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Governing sustainable school to work transitions: can Germany learn from Denmark?

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**Governing sustainable school to work transitions:
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Abstract

In international comparison, dual systems of vocational education and training are often considered to be more successful than school-based systems for managing sustainable transitions from school to work. This assessment is particularly valid for Switzerland, while the German dual system has increasingly come under criticism since the Covid-19 pandemic, especially with regard to the declining attractiveness of its vocational tracks. The comparative focus is rarely put on Denmark with its promising mix of both principles. A comparison of the two countries therefore seems appealing. The study starts by developing the theoretical framework of transitional labour markets: normatively, it stresses professional sovereignty against labour market fitness, while analytically, it emphasises fair risk and balanced power sharing as principles of good governance. It then considers the actors, regulations, transition paths, current developments and problems of the two countries, enriched with descriptive statistics. Germany can learn from Denmark, especially regarding early career orientation in school, income security that encourages risk-taking during the complex transition process, the continuous updating and modularisation of curricula, and adaptive cooperation between schools, companies, social partners and municipalities. The weaknesses of the Danish system, however, provide also lessons, especially the erosion of the attractiveness of vocational education and training. Reform options for Germany conclude the study.

Keywords: vocational education and training, apprenticeship system, transitions, transitional labour markets, comparative analysis, governance, risk sharing

Zusammenfassung:

Duale Systeme der Berufsausbildung werden im internationalen Vergleich oft erfolgreicher eingeschätzt als schulische Systeme, den Übergang von der Schule in den Beruf nachhaltig zu gestalten. Diese Einschätzung gilt insbesondere für die Schweiz, während das deutsche System seit der COVID-19-Pandemie zunehmend kritisiert wird, vor allem die sinkende Attraktivität der beruflichen Bildungsgänge. Selten wird der vergleichende Blick auf Dänemark gerichtet, das auf den ersten Blick eine vielversprechende Mischung beider Prinzipien aufweist. Ein Vergleich der beiden Länder erscheint deshalb reizvoll. Die Studie entwickelt zunächst den theoretischen Bezugsrahmen von Übergangsarbeitsmärkten: normativ stellt er die berufliche Souveränität gegenüber der Arbeitsmarkttauglichkeit in den Vordergrund, analytisch betont er faire Risikoteilung und ausgewogene Machtteilung als Grundsätze guter Regierungsführung. Anschließend werden die jeweiligen Akteure, Regelungen, Übergangspfade, aktuellen Entwicklungen und Probleme der beiden Länder vorgestellt, angereichert mit deskriptiver Statistik. Deutschland kann von Dänemark lernen, insbesondere hinsichtlich der frühen Berufsorientierung in der Schule, der Einkommenssicherheit zur Ermutigung der Risikobereitschaft während des komplexen Übergangsprozesses, der kontinuierlichen Aktualisierung und Modularisierung von Lehrplänen und enge Zusammenarbeit zwischen Schulen, Unternehmen, Sozialpartnern und Kommunen. Doch auch aus den Schwächen des dänischen Systems lassen sich Lehren ziehen, insbesondere bezüglich der schwindenden Attraktivität der Berufsbildung. Optionen für Reformen in Deutschland beschließen die Studie.

Schlüsselwörter: Berufliche Bildung, Lehrlingsystem, Übergänge, Übergangsarbeitsmärkte, vergleichende Analyse, Governance, Risikoteilung

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Foreword and acknowledgements

This study is the product of our wish, first, to better understand the Danish system of school-to-work transitions (SWT); second to continue and deepen the work together with our colleagues Lutz Bellmann and Bernard Gazier (Schmid et al., 2023); third to add a parallel to the study by Lutz Bellmann and Günther Schmid of lessons for Germany from Switzerland (Bellman/Schmid, 2023); fourth to inspire the current debate on youth policies in Germany; fifth to mitigate our nagging dissatisfaction with the current state of theory on transitional labour markets (TLM); and finally to contribute to solving the eternal problem of equity and efficiency in the world of work in which school-to-work transitions are probably the most decisive phase in people's life course.

