Scope, degree of detail and binding nature of standards can be adjusted to suit the legal culture in the importing country and with a view to feasibility • Jobs may be structured and defined quite differently in the importing country relative to Germany

Explanation

Provisions in Germany's Vocational Training Act

The dual system of vocational training is based on a number of codified standards that are designed to guarantee the quality of vocational training. The key provisions are codified in the Vocational Training Act, including:

- curricular standards for training in a recognized training-based occupation;
- standards concerning the subject matter and procedures for examinations;
- rights and duties of the parties to a training contract;
- requirements concerning the suitability of training centers and training staff; and
- duties of the agencies responsible for monitoring training.

Curricular standards

Curricular standards are designed to ensure that vocational training is provided at the envisaged quality level and that the current needs in the respective vocational field are met. Occupational profiles are continuously updated to this end. Between 2002 and 2011, for example, a total of 214 training-based occupations were reorganized, among them 43 new and 171 updated training-based occupations (BIBB 2012: 93).

Highly differentiated occupational profiles

The current number of training-based occupations in Germany as compared with other countries is very high with 344 dual training pathways (cf. BIBB 2012: 90 et seq.; by comparison: in Switzerland there are around 200, and in Luxembourg around 100 training-based occupations). In addition, some professions (e.g. healthcare) are regulated outside the dual system in Germany, whereas in Switzerland, for example, they are part of the dual system. This suggests a high degree of differentiation between occupational profiles, corresponding closely to vocational fields in the employment system.

Quality control

The responsible agencies formally check that quality standards are being implemented. What is more, the ability to offer a vocational training program under the dual system is dependent on having obtained a corresponding accreditation, which is also issued by the responsible agency. The monitoring or enforcement of training quality, i.e. reviews carried out by the chambers of commerce and crafts to ensure that the agreed training standards are being met, is at least implicitly conditional on the economic environment. Because of the interests involved, monitoring is carried out based not only on factual, but also on economic and political criteria. Particularly in times when there is a scarcity of training positions, businesses that only partly meet the standards codified in the law on training may also be accepted as training companies.

Benefits of quality standards

Quality standards aim to ensure that trainees are able to successfully complete their training and maintain or increase the acceptance of training among employers by documenting a high level of competence. The standards also offer companies a degree of transparency about what they can expect from trainees after they have completed their training. It should be noted that standards constitute legal rules, the real effectiveness of which remains to be seen, even in the context of



training practice in Germany. What training guidelines or legal training standards in fact mean for the organization of training remains unclear, since corresponding evaluations are still in their infancy. The extent to which training-related standards codified in the law actually influence the quality of training therefore also remains unclear (cf. Buschfeld 2013; Tenberg 2013: 279 et seq.).

Approaches to exporting the system in modified form

The scope, degree of detail and binding nature are important variables when defining quality standards. With regard to the scope and degree of detail, it should be considered whether, for example, all rules effective in Germany are also capable of being applied and are realistic for other countries. It is conceivable, for example, that the vocational fields may be structured in such a way that overall a significantly lower number than the 344 skilled occupations existing in Germany are regulated.

Scope and degree of detail of regulation

A flexible structuring of the curriculum can be found in England, where some 200 occupational profiles are defined in 85 sector frameworks on three levels of the national qualification framework (cf. Steedman 2010: 14). The occupational profiles are skill-based, although the English understanding of skills differs from the understanding in Germany. “In the Anglo-Saxon skill orientation in vocational training, three parameters interact, namely (a) the principle of skill-based learning, (b) the principle of results-based examination and certification, and (c) a fundamental approach of modularization ... according to this understanding, occupational profiles are made up of stand-alone learning units” (Deißinger 2013: 342 et seq.). Moreover, individual standards are linked with the features of the structural framework; if key formal instruction processes belonging to the training do not take place in a company, for example, but instead at school-based, inter-company or non-business learning sites, then the regulation of training centers would be less important.

England

8

Qualifications of teachers and training personnel

Summary

Explanation/ Potential benefits	• Regulation of minimum standards for the personal, professional and pedagogical qualifications of "official" training personnel • Limited consideration of "unofficial" training staff, who are responsible for most practical training in the business setting (experienced staff, employees in specialized departments) • Benefit: an important factor for high-quality training; fewer terminated training contracts
Approaches to exporting the system in modified form	• The quality of teaching staff does not depend on the type of training • Training of school teaching staff is integrated into national teacher training systems



Explanation

The quality of a training course is fundamentally determined by the specialized knowledge and teaching skills of the teaching and training personnel. For this reason, this aspect should not be subsumed under the codification of quality standards, but should instead be recognized as a separate point.

Teaching skills

The German vocational training system places specific skill requirements on teachers in schools and on training personnel in companies. In order to teach at a vocational school, teachers must usually hold a relevant university degree, while trainers in companies must hold a certificate of suitability. From a formal point of view, Germany's Vocational Training Act includes specific rules concerning the personal and professional suitability of training personnel (Sections 28–30 BBiG). At a higher level, the Ordinance on Trainer Aptitude (AEVO) sets out details on the vocational and teaching requirements that training personnel must meet in order to provide training in recognized skilled occupations.

Requirements placed on teachers and training personnel

There are thus codified standards in place that seek to ensure that vocational training is provided at a high pedagogical level. A significant gap in the system with regard to vocational training is that the majority of those who actually guide and supervise the trainees in the company – tradesmen and women, or the staff working in the company departments – are not covered by the legal provisions.

Gaps within the system

Approaches to exporting the system in modified form

An international comparison reveals that the training of school teaching staff takes place at different levels. Whereas vocational and business studies educators are trained at university level in Germany, teachers in vocational schools in Switzerland frequently receive their training at universities of applied sciences, while teachers in Austria are trained at technical colleges. The structure of the training given to teachers also varies with regard to the scope of the practical components. The situation regarding the supply of qualified teaching staff for vocational schools is also considered problematic in Germany; for example, if insufficient numbers of teachers are trained at universities, then teaching staff for vocational schools are recruited in other ways.