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Introduction

Although youth unemployment in Germany is low by international standards and dual vocational training (the '*apprenticeship system*') is still seen as a model internationally, experts on this country consider the German transition system from school to work to be in crisis. The reasons for this include three critical facts that have persisted for years. First, the increasing proportion of young adults aged 20–34 who have not completed vocational education or training (2.86 million or 19.1 per cent in 2022), which is only partly the result of the high rate of low-educated people among the increasing number of young refugees and other immigrants. Second, the so-called 'transition area' (*Übergangsbereich*), in which young people are included in training or other labour market policy measures, but not in regular vocational or formal school training (around 240,000 or 12.7 per cent of all young people entering the working track in 2022). And third, the high percentage of adolescents or young adults (15–29 years of age) who are 'NEETs', that is, not in employment, education or training (8.6 per cent: 10.2 per cent women and 7.1 per cent men in 2022).

Two recent developments are exacerbating these long-known weaknesses of the German vocational training system. On one hand, the number of applicants for training positions is falling, and on the other, the shortage of skilled workers is increasing. The ostensible reason for this is demographic change: the number of young people aged 15–24 – that is, the potential new labour supply – is at its lowest point: at the end of 2021, only one in ten people in Germany was aged 15 to 24 (10 per cent), while 40 years ago it was one in six (16.7 per cent). Against this background the current federal government started to promote the immigration of skilled workers and simplified the naturalisation regulations for German citizenship.

These efforts will not suffice. Not only does the German 'welcome culture' for foreign skilled workers leave much to be desired (not to mention the growing shift towards a xenophobic political right), but also migration of skilled workers might quickly turn into a zero-sum game: what one country gains, another loses. The core problem is structural and must be addressed accordingly. Above all, there is a gap between career aspirations on the labour supply side and the qualification requirements on the labour demand side.

It therefore makes sense to look at other countries. The obvious ones are Austria and Switzerland, which also have a strong dual training system, but do not show the strong symptoms of crisis evident in the German training system. What Germany could learn from Switzerland has already been discussed in another study (Bellmann/Schmid, 2023). Below we turn to neighbouring Denmark for the following reasons. On one hand for a historical overview: Denmark's international reputation for educational reforms goes back to Nikolai Frederik Severin Grundtvig who fought for school freedom as early as 1849. Since then, Denmark has been considered a source of inspiration for education and

training issues in Europe. Currently, Denmark is envied in Germany for its advanced level of digital technology in education and training. On the other hand, the dual training principle is strong in Denmark as well but much more closely integrated into school education than in the three German-speaking countries mentioned above. Furthermore, Denmark has gained a high reputation for social partnership as the core of good governance. Finally, the transition from school to sustainable employment seems to work more smoothly in Denmark than in Germany, especially for young adults aged 25 to 34. This is probably because of the extended and flexible system of continuous education and training. It is therefore worth taking a closer look at good governance principles (Section 1) before comparing the two countries' governance systems for school-to-work transitions (Sections 2 and 3) and assessing what Germany can learn from Denmark (Section 4).¹

1. Parameters and principles of good governance

How risks are shared justly and efficiently in critical transitions during the life course is the core question in the framework of transitional labour markets (TLM).² In this framework, the specific risk of school-to-work transitions (SWT) is the potential *lack of earnings capacity* during the later work–life-course, leading to continuous disadvantages on the labour market (Schmid et al., 2023, 21–22). The consequences of poor earning capacity are low wages, often below a decent living standard (*in-work poverty*), due either to the absence of talent, low cognitive or communication skills that restrict the *ability to learn*, lack of work experience as the basis of *competence development*, and low adaptability because of a lack of *comprehension*, which is the fundamental requisite for problem-solving. All these risks are aggravated in case of repeated spells of (youth) unemployment that might end up in a vicious circle up to poverty in old age, if not (often drastically) reduced life expectation.

1.1 Parameters of developing strategies for governing social risks

(1) Risk sharing to ensure moral assurance

The normative background of transitional labour market theory (Gazier, 2022; Schmid et al., 2023, 15–20) is that social risks must be shared collectively because their determinants do not lay solely in the responsibility of individuals (Atkinson, 2013; Barr, 2001; Schmid, 2008, 226–27). In the case of collective responsibility, two principles of

¹ The starting point of the following analysis is the study by Schmid et al. (2023), which includes other countries – France, Austria and Switzerland – apart from Denmark and Germany. This study, however, focuses on the European Union as a reform actor.

² The framework of transitional labour markets distinguishes five critical transitions during the life course: transitions from school-to-work, from job-to-job, from employment to unemployment, from employment to family-care work, and from employment to rehabilitation or retirement. See, among others, Schmid (2008, 2017), Gazier (2003), Rogowski (2008) and Schmid/Gazier (2002).

risk sharing can be distinguished: *ex ante* and *ex post*. *Ex ante risk sharing* takes place mainly through social insurance, but regulation of quality standards with regard to working conditions also plays a role. The basic feature of social insurance consists of collecting individual contributions in advance, thereby creating individual entitlements, and distributing the accumulated funds proportionally according to incidence and accumulated individual entitlements. Specifically related to young people, mandatory minimum apprenticeship allowances (or wages) would be an example of *ex ante* regulation. *Ex post risk sharing*, in contrast, does not accumulate funds based on individual contributions and pays ‘benefits’ *ex post* through general taxation, according to means tests and rules that often depend on the state’s fiscal situation or on political discretion, for example, based on ‘left’ or ‘right’ majorities.

The main advantage of *ex ante* risk sharing is ‘moral assurance’, which enhances trust in solidarity and encourages individual risk taking in contrast to ‘moral hazard’, which concentrates solely on controlling exploitative opportunism (Schmid, 2020, 468–69). Such moral assurance could be enhanced through entitlements to employment subsidies in case of unemployment, which is commonly an element of ‘active’ labour market policy, or even through universal student grants, as used in Denmark. On the other hand, the disadvantage of *ex ante* risk sharing is its limited capacity for redistribution, which might be necessary in the case of emergencies (such as the recent Covid-19 pandemic), situations that require *ex post* risk sharing and flexibility in collective resource mobilisation. Youth guarantees stipulated by the European Commission (2020a) and US emergency unemployment benefits would be other examples (Fischer/Schmid, 2021; Schmid, 2018, 169–75).

Figure 1 shows the parameters of risk sharing to be considered in comparing school-to-work transition governance regimes and provides examples.

Figure 1: Forms of risk sharing and examples of distributive consequences

		Regulation	Regulation
		<i>Ex ante</i>	<i>Ex post</i>
Distribution	Proportional	<i>Unemployment insurance; minimum apprenticeship allowances;</i>	<i>Means tested social benefits</i>
Distribution	Redistributive	<i>Employment incentives as part of ALMPs; universal VET-scholarships</i>	<i>Youth guarantee; emergency unemployment benefits</i>

(2) Power sharing through covenants

From the political point of view decisions must be made on how to prevent, mitigate or cope with these risks. Such decisions can be carried out in cooperative or in competitive forms. Both decision-making processes have advantages and disadvantages. Cooperation joins forces and makes compromises through negotiation easy, whereas competition fosters the search for best solutions and prevents discrimination, tutelage or wasteful corruption. Cooperation, however, takes time and might slow down adaptation if rapid reactions are necessary, whereas competition might end in a cut-throat process in which all lose.

A mix of both and fitting to the relevant situation is decisive. The kind of mix depends on how power is shared between the actors involved (Scharpf, 1997). *Power sharing*, however, relates also to the implementation of policies once decided (Héritier, 2002). There is plenty of evidence that effective compliance with regulations much depends on institutional capacities (Janoski, 1996), and (less) on the legal or democratic legitimacy of political decisions (Mayntz, 2010, in the context of transnational governance).

Modern governance theory often expresses a pessimistic view of just and efficient power sharing, especially related to the EU level (Scharpf, 2006). Such a view is not justified. One possible way forward is the concept of covenants, first introduced – in the spirit of transitional labour markets – in a contribution by Korver and Oeij (2008), then deepened by Korver and Schmid (2012), and recently embedded in the broader concept of social dialogue (Gazier/Bruggeman, 2024). The starting point of this concept is the view that formation of sustainable employability requires the cooperation of (prospective) workers, employers and public authorities on a level playing field.³ Since employability is of public interest, governance should include the relevant local public authorities (Schakel, 2020). Local authorities and civil society also need to be included both for participatory and ‘social control’ reasons. Control is part of governance, which is a shared responsibility and interest of employers and workers alike.⁴

The question is, how to define and codify common interests and thereby to balance diverging interests. Covenants are the appropriate mechanism by way of written