International comparison

The discrepancy outlined above between the programmatic objectives and the limited implementation in company-based vocational training practice shows that quality development in this area is progressing only gradually, and that the intensity of progress varies between training subjects. Therefore, although there is positive development in the area of quality, this should not be interpreted as reflecting the real state of vocational training. Statistical data and studies of drop-out rates and the quality of vocational training show a high degree of heterogeneity between the business sectors and companies.

Quality development in theory and practice

Figure 7: Contract termination rates

Variables	Total	Industry and commerce	Crafts	Civil service	Agriculture	Liberal professions	Maintenance
Sex							
Male	22.6	20.3	27.1	7.6	19.4	25.9	29.9
Female	23.6	22.2	32.5	5.4	22.5	22.6	24.0
Nationality							
German national	22.6	20.7	28.3	6.2	20.0	22.6	24.4
Foreign national (non-German)	29.2	28.3	33.2	5.4	26.3	24.4	26.5
Highest level of education completed							
No lower secondary school	37.4	41.0	37.3	12.5	26.1	40.3	27.5
Lower secondary school leaving certificate	32.2	33.2	32.4	10.0	23.6	29.4	25.5
Upper secondary school leaving certificate	20.2	19.6	23.2	6.1	15.6	22.0	16.4
Eligible to enroll in university	1.2	12.2	18.8	5.8	13.2	19.7	17.8
Total	23.0	21.1	28.6	6.2	20.1	22.8	24.5

Source: Trainee Database (DAZUBI) of the Federal Institute for Vocational Education and Training (BIBB), based on vocational training statistics from Germany's Federal Statistical Office and state statistical offices (reference date: December 31), for the years 2007–2010. Calculations by the Federal Institute for Vocational Education and Training (BIBB). cf. BIBB 2012: 173

| BertelsmannStiftung

The reasons for contract termination can be complex. Investigations have shown, however, that in the case of in-company training, one important reason is unresolved conflicts between trainees and the company (cf. Schöngen 2003).



9

Balance between standardization and flexibility

Summary

Explanation/ Potential benefits	• Training standards are designed to be flexible to accommodate differences in business size, sector and training requirements • Development of diverse structural models for drawing up training guidelines • Flexibility in conducting training (e.g. duration) • Benefits: taking into account the heterogeneous nature of trainees and businesses, while still meeting minimum standards
Approaches to exporting the system in modified form	• As in Germany, standards – with the exception of core standards – are adjusted to prevailing conditions • Standards may differ in their rigidity, and they may be modified at different times and in different sectors • Refraining from defining standards in great detail leaves room for implementation

Explanation

Standards and heterogeneity	In light of the highly heterogeneous training conditions with regard to company size, business sector, training culture and the trainees' individual background, there is a danger that the standards do not sufficiently reflect the specific conditions of each case. An essential factor within a vocational training system such as the dual system thus involves striking a balance between standardization and the potential for flexibility.
Potential for flexibility	It is clear that there is no ideal definition of such a balance. At this point it is only possible to outline areas where potential for flexibility has been created within the dual system, which can then be used and implemented in different ways, based on the given time and training sector.
Structuring of the curriculum and training guidelines	A central element in this regard is the structuring of the curriculum and training guidelines. In recent decades, numerous structural models have been developed and implemented to take account of the heterogeneous conditions in the different training segments. Of particular note are (cf. Euler, Severing 2007: 33 et seq.):
Disciplines	• Disciplines: Based on common qualifications, individual sets of training guidelines provide for stand-alone units lasting six to eighteen months in various disciplines for which independent assessment criteria are defined. The study of a particular discipline leads to a specific occupational title.
Specializations	• Specializations: The specializations use a similar construction and each have their own assessment criteria, although the study of a specialization does not necessarily lead to a specific occupational title.
Elective training modules	• Elective training modules: In addition to common qualifications, the training guidelines provide so-called "elective training modules" in the occupational profile, the training framework and the assessments. These last for six to eighteen months in total, and trainees choose from a list of options (e.g. three out of nine elective training modules).
Concept of regulated occupations	• Regulated occupations with common (core) qualifications: Because they use the same training content (generally over a course of twelve to eighteen months), several occupations are grouped together into occupational groups, job families or sectors. This results in a group of common (core) qualifications and occupation-specific specialist qualifications for each occupation (e.g. IT professions, industrial metalworking occupations).
Areas of application	• Areas of application (fields of action, specialist fields, etc.): The training guidelines (e.g. for trainee travel agents) include a specialization phase of up to twelve months, which is formulated only in very general terms in the occupational profile, leaving scope for company- and sector-specific interpretations.
Flexible occupational profiles	• Furthermore, open, technology-neutral formulations below the threshold of formal differentiation and within a broad framework of "flexible occupational profiles" open up various possibilities for training companies to tailor training content to the prevailing conditions in the company and sector.



Examples of other areas with flexibility are outlined briefly here:

- Companies that are not able to provide full-scale vocational training, whether for reasons of personnel, organization, finances or the substance of the training, can become involved in joint training schemes.
- The different backgrounds of the young people receiving training can be taken into account by reducing the training period, either by crediting previous achievements or by allowing them to apply early for their final examinations. Although this flexibility works well under defined conditions (e.g. prior education at school), the crediting of informally obtained skills is more problematic.

Other areas with flexibility

Approaches to exporting the system in modified form

Striking a balance between standardization and flexibility is an essential factor of the dual system. This factor is thus also essential when exporting modified elements of the system to other countries. The flexibility present within the dual system in Germany and the associated adaptation to different framework conditions for vocational training can be carried over to the organization of vocational training systems in other countries and their framework conditions.

Adaptation to different framework conditions

The question could also be raised as to the extent to which forms of standardization still need to remain effective, so that flexibility does not lead to arbitrariness. Such a question, however, is not posed in this abstract form, but arises in connection with specific issues: Does a modular structuring of occupational profiles allow the heterogeneous background of trainees or the training conditions in companies to be responded to flexibly – or does this pose a threat to the uniformity of the occupational profile? Should the curricular and pedagogic guidelines given to learning sites be detailed and comprehensive – or should they be kept general and their interpretation left to the people responsible for implementing them on-site?

Outstanding issues

Whereas in the 1970s and 1980s the trend was toward detailed requirements imposed by a central authority for the input, process and output of vocational training, the pendulum has now swung the other way. Plans for a semi-autonomous school have been introduced and tested, at least with regard to programs, within the scope of a new public management philosophy (cf. Euler 2003). Moreover, forms of output control are favored that prescribe learning outcomes, but that leave scope for the ways of achieving these outcomes to be decided on-site. In a narrow sense, this philosophy concerns the relationship between policy and learning sites, but it can also be applied to the training processes.

Semi-autonomous schools and output control

Denmark A striking example can be found in the Danish vocational training system, where the focus on results in schools is linked with concepts of marked individualization. For example, trainees are no longer taught together as a class but instead they are assigned to a learning group for five weeks at a time, in which they work through selected modules on the basis of individual training plans. The modules that have been successfully completed at school are recorded in a “logbook.” To compensate for the disadvantages of the frequently changing learning groups, the trainees are assigned to a “contact group” of ten to twelve people with its own contact teacher (cf. Graf, Wettstein 2005). The results sought are the same, but the ways of achieving them are different.



10

Creating a solid basis for decisions and design

Summary

Explanation/ Potential benefits	• Preparation and support for centralized changes, using specialized research, planning and statistical tools as well as monitoring instruments in vocational training • The Federal Institute for Vocational Education and Training (BIBB) is dedicated to the ongoing improvement of the system • Established research at universities as well as in non-university settings • Benefits: arenas for ongoing discussion and improvement of vocational training
Approaches to exporting the system in modified form	• Gradual accumulation of relevant expertise, initially at existing institutions (e.g. universities, government agencies) • Using various types of (international) communication and relevant findings to reflect on and solve problems

Explanation

Research into vocational training in Germany

Another key feature of the German vocational education system is that many of the central decision-making and organizational fields are supported by in-depth analysis and research. Specifically, Sections 84 et seq. of Germany's Vocational Training Act provide various research, planning and statistical tools as well as monitoring instruments related to vocational training. Research into vocational training is firmly institutionalized and promoted within the scope of special programs (cf. BMBF 2012: 65 et seq.). In recent decades, this has led to the development of an impressive number of institutions that are involved in the various aspects of research. In their survey of research into vocational training in Germany, Buer and Kell (2000) identified 346 research units at 74 universities and around 130 non-university institutions that are working on problems in vocational training within the scope of various academic disciplines. This diversity first became apparent in a memorandum published by the German Research Foundation (DFG) in 1990 (DFG 1990). The institutional diversity is apparent in the Vocational Education and Training Research Network Association (AGBFN): besides the university research units in Vocational and Business Pedagogics, the BIBB and the Institute for Employment Research (IAB), the federal state institutes and independently owned institutes are also represented there.

Federal Institute for Vocational Education and Training

The BIBB acts as the interface between policy makers and academia and has a strong focus on research into vocational training. It places particular emphasis on qualifications research within the scope of guidelines, for example, and the early detection of skill needs. Besides carrying out research into vocational training, the BIBB is also assigned additional tasks under Section 90 of the Vocational Training Act that help inform decision-making and organizational tasks in the area of vocational training.

Approaches to exporting the system in modified form

Step-by-step approach

Building the human and institutional capacity needed to inform decision-making and organizational tasks in the area of vocational training requires a step-by-step approach. It is initially advisable to use existing institutions (e.g. universities, government agencies with relevant experience) and to assign them specific tasks on a case-by-case basis (cf. the overview of national vocational training centers in the OECD countries in OECD 2010: 163 et seq.). In addition, opportunities for international exchange in existing networks or within the scope of cooperations can be used. A comprehensive reform of vocational training in Luxembourg, for example, is currently being implemented in close cooperation with the BIBB and the Institute of Business Education and Educational Management at the University of St. Gallen (cf. Euler, Frank 2011).



11

Social acceptance of vocational training

Summary

Explanation/ Potential benefits	• Vocational training has always enjoyed relatively high levels of social acceptance in countries that have a dual system • A closer look reveals substantial differences in acceptance across different occupations • Trends in supply and demand are a potential threat to society's acceptance of the dual vocational training system
Approaches to exporting the system in modified form	• Given differences in the degree of acceptance among businesses and school leavers, it is important to analyze the situation and focus on specific areas • Training positions pave the way for entering attractive occupations and/or pursuing further schooling

Explanation

It has already been suggested that vocational training is met with differing degrees of social acceptance in different countries. Acceptance is affected by economic, social and pedagogical aspects, as well as by the cultural setting, which we will turn to now.

Acceptance: causes and differences

In general, it can be stated that the acceptance of vocational training in countries with a high level of dual vocational training is higher than in those countries in which dual vocational training does not exist at all or only exists to a very limited degree. At one end of the spectrum are Germany and Switzerland, and at the other end countries with no distinct vocational training system (e.g. USA, Canada, Japan) or countries with a predominantly school-based vocational training system (e.g. Italy, Spain, England, Australia) (cf. the overview in Section II.3).

Vocational training versus university education

Whereas in countries with a high level of acceptance vocational training is seen as a worthwhile alternative to school-based training courses, in countries where the opposite is true it is regarded as a pathway for those young people who are not able to pursue further schooling. The relative importance of vocational training partly correlates with the proportion of school leavers with a qualification entitling them to enter higher education. In German-speaking Switzerland, for example, fewer than 20 percent of school leavers obtain a general qualification entitling them to enter higher education, and at the same time the dual vocational training system enjoys an extremely high level of acceptance there.