³ An earlier and general foundation of decentralised governance is V. Ostrom (1991, 223–24), defining ‘polycentricity’ as a system ‘in which there exist many decision-making centers, formally independent of each other [...] these political jurisdictions take each other into account in *competitive relationships* [authors’ emphasis], enter into contractual and cooperative relationships, or turn to central mechanisms to resolve conflicts [...] If we view a federal society as a *covenanting society* [authors’ emphasis] capable of generating rich assemblages of associations, we would expect to see social units of one sort or another, formally independent but choosing to take each other into account, functioning in mutually accommodating ways to achieve many different patterns of order’. For an explicit conceptualisation of decentralised cooperation related to skill formation see Emmenegger et al. (2019).

⁴ Recall the power of ‘altruistic punishment’ for the realisation of shared social norms, as persuasively argued by Fehr et al. (1997). A mundane example is the punishment of smoking in public areas, which a generation ago were considered ‘normal’; poaching of skilled labour could or should be an example relevant to our topic.

agreements, or a system of agreements between two or more parties. At least one should represent a public authority to effectuate government policy. There is not only one format for covenants, but they do share common features: sufficient overlapping interests among participants, mechanisms to define the issues and the machinery of implementation, cooperation between the parties, and a lack of formal sanctions, although the parties can go to court in case of another party's default.

Covenants are, in other words, a kind of ‘negotiated flexibility and security’ (Schmid, 2008, 317–22) that helps, on one hand, to ensure sustainable individual transitions over the risky life course, and on the other hand to ensure a flexible and innovative labour pool able to adjust to future labour market challenges, including the digital economy and green structural change. The criterion for the first is the fair distribution of opportunities for the *development* of skills (for example, by promoting talented young people with vulnerable backgrounds); the criterion for the second is the efficient distribution of opportunities for the actual *deployment* of skills (for example, by including talented migrants). Covenants aim at bringing these two requirements together by pursuing the mutually agreed goals and following the ‘pacing device’ of learning-by-monitoring. In such a process there is no need for ‘hierarchical imposition’ as a starting point, but rather for common values and objectives, albeit supported by the ‘shadow of hierarchy’, for instance in the form of agreed quality standards. Covenants between representative actors at various levels ensure diversity of interests and capacities, and learning-by-monitoring can safeguard that such diversity leads to the sharing of knowledge and ultimately to an efficient redesign of the governance of labour supply or demand and thus of the labour market.

At the end of the day cooperation will beat competition, at least when it does not prevent competitive elements, both in processes of pre-decision-making (allowing reasoned deliberation) and implementation (allowing flexible interpretation). For instance, competition between parties plus federal political entanglement (*‘Politikverflechtung’*) tends to *‘antagonistic cooperation’*, which leads to political immobilism due to powerful veto players in the decision-making process (Scharpf, 2006). This applies to the Federal Republic of Germany, but not to the Federal State of Switzerland characterised by *‘cooperative competition’*, where the canton governments do not have at their disposal a veto on federal policies and where the cantons gain political influence above all through their capacity for implementation, on which the federal government is dependent (Bellmann/Schmid, 2023; Linder, 2007; Treiber, 2022).

Figure 2 displays the parameters of power sharing that should be considered in comparative research on school-to-work transitions and some possible constellations.

Figure 2: Parameters of power sharing and possible constellations of their combinations

		Decision-making	Decision-making
		Cooperation	Competition
Implementing institutions	Central	<i>Slow in adjustment but strong in joining forces through common standards or pooling resources</i>	<i>Strong in innovation but tending to segmentation or even polarisation</i>
Implementing institutions	Decentral	<i>Strong through joint decision-making but decentral implementation (cooperative competition, e.g. Switzerland)</i>	<i>Antagonistic cooperation through competitive veto players (e.g., Germany); possibly solved by covenants</i>

1.2 Governance strategies of sustainable employability

The lack of *sustainable earnings capacities* or even the risk of *unemployability* are the core risks in school-to-work transitions. Governing these risks means above all sufficient investments in ‘human *and* social capital’, especially with regard to general competences such as reading and mathematical skills, communication skills, learning abilities and comprehension, and finally (complementary to natural endowments) secondary virtues such as endurance or tolerance of ambiguity. By emphasising human *and* social capital to develop earnings capacities, young people become fit for the market, able to raise their voices and thereby to shape the market. High earning capacity is the best insurance against all other social risks that occur during the later life course. Governing the risk of unemployability over the life course, however, cannot consist only of providing high levels of formal education. Education must be related to market needs, namely to the skills required to produce the goods or services that consumers demand. Furthermore, employability must pass the test of earnings capacity, in other words the test of self-reliance and emancipation.

From the viewpoint of these guiding principles of risk and power sharing, especially with regard to creating large opportunity sets, setting disincentives for speculative risk taking (gambling), extending the expectation horizon, and giving people a voice, the theory of transitional labour markets suggests five strategies to support sustainable employability, in the sense of employability that has to be maintained and further developed during the later life course: (i) a combination of learning, working, earning *and* identity building; (ii) a combination of job-specific *and* general skills; (iii) the reduction of information asymmetries by voice *and* trust; (iv) fair sharing of costs and benefits related to investments in human and social capital; and (v) guarantees for education and training or for jobs as a last resort.

(1) The challenge of lifelong learning is related to new jobs that often require new skills (for example, European Commission, 2012; OECD, 2022). But not all new skills require formal education. Time served in schools or universities is not enough. What counts is what people can do with what they know, especially in situations in which new problems arise at the workplace. Comprehension is a prerequisite for coping with such uncertainties, and confidence in problem-solving capabilities is necessary to take risks related to uncertain outcomes. Such confidence can be gained only in practice, which means working. The accumulation of comprehension and confidence at the workplace becomes all the more important with the internet revolution, which offers rapid access to all the passive knowledge one may need. Furthermore, skills acquired in the formal education system may not suffice over the whole life course. With lifelong learning there is more at stake than a further extension of formal schooling, particularly in view of complementarities in learning processes. The law of ‘dynamic complementarity’ requires programmes that build character and motivation but do not focus exclusively on cognition (Heckman, 2008).

Furthermore, not all young people prefer ‘knowledge’-related work. Many choose practical and meaningful work which fosters their personal identity. As risky choices always contain an element of uncertainty – not only related to future skill demands, but also to human relationships or even to one’s own preferences – permeability of vocational education and training systems is of the utmost importance. Good governance of school-to-work transitions should avoid early and irreversible tracking but maintain the option of switching to other tracks. Sustainability of earning capacities, moreover, implies not linking educational or vocational tracks too closely with social and economic status; the stigma often attached to vocational training should be avoided in any case.

(2) Because of the complexity of ensuring sustainable employability it makes sense to combine job-specific *and* general skills through *dual learning systems*. This combination is the paradigm of transitional labour markets, offering *institutional bridges* between work practice on the labour market and education in schools. Part of the underlying theory is the insight that human *and* social capital are developed not only in schools but also on the job.⁵ Externalities of human capital formation, among others Heckman’s insight that ‘learning begets learning’, underscore, for example, empirical findings that post-school learning in companies accounts for almost half of all skill formation in modern economies (Heckman et al., 1998, 33). But education and training should not be linked to the job too closely. Governance of uncertainty requires – in analogy to Mark Granovetter’s (1973) ‘weak ties’ – loose coupling and warns against too early and too narrow specialisation.

(3) In the process of preventing, mitigating or coping with youth unemployment, the lack of *voice and trust* are at the core of implementation failure. So far, the representation of

⁵ In fact, we hesitate to use the terms ‘human capital’ or ‘social capital’ as these ‘capacities’ or ‘capabilities’ have quite different characteristics compared with ‘economic capital.’

young people in institutional bodies of ‘social partnership’ is low, and young people’s trust in the efficiency of public employment services (PES) is particularly low, for various reasons: low trust in schools because of cognitive failures or even open discrimination will reproduce itself in confrontation with PES case workers whose disciplinary power is often seen as greater than their professional power or capacity to handle complex difficulties accumulated during failed within-school transitions. The necessary coordination of various assistance services (financial, psychological, pedagogical and social) is often non-existent or poorly developed (Leroy/Struyven, 2014; Levels et al., 2022).