Risks posed by a lack of acceptance

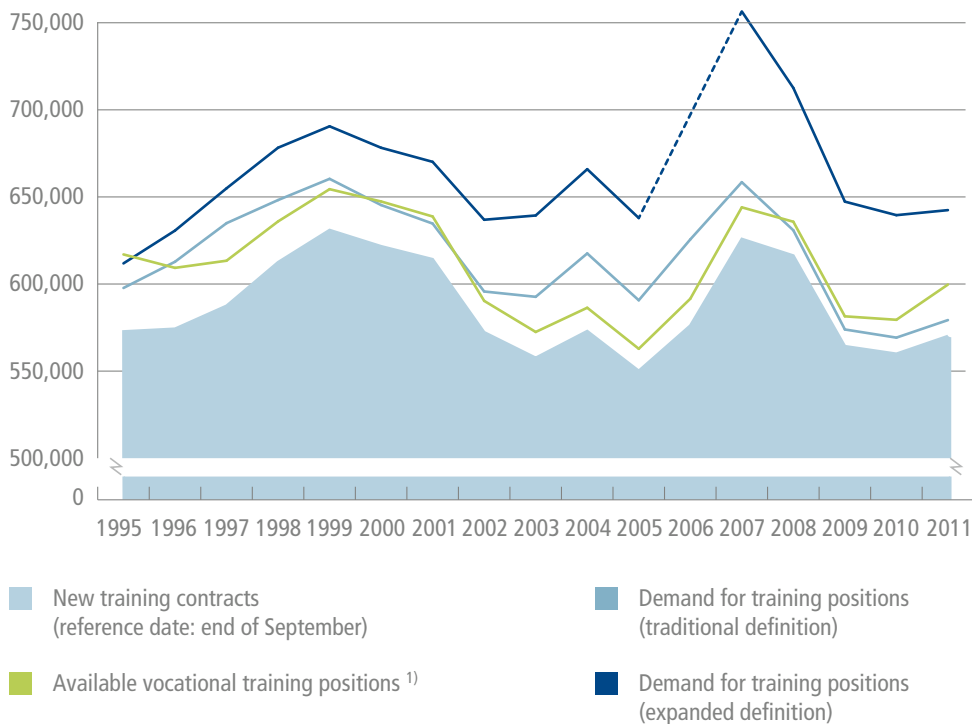
The social acceptance of vocational training is a key requirement for its ability to be imported into a country. If there is a lack of acceptance, then from a vocational training perspective there is the risk of a self-reinforcing downward trend: there are no stakeholders with political power; the political decision-makers see no need to promote vocational training since there is no lobby pressure; and vocational training is neglected, causing its acceptance to decrease further. In view of the above, the challenge for countries with a high level of acceptance is to maintain this high level, whereas countries with a low level of acceptance need to break out of the self-reinforcing downward spiral.

The role of stakeholders

Which stakeholders can influence acceptance through their actions? First, there are the political stakeholders, which in Germany include social partners, as well as government vocational training policy makers. Second, there are those directly affected, i.e. companies as potential providers of training positions and school leavers as potential applicants for training positions. Much can be deduced about the acceptance of (dual) vocational training from the supply and demand behavior of the vocational training market partners. The following figure shows the progression of supply and demand in the market for dual training positions in Germany from 1995 to 2011.



Figure 8: Supply and demand in the (dual) training employment market in Germany 1995–2011



¹⁾ New contracts, unplaced applicants and applicants from alternative educational routes (e.g. secondary schools, training preparation measures) who continue to seek a training position (the latter group only for western Germany and West Berlin until 1997).

Source: Autorengruppe Bildungsberichterstattung, 2012: 107

Bertelsmann Stiftung

Overall, the figure shows a continuous surplus in demand. This could be interpreted in two directions: There is continuously high demand for dual training positions among school leavers during the period concerned; however, companies base the number of training positions they offer not on this demand, but instead on their own needs. Moreover, because of the market situation, many companies focus on young people with higher academic qualifications when filling training positions. Thus, the number of young people eligible for higher education who entered into a training contract increased significantly in recent decades, from 14.1 percent (1993) to 21.0 percent (2010) (cf. BIBB 2012: 153). The surplus in demand results in fierce competition for the limited number of training positions available with the consequence that, on the one hand, companies are able to pick and choose from applicants with very similar qualifications, while on the other hand some of the young people left over are pushed into the transitional sector.

Supply and demand

Imbalances

Despite this favorable situation, companies offering certain training-based occupations were not able to fill their training positions – a fact that can be attributed to differences in reputation. It has long been known that when looking for a training position, school leavers concentrate on a limited number of skilled occupations that they deem attractive, while training opportunities with a poor reputation go largely unnoticed.

Developing companies' willingness to provide training

It is currently difficult to predict how the behavior of the actors in the training market will develop, and thus how the social acceptance of vocational training will develop. With regard to developing companies' willingness to provide training, several factors indicate that structural changes are assuming increasing importance (cf. Euler 2009):

- There has been a shift in the demand for staff from the industrial sector, which has traditionally offered high numbers of training positions, to the service sector and new growth areas, where other forms of training and recruitment are practiced. As a result of this shift, greater restraint is being exercised in the continuation of existing vocational training cultures.
- Particularly in companies with an international focus, it is often not clear to managers why they should risk long-term investment in training, when they can meet their labor supply needs more cost effectively with other forms of qualification ("shareholder" instead of "careholder" thinking).
- New forms of work organization (e.g. a stronger focus on the core business, outsourcing, subcontracting and employing temporary agency workers) reduce the significance of skilled workers in the core workforce.
- The segmentation between core and marginal workforces and the shortening of the planning stages in human resources reduce the company's interest in making investments in training that will only pay back in the long term. Accordingly, companies are reducing their expenditure on regulated vocational training and choosing company-specific qualifications and unskilled and semiskilled workers instead.

A trend toward "silent erosion"?

From the perspective of demand, the attractiveness of dual vocational training in Germany is difficult to assess. Severing (2013) speaks of a "silent erosion at the margins of vocational training". Whereas at the bottom end many school leavers are no longer able to gain access to vocational training, the dual system of vocational training is under pressure at the top end because school leavers eligible for higher education are able to gain a bachelor's degree in the same length of time. It remains to be seen whether school-based courses of training will also become more attractive in Germany over time. This is also true with regard to the results of a study published by Hanushek, Woessmann and Zhang (2011), which show that vocational training qualifications may well make it easier for young people to gain access to the employment system in the short term than with general school leaving certificates, but in the long term (i.e. over a person's working life) general school leaving certificates increase the likelihood of employment at an advanced age and, in many countries, lead to a higher level of income.



Approaches to exporting the system in modified form

On the one hand the social acceptance of vocational training seems to be based on historical reasons, while on the other hand it would seem to depend on the available alternatives and the assessment of the benefits associated with these. Moreover, the assessment of vocational training among different stakeholders can be influenced by forms of communication and marketing.