(4) *Fair sharing* of costs and benefits should be related not only to human capital investments but also to relevant other investments in employability, mobility or workplace adjustments in connection with innovation. Employers will be reluctant to invest in training or education if they fear that workers who have benefited from training or education will move to another job on their own initiative or will be poached by employers that have not contributed to the investment (free riding). Furthermore, as far as knowledge is a public good (non-rival and non-excludable), the accumulation of knowledge will inevitably create external spillovers and generate social benefits which private firms are unable to appropriate. Without public support for inappropriable positive social benefits, firms tend to underinvest in innovation because the risk they bear by investing in R&D projects is not properly compensated (Lu et al., 2022; Stiglitz/Greenwald, 2015).

Workers, in turn, will not invest in firm-specific skills if their investment is not rewarded by fair wages, good working conditions and some job security. The state or the social partners (trade unions and employer associations) can play a crucial role in solving these conflicts by co-financing (especially education infrastructure), defining and controlling marketable quality standards, wage coordination, and reasonable employment protection. Risk and power sharing is thus the main way in which polycentric governance with covenants as paradigm should unfold. Through the standardisation of training contents, social partners and public authorities at various levels can ensure high quality standards through monitoring and certification. Participation in the definition of quality standards by employers and employees (usually via their industrial, occupational or professional interest representatives) and their effective control guarantee that workers trust that their skills are valued on the market; but also that employers can rely on the competences of graduates entering the labour market (moral assurance). Certified (legally acknowledged) skills are also ‘marketable’ and enhance worker mobility.

(5) Because the scarring effects of unemployment weigh more heavily on young people than on adults (for example, Eurofonds, 2017; Kim, 2024; Schmillen/Umkehrer, 2017; Zuccotti/O’Reilly, 2019), especially if combined with labour market entry in recessions or pandemics (Schwandt/von Wachter, 2019; Schwandt/von Wachter, 2020; Schwandt/von Wachter, 2023), guarantees of further education or jobs for young people

should be introduced as a last resort. PES early placement services during the final phase of apprenticeships might already help; experience shows that a change of enterprise without occupational change is rewarded by slightly higher entry wages, whereas a change of enterprise with occupational change is punished by slightly lower entry wages. Finally, it might be necessary to provide education, training or job opportunities in special public institutions as a last resort to prevent long-term unemployment, which may end in permanent unemployability, especially for disadvantaged young people.

Against this backdrop of general governance strategies, we can now assess the current school-to-work transition policy strategies in Denmark and Germany before turning to what Germany can learn from its neighbour.

2. The Danish system of school-to-work transitions

Denmark features, like Germany, as a ‘coordinated market economy’ in the categorisation of *varieties of capitalism*, but with at least three characteristics: first, a long tradition of cooperation and consensus, especially in labour market issues (Jørgensen, 2002; Mailand, 2020); second, a high share of public employment, which for young people opens up (apart from its role in wage-setting) a large set of possible careers (Høgedahl et al., 2024); and third the ‘flexicurity’ triangle: (i) high flexibility through low job protection, easing youth access to the labour market, (ii) ‘passive’ security through high social protection, and (iii) ‘active’ security through extensive ‘active’ labour market policy (Jørgensen/Madsen, 2007). Most recently, however, the ‘snakes in paradise’ (Madsen, 2002) in the EU’s flexicurity poster-boy seem to be growing or multiplying (Hansen/Leschke, 2022), especially in the Danish youth labour market.

2.1 Main features of the Danish school-to-work transition system

Denmark organises the transition from school to work (SWT) – like Germany, Austria and Switzerland – largely on the dual training principle and within a uniform national framework. In contrast to these countries, however, the Danish VET system is more school-centred and tends towards a tertiarisation of education and training. The difference from Germany is well reflected in two educational attainment figures for 2023: on Denmark, 43 per cent of 25–64 year-olds have a ‘tertiary’ level qualification as against 33 per cent in Germany. This difference is even more marked among women; almost the reverse is the case at upper secondary/post-secondary level (Denmark 39 per cent; Germany 50 per cent; OECD, 2024, Table A1.1., p. 60).

The efforts of Danish governments to halt this trend in favour of non-tertiary VET have failed so far: in 2020, about 20 per cent of the students who left primary/lower secondary school (up to the ninth grade) that year applied for vocational training. This falls short of the goal of increasing this figure to 30 per cent by 2030, which had been set by the 2015 comprehensive reform. Nevertheless, the Danish government is still determined to get

more people into non-university tracks in addition to vocational training, especially into welfare education tracks such as ‘social work education’, ‘social educator education’, ‘occupational therapy education’, ‘nursing education’ and ‘childcare-educator education’. The Danish majority government even decided to introduce wage increases for social and care workers from 2025 to 2030, which is a break with the Danish principle of voluntary regulation of wages and working conditions.

In contrast to Germany and to sharpen the argument, education in Denmark comes first and its institutional form second: education between the ages of 6/7 and 16 is compulsory. The central primary education institution, the ‘Folkeskole’, consists of one year of pre-school, nine years of primary and lower secondary education, and an optional tenth year. For many young Danes, the tenth year of lower secondary education seems to be a kind of experimental year in which they can test their ability to pursue a more vocational or academic career. In this year, too, the subject ‘educational, vocational and labour market guidance’ (UEA)⁶ is compulsory; in the UEA class, the students must acquire a general knowledge of society and of the post-compulsory education system, as well as an understanding of the labour market.

The post-primary transition tracks to higher education are quite complex: young people can choose between four national higher secondary education programmes: (i) the *Higher General Examination Programme* (stx), close to the German Gymnasium; (ii) the *Higher Preparatory Examination Programme* (hf); (iii) the *Higher Technical Examination Programme* (htx); and (iv) the *Higher Commercial Examination Programme* (hhx). These four national upper secondary education programmes serve different educational purposes and pathways towards higher education: The stx-programme focuses on advanced general education; the other programmes (hf, htx, hhx) exist as alternative pathways catering to other professional and technical fields. Students aiming for vocational education typically engage directly in vocational training programmes rather than the four general secondary education tracks.⁷

⁶ Uddannelses-, Erhvervs- og Arbejdsmarkedsorientering.

⁷ For an informative description of these programmes see: <https://eng.uvm.dk/upper-secondary-education/national-upper-secondary-education-programmes>. Changes are planned by the present government, however. A new practice-oriented gymnasium programme two years in length (Erhvervs- og Professionsrettet Gymnasieuddannelse) ‘epx’ will be introduced, combining practical and academic education. It provides access to vocational education and the short-cycle ‘academy profession’ qualifications (*akademiuddannelse*) offered at business colleges. Access to other higher education streams will require add-on education of 12 to 18 months. The other gymnasium tracks will remain in place but the admission requirements will be raised to a higher-grade point average than currently. On 18 February 2025 the government concluded an agreement on this reform together with two opposition parties, to come into effect in 2030: <https://www.uvm.dk/aktuelt/nyheder/uvm/2025/feb/250218-aftale-om-ny-gymnasieuddannelse-paa-plads>. Moreover, big cuts in university funding have already been decided, including a shortening of MA programmes: <https://ufm.dk/lovstof/politiske-aftaler/aftale-om-reform-af-universitetsuddannelserne-i-danmark>.

A Danish peculiarity, reflecting the ‘education first’ principle, are the so-called ‘folk high schools’ that emerged already in the 1830s (initiated by N.F.S. Grundtvig).⁸ Most of the 70 folk high schools are situated in rural areas or smaller towns. Some are large and can accommodate more than a hundred students, while others have room for only 30; two of these folk high schools are only for young people aged 16 to 19, whereas the others have no age limit. Most of the students attending long-term courses (up to 40 weeks) are in early adulthood (20–24 years of age), while most of the students attending short-term courses are in late adulthood (60 years of age or over). Long-term courses in particular are often state-subsidised, making them affordable for many people.⁹ Exams are prohibited. For many Danish young people therefore this institution serves as a welcome non-traditional learning programme in which they can test their talents and experience a community spirit by living together, including the teaching staff.¹⁰

Vocational orientation is more pronounced at Danish schools than in Germany and less specialised: 108 different vocations or professions are organised into four broad areas (food, agriculture and hospitality; office, trade and business services; care, health and pedagogy; technology, construction and transport). In addition, the Danish VET system also contains a kind of ‘transitional area’ (*Übergangsbereich*) for disadvantaged young people, the so-called ‘FGU’ area (*Forberedende grunduddannelse*), consisting of three types of preparatory programmes for students who are not ready for VET, which are supposed to lead to employment or further education.¹¹ Finally, Danish VET governance also needs to be seen within the framework of a strong tradition of lifelong learning as an integral part of the flexicurity system. The 2018 tripartite agreement on adult and continuing education, for example, focused on improving access through better information and higher allowances, as well as on developing new programmes (Jørgensen, 2018; Mailand, 2020).