Determining factors
for acceptance

This framework poses a considerable obstacle for any possibility of exporting the system if the acceptance of vocational training is very low, particularly compared with school-based forms of training and academic education. As the comments on the situation in Germany have shown, a closer look at different business and training sectors is required before any assessment can be made. From an export perspective, this leads us to two considerations:

Instruments for
increasing acceptance

- In what sectors is acceptance of vocational training relatively high, and could these sectors serve as a starting point for improving its reputation?
- What options and access routes exist for communication and marketing activities with a view to improving conditions in companies and among potential trainees?

A critical factor when exporting dual systems of vocational training is the provision of high-quality, in-company training positions. But even if companies can be persuaded to offer training positions, the following two developments can thwart the promotion of the social acceptance of vocational training:

Obstacles

- If vocational training remains limited to a few business sectors that accommodate those young people who have either not been accepted into attractive academic programs, or who have dropped out of such programs.
- If vocational training remains limited to an exclusive group of mostly foreign companies in which a sort of “training aristocracy” is created.

Accordingly, when gradually implementing a dual system of vocational training, it would need to be ensured that training positions are also created in demanding training sectors, allowing trainees to access attractive occupations, and that the qualifications obtained pave the way for pursuing further schooling.

III. Transfer Revisited

Importing the German model

In this paper, we have explored whether Germany's dual vocational training system might serve as a model for other countries, and under what conditions. For a number of reasons, it is clearly unrealistic to suggest that the German system might be adopted in its entirety. For one, Germany's dual system itself is not a single, homogeneous entity, but takes very different forms in different circumstances. Second, importing countries make decisions based on their needs, choosing the features that are likely to offer benefits and tailoring them to existing structures and cultural circumstances.

Viewing the system in terms of its individual elements

In other words, they identify the elements that can be easily integrated into an existing framework and then adapt and modify them as necessary. They also take a look at what other countries are doing, and may decide that some of those ideas are a better fit. The bottom line is that decisions are made about specific aspects of the system rather than the system as a whole. After comparing the experiences of a variety of other countries, a country may import and fine-tune the features that are most in keeping with its own goals, structures and culture. We have therefore identified eleven essential elements of Germany's dual vocational training system and considered how they might be modified to suit the needs of an importing country. We have proposed alternatives, in some cases based on the experiences of other countries.

Adopting the German model

The process of adopting the German model should include the following, taking into account the basic conditions in the potential importing country:

- analyzing conditions in the importing country (e.g. priority objectives; institutional, cultural, curricular and pedagogical requirements);
- identifying strategic objectives;
- engaging relevant stakeholders in the importing country;
- reaching agreement about cooperation between the exporting and importing countries (e.g. advice, establishment of institutions, training); and
- planning implementation/action.

Benefits for Germany

Another aspect should be kept in mind as well: the alternatives described above may encourage other countries to emulate Germany's system, but at the same time they may also yield new ideas that will improve vocational training in Germany. Some of the approaches that have proved successful in a number of countries are summarized below:

1. Overall legal framework

Switzerland and the Netherlands offer good examples of how framework legislation can be used to shape and regulate vocational training. They also show that a centralized approach to strategy is entirely compatible with a very decentralized approach to implementation. In Switzerland, operational responsibilities are held primarily by the cantons, while regional vocational training centers play this role in the Netherlands.



2. *Combining different types of training*

Several countries (Austria, the Netherlands, Denmark, Norway) demonstrate how school-based and dual training – different, yet equally valid systems – can be combined to ensure an adequate supply of differentiated training opportunities. Some countries guarantee all school leavers access to training.

3. *Various levels of certification*

As our review of selected countries shows, separate levels of certification are common, and they take many different forms. In Switzerland there are two independent levels, the EBA and the EFZ, and it is possible for trainees to transition from one to the other. The Netherlands has an elaborate system with four module-based levels and an array of partial qualifications that build on one another. The situation in England is similar. Austria has introduced so-called “modular skilled trades.” Denmark and Norway have established a system of basic and specialized training phases and at the end of each phase, trainees are certified in the partial qualifications they have acquired. Finally, Luxembourg’s vocational training system is entirely composed of building blocks or modules. The advantage of such differentiation is that it takes into account differences in trainees’ backgrounds and skill levels, without eliminating the possibility of reaching the highest possible level of certification. Sometimes instructional methods, too, are tailored to specific needs; Denmark, for example, provides individualized learning support.

4. *Partnerships at the regional and local levels*

In Germany, the system of a social partnership has become well established at the national and industry level, while other countries have systematically expanded this idea to include the regional and local levels. One example is Denmark, which has regional vocational training advisory boards as well as specialized advisory bodies for vocational schools. Cooperation takes a similar form in the Netherlands, with its regional vocational training centers. In this system, a high level of decentralized autonomy is coupled with active involvement by the social partners in determining how that autonomy is exercised.

5. *Learning sites play an important role in designing examinations*

The Swiss system demonstrates that centralized and decentralized bodies can share responsibility for designing valid examinations. All learning sites in Switzerland are directly involved in this process, while superior authorities at the national, cantonal or industry level ensure that standards are comparable. The situation is similar in the Netherlands, where the vocational training centers bear major responsibility for designing examinations.

References

Autorengruppe Bildungsberichterstattung. *Bildung in Deutschland 2008*. Bielefeld 2008.

Autorengruppe Bildungsberichterstattung. *Bildung in Deutschland 2010*. Bielefeld 2010.

Autorengruppe Bildungsberichterstattung. *Bildung in Deutschland 2012*. Bielefeld 2012.

Bosch, Gerhard and Jean Charest. *Vocational training systems in ten countries and the influence of the social partners*. Paper submitted to the IIRA World Congress. 2006. Unpublished paper.

Brandsma, Jittie. "Gestaltung dynamischer Berufsbildungs-Curricula. Der Fall Niederlande". *Europäisierung Beruflicher Bildung*. Eine Gestaltungsaufgabe. Phillip Grollmann, Wilfried Kruse and Felix Rauner, editors. Münster 2006. 95–113.

Bundesamt für Berufsbildung und Technologie (BBT). *Berufsbildung in Zahlen*. Bern 2011.

Bundesinstitut für Berufsbildung (BIBB). *Datenreport zum Berufsbildungsbericht 2012*. Bonn 2012.

Bundesministerium für Bildung und Forschung (BMBF). *Berufsbildungsbericht 2012*. Berlin 2012.

Bundesministerium für Wirtschaft, Familie und Jugend. *Die Lehre. Duale Berufsausbildung in Österreich*. Vienna 2012.

Buschfeld, Detlef. "Curriculum kompetent entwickeln – denn tun sie, was sie nicht wissen?" *Kompetenzentwicklung in unterschiedlichen Lernkulturen*. Sabine Seufert and Christoph Metzger, editors. Paderborn 2013. 61–71.

Busemeyer, Marius R. *Reformperspektiven der beruflichen Bildung*. Expert opinion commissioned by Friedrich-Ebert Stiftung. 2012.

Christensen, Poul. *Berufsbildung in Dänemark*. Manuscript of a talk given at the conference "Flexibilitäts-spielräume für Aus- und Weiterbildung". Bad Godesberg April 22–23, 2009.

Deißinger, Thomas. *Zur Frage nach dem "organisierenden Prinzip" beruflicher Qualifizierung in seiner Bedeutung für die Ermöglichung pädagogischer und gesellschaftlicher Effekte. Ein Beitrag zur Charakteristik des "dualen Systems" der Berufsausbildung*. Habilitation thesis. Universität Mannheim 1997.

Deißinger, Thomas. "Kompetenz als Leitkategorie des angelsächsischen Berufsbildungsverständnisses: Realisierungsformen, Kritik, aktuelle Entwicklungen". *Kompetenzentwicklung in unterschiedlichen Lernkulturen*. Sabine Seufert and Christoph Metzger, editors. Paderborn 2012. 335–356.



Deutsche Forschungsgemeinschaft (DFG). *Berufsbildungsforschung an den Hochschulen der Bundesrepublik Deutschland*. Senatskommission für Berufsbildungsforschung, editors. Weinheim et al. 1990.

Dornmayr, Helmut. *Berufseinmündung von AbsolventInnen der Integrativen Berufsausbildung – Eine Analyse der Beschäftigungsverläufe*. ibw-Forschungsbericht Nr. 167. Vienna 2012.

Dornmayr, Helmut and Sabine Nowak. *Lehrlingsausbildung im Überblick 2012*. ibw-Forschungsbericht Nr. 171. Vienna 2012.

Ebner, Christian. *Neue Wege für die duale Berufsausbildung – ein Blick auf Österreich, Schweiz und Dänemark*. WZBrief Arbeit 4/2009. Berlin 2009.

Euler, Dieter. “Von der Klage zur Anklage – Schulentwicklung zwischen Erwartung und Ernüchterung”. *Qualität sichern und steigern*. Arnulf Zöller and Peter Gerds, editors. Bielefeld 2003. 51–75.

Euler, Dieter. “Transfer von Modellversuchsergebnissen in die Berufsbildungspraxis – Ansprüche, Probleme, Lösungsansätze”. *Zeitschrift für Berufs- und Wirtschaftspädagogik* (101) 2005. 43–57.

Euler, Dieter. “Übergangssystem - Chancenverbesserung oder Vorbereitung auf das Prekariat?”. *Zukunft der Berufsausbildung*. Winfried Heidemann and Michaela Kuhnhenne, editors. Hans-Böckler-Stiftung. Düsseldorf 2009. 83–98.

Euler, Dieter and Eckart Severing. *Flexible Ausbildungswege in der Berufsbildung*. Bielefeld 2007.

Euler, Dieter and Irmgard Frank. “Mutig oder übermütig? – Modularisierung und Kompetenzorientierung als Eckpunkte der Berufsausbildungsreform in Luxemburg”. *Berufsbildung in Wissenschaft und Praxis* 5 2011. 55–58.

Evans, Stephen and Gerhard Bosch. “Apprenticeships in London: Boosting Skills in a City Economy”. *OECD Local Economic and Employment Development (LEED) Working Papers 2012/08*. OECD Publishing 2012.

Frommberger, Dietmar. “Typische Merkmale der Berufsbildung in den Niederlanden und Deutschland”. Talk held on 11/08/2001 in Drachten (Netherlands). Unpublished manuscript.

Gonon, Philipp. “Inkompetenzkompensationskompetenz und Kompetenzdarstellungskompetenz – Zur Zukunftsfähigkeit von Metakompetenzen in einem globalen Umfeld”. *Kompetenzentwicklung in unterschiedlichen Lernkulturen*. Sabine Seufert and Christoph Metzger, editors. Paderborn 2013. 72–86.

Graf, Stefan and Emil Wettstein. “Wie Dänemark die Berufsbildung reformierte”. *Neue Zürcher Zeitung*. 04/26/2005.

Grollmann, Philipp, Susanne Gottlieb and Sabine Kurz. “Dänemark”. *Handbuch der Lernortkooperation Band 1*. Dieter Euler, editor. Bielefeld 2004. 639–654.

Hanushek, Eric A., Ludger Woessmann and Lei Zhang. *General Education, Vocational Education, and Labor-Market Outcomes over the Life-Cycle*. Working Paper 17504. National Bureau of Economic Research. Cambridge MA 2011.

Hoeckel, Katrin and Robert Schwartz. *Lernen für die Arbeitswelt*. OECD studies on vocational training in Germany. Paris 2010.

Hoppe, Manfred. "Merkmale und Besonderheiten vollzeitschulischer Berufsausbildung in den Niederlanden, Österreich und Dänemark". *Berufsbildung in Wissenschaft und Praxis* 4 2005. 51–54.

Hövels, Ben and Mariska Roelofs. *Vollzeitschulische Berufsausbildung in ausgewählten europäischen Ländern mit dualen Berufsbildungsangeboten*. Kenniscentrum Beroepsonderwijs Arbeidsmarkt. Nijmegen 2007.

Hornstein, Walter. "Jugend heute: Wertebewusstsein, Wertewandel". *Erziehungswissenschaft und Beruf* 1 1995. 3–23.

International Network on Innovative Apprenticeship, editors. *An Architecture for Modern Apprenticeships – Standards for Structure, Organisation and Governance*. 2012.

Jonda, Irene. "Duale Berufsbildung als Export – Ideen für ein mögliches Geschäftsmodell". *Wirtschaft und Beruf* 1-2 2012. 22–27.

Lippuner, Claudia. "Schweizer Berufsbildungsmodell glänzt in Indien". *Panorama* 2 2012. 18.

Lutz, Burkard. "Bildungssystem und Beschäftigungsstruktur in Deutschland und Frankreich". Hans Gerhard Mendius et al., editors. *Betrieb - Arbeitsmarkt - Qualifikation*, Frankfurt a. M. 1976. 83–151.

Maurer, Markus et al. *Evaluation SDC's Vocational Skills Development Activities*. Zurich 2012.

Mühlemann, Samuel, Stefan C. Wolter, Marc Fuhrer and Adrian Wüest. *Lehrlingsausbildung – ökonomisch betrachtet. Ergebnisse der zweiten Kosten-Nutzen-Studie*. Zürich 2007.

Nickolaus, Reinhold. "Kompetenzmessung – Transfer von Forschungsergebnissen in die Praxis". *Kompetenzentwicklung in unterschiedlichen Lernkulturen*. Sabine Seufert and Christoph Metzger, editors. Paderborn 2013. 26–44.

OECD. *Education at a glance 2008: OECD Indicators*. Paris 2008.

OECD. "Lernen für die Arbeitswelt". *OECD-Studien zur Berufsbildung*. OECD Publishing, editors. Paris 2010.



- Schneider, Winfried.** "Berufliche Erstausbildung zwischen Vollzeitschule und dualem System. Eine Analyse aus österreichischer Sicht". *Duales System im Umbruch - Eine Bestandsaufnahme der Modernisierungsdebatte*. Dieter Euler and Peter F.E. Sloane, editors. Pfaffenweiler 1997. 1–26.
- Schöngen, Klaus.** "Ausbildungsvertrag gelöst = Ausbildung abgebrochen?" *Berufsbildung in Wissenschaft und Praxis* 5 2003. 35–39.
- Severing, Eckart.** "Wenn fehlende Ausbildungsreife auf eherne Berufsprinzipien trifft". *Kompetenzentwicklung in unterschiedlichen Lernkulturen*. Sabine Seufert and Christoph Metzger, editors. Paderborn 2013. 374–391.
- Silvestrini, Stefan and Melody Garcia.** *Joint Ex-post evaluation 2010. Dual Vocational Training. Philippines*. Internal Report, Center for Evaluation, Saarland University. Saarbrücken 2010.
- Spöttl, Georg, Rainer Bremer, Philipp Grollmann, and Frank Musekamp.** *Gestaltungsoptionen für die duale Organisation der Berufsausbildung*. Hans-Böckler-Stiftung. Düsseldorf 2009.
- Statistisches Bundesamt, editors.** *Bildungsfinanzbericht 2012*. Wiesbaden 2012.
- Steedman, Hilary.** *The state of apprenticeship in 2010. International comparisons*. London 2010.
- Stockmann, Reinhard, Wolfgang Meyer, Stefanie Krapp and Godehard Koehne.** *Wirksamkeit deutscher Berufsbildungszusammenarbeit. Ein Vergleich zwischen staatlichen und nichtstaatlichen Programmen in der Volksrepublik China*. Opladen 2000.
- Stockmann, Reinhard and Stefan Silvestrini.** "Erwartungen, Hoffnungen und Ergebnisse zur Nachhaltigkeit der deutschen staatlichen Berufsbildungsförderung". *Zeitschrift für Berufs- und Wirtschaftspädagogik* (109). 2013.
- Stratmann, Karlwilhelm and Manfred Schlösser.** *Das duale System der Berufsbildung. Eine historische Analyse seiner Reformdebatten*. Frankfurt a. M. 1990.
- Tenberg, Ralf.** "Herausforderung Kompetenz: Stand der Implementierung". *Kompetenzentwicklung in unterschiedlichen Lernkulturen*. Sabine Seufert and Christoph Metzger, editors. Paderborn 2013. 274–297.
- Thomann, Birgit and Michael Wiechert.** *Internationale Beratungstätigkeit des BIBB*. Internal paper, Bundesinstitut für Berufsbildung. Bonn 2011.
- Van Buer, Jürgen and Adolf Kell.** "Berichterstattung über Berufsbildungsforschung – eine Zwischenbilanz". *Zeitschrift für Berufs- und Wirtschaftspädagogik* (96) 2000. 30–47.
- Zabeck, Jürgen.** *Geschichte der Berufserziehung und ihrer Theorie*. Paderborn 2000.

Appendix 1

Final training examinations for tradespersons ("E Profile"), Switzerland, three years (EFZ certificate)

Exam composition	Description	Weighting	Timing	Responsibility
In-company component		50 %		
Practical part – written	• Written exam (120 mins.) • Contents: professional knowledge; focus on practical knowledge	12.5 %	End of training program	• Exams are compiled, carried out and assessed by the relevant trade association • Exam compilation is standardized for the whole of Switzerland • Exams are held centralized or de-centralized
Practical part – oral	• Oral exam (30 mins.) • Technical discussion or role play	12.5 %	End of training program	
Performance grade – in-company part	• Total of 8 performance grades from in-company/inter-company training courses • 6 grades from so-called "work and learning situations" (Focus: technical/professional skills) • Total of 2 (in-company) "process credits" (Prozesseinheiten) and/or "skills credits" (ÜK) (Focus: social and personal skills)	c. 19 % c. 6 %	During the course of the training program: At least 2 results by the end of the 1st year of training; At least 5 results by the end of the 2nd year of training	• Company (training personnel) • Company/inter-company site
In-school component		50 %		
Standard language (regional)	• Written exam, centralized (60–90 mins.) • Oral exam (20 mins.) • Performance grade	c. 3 % c. 3 %	End of training program During the course of the training program	• Exams are compiled by the Swiss national examination board; they are corrected by the school based on assessment procedures provided • Oral: school teacher • School teacher
1st foreign language	• Written exam, centralized (60–90 mins.) • Oral exam (20 mins.) or accredited certificate (50 %) • Performance grade	c. 3 % c. 3 %	As standard language	As standard language
2nd foreign language	As 1st foreign language	c. 3 %	As standard language	As standard language
Information/Communication/Administration (ICA)	• Written exam, centralized (90–120 mins.) • Performance grade	c. 3 % c. 3 %	End of training program (if applicable, as early as end of 2nd training year) During the course of the training program	As standard language



Exam composition	Description	Weighting	Timing	Responsibility
Economics and society	• Written exam, centralized (180–240 mins.)	ca. 12 %	End of training program	As standard language
	• Performance grade (mean value of all semester report grades in the relevant area)	ca. 6 %	During the course of the training program	
Project work	• Performance grades from the area "Vertiefen & Vernetzen" (consolidating and linking skills and knowledge)	ca. 3 %	During the course of the training program	• School teachers
	• Working independently	ca. 3 %	3rd year of training	

Appendix 2

Final training examinations for mechanics, Switzerland, four years (EFZ certificate)

Exam composition	Description	Weighting	Timing	Responsibility
In-company component		50 %		
Professional practice – preliminary examination	• Project task (8–12 hours) • Open book • Contents: manufacturing/assembly engineering	25 %	Usually at the end of the 2nd year of training	• Formation of an examination board; involvement of industry association (Swissmechanic) • Exams are held in the company or at a central site for the canton
Professional practice – practical work	• Individually assigned or predetermined practical task ("assigned job," 36–120 hours) • Presentation and technical discussion	25 %	End of the 4th year of training	• Examination board incl. trained examination specialists • Tasks are formulated and assessed by company instructors in agreement with examination board • Examinations are co-supervised by a member of the examination board
In-school component		50 %		
Professional studies	• Written exam on 4 study areas, centralized (4 hours)	15 %	End of training program	• Exams are compiled by the industry association • Exams are corrected by teachers • School teachers
	• Performance grade for 6 study areas in total	15 %	During the course of the training program	
General knowledge	• Essay	6.66 %	4th year of training	• School • School • School
	• Final exam (oral or written)	6.66 %	4th year of training	
	• Performance grades (Study areas: society, language and communication)	6.66 %	4th year of training	



Appendix 3

Final training examinations for hairdressers, Switzerland, three years (EFZ certificate)

Exam composition	Description	Weighting	Timing	Responsibility
In-company component		40 %		
Practical work – preliminary examination	• Practical work (4 hours) • Focus: basic techniques, hair care, cutting	c. 13 %	End of the 2nd year of training	• Trade association (Coiffure Swiss) • Two experts act as examiners
Practical work – final exam	• Practical work (6 hours) • Focus: advising customers, shapes, hair cuts	c. 26 %	End of training program	As preliminary exam
In-school component		60 %		
Professional studies	• Written exam (3 hours) • Oral exam (30 mins.) • Performance grades	10 % 10 % 20 %	End of training program During the course of the training program	• Trade association (formulation and correction of tasks) • School
General knowledge	• Essay • Final exam (oral or written) • Performance grades (Study areas: society, language and communication)	6.66 % 6.66 % 6.66 %	3rd year of training 3rd year of training 3rd year of training	• School • School • School

About the author



Prof. Dr. Dieter Euler studied business administration, business education and social philosophy in Trier, Cologne and London. Since October 2000 he has held the chair of Business Education and Educational Management at the University of St. Gallen. He previously taught at the University of Potsdam (1994–1995) and the University of Erlangen-Nuremberg (1995–2000).

Professor Euler serves in numerous roles in international academic and educational organizations, including as Chairman of the Research Council of the Federal Institute for Vocational Education and Training (BIBB). His international research and development activities include a focus on the reform of vocational training systems.



About us

The Bertelsmann Stiftung promotes social change through project work that focuses on ensuring society's long-term viability. Working with a wide range of partners, the foundation wants to identify social problems and challenges early on and develop exemplary solutions to address them. We view ourselves as an initiator and driver of necessary reforms. We rely on knowledge and expertise to stimulate lively dialogue on the most pressing issues of our day and provide policymakers with new momentum.

Bertelsmann Stiftung addresses various topics within the field of education, including career guidance in schools, school-to-work transitions and Germany's dual vocational training system. The foundation initiates and moderates discussions on these issues, provides professional insight by way of expert opinions, and supports the exchange of ideas on the international level. If you would like to learn more about our activities or need additional copies of this study, please contact:

Frank Frick

Director

Learning for Life Program

Phone: +49 5241 81-81253

frank.frick@bertelsmann-stiftung.de

Clemens Wieland

Senior Project Manager

Learning for Life Program

Phone: +49 5241 81-81352

clemens.wieland@bertelsmann-stiftung.de

Lars Thies

Project Manager

Learning for Life Program

Phone: +49 5241 81-81104

lars.thies@bertelsmann-stiftung.de

Imprint

© 2013 Bertelsmann Stiftung
Bertelsmann Stiftung
Carl-Bertelsmann-Straße 256, D-33311 Gütersloh
Phone: +49 5241 81-0
Fax: +49 5241 81-81999
www.bertelsmann-stiftung.de

Responsible

Frank Frick
Clemens Wieland
Lars Thies

Translation

Medienfabrik Gütersloh GmbH, Corporate Services

Photos

Shutterstock/auremar

Graphic Design

VISIO Kommunikation GmbH, Bielefeld

Address | Contact

Bertelsmann Stiftung
Carl-Bertelsmann-Straße 256
D-33311 Gütersloh

Frank Frick

Director
Learning for Life Program
Phone: +49 5241 81-81253
frank.frick@bertelsmann-stiftung.de

Clemens Wieland

Senior Project Manager
Learning for Life Program
Phone: +49 5241 81-81352
clemens.wieland@bertelsmann-stiftung.de

Lars Thies

Project Manager
Learning for Life Program
Phone: +49 5241 81-81104
lars.thies@bertelsmann-stiftung.de

www.bertelsmann-stiftung.de