⁸ For its history and basic ideas, see <https://danishfolkhighschools.com/about-folk-high-schools/history/>.

⁹ There is a range of possibilities for financial support and scholarships, such as specific subsidies for young unemployed. Subsidies can also be paid in the case of rehabilitation, retraining or an established vocational plan. Furthermore, the so-called ‘*mangfoldighedsstipendiet*’ (diversity scholarship) is provided to ensure that young people from less affluent backgrounds and who are subject to either social or academic challenges can participate. There is also a specific focus on the participation of refugees in the folk high schools (<https://www.hojskolerne.dk/om-hoejskole/hvad-koster-det/kan-man-faa-tilskud>). Nevertheless, the fees for these specifically ‘Danish’ schools (50,000 DKR, about 6,500 euros, for 10 months) might be prohibitive or exclusionary because they vary according to the quality or reputation of the relevant school.

¹⁰ Our interview with a German-born apprentice who took advantage of this opportunity gave the impression that the institution of the *folk high school* also has (apart from its socialising function) high potential for integrating young people from different cultural backgrounds.

¹¹ FGU is for people below 25 years of age and consists of three programmes: (i) education in basic subjects (2/3 theory, 1/3 practice); PGU: workshop-based education (2/3 production, 1/3 theory); EGU: internship-based education (2/3 vocational training, 1/3 school); students receive 6,000 DKK per month (780 euros). For more information, see <https://www.uvm.dk/forberedende-grunduddannelse>. This area is relatively small and has even decreased in recent years. In 2024, 9,302 students were enrolled in FGU, which is about 1.3 per cent of Danish young people aged 15–24; the corresponding figure for the German ‘transition area’ is about 3 per cent; drop-out rates are around 20 per cent (see <https://uddannelsesstatistik.dk/pages/fgu.aspx>).

2.2 *The Danish governance regime and VET policies*

(1) *Danish VET policies* are characterised by continuous reform (Mailand, 2020; Carstensen/Ibsen, 2021). The *2000 reform* introduced – in the spirit of so-called ‘new public management’ – individual competence assessments, personal education plans and logbooks. According to experts on the classical Danish education system, however, these new steering instruments were not in keeping with Danish culture: young people, they say, do not make rational choices according to the new public management model; their choices often involve coping with ambivalences (seek security but also challenges), giving rise to long trial and error processes. Furthermore, a lot of bureaucracy followed the reform’s focus on individualisation. Success was modest according to evaluations, and the drop-out rate has been rising. A lasting effect was weakened social inclusion in education and a stronger focus on youngsters from middle- and upper-class backgrounds, thereby affecting the egalitarian learning culture (Grundtvig) of Danish educational institutions (Jørgensen, 2022).

In 2015, a comprehensive reform of the vocational education system took place in response to high drop-out rates, falling numbers of participants and declining prestige. The reform had four major goals: (i) increase direct uptake after grade 9 or 10; (ii) increase the number of students completing vocational training; (iii) VET should cater to all students in accordance with their talents; (iv) strengthen trust and well-being at vocational education institutions. While changing the framing conditions and structure of VET, according to the evaluations carried out by VIVE (Danish Centre for Social Science Research) the reform did not fully achieve the set goal of improving content and teaching and in general rendering VET programmes more attractive (Slottved et al., 2020).

Although the drop-out rate fell slightly from 46 to 43 per cent, Danish experts consider a further substantial reduction – especially through an increase in apprenticeship places at companies – as crucial to stem the looming shortage of skilled workers (Jensen, 2023). Furthermore, according to a recent study¹² (Hansen/Kristensen, 2024), policies – for example, diverse preparatory courses (FGU) – targeted towards young people who leave grade 9 with a grade point average in the bottom quintile had no positive impact on future labour market outcomes. The authors conclude that social skills, preferences, endowments, and motivation are more important for this group than cognitive skills; education might be a good option for many, but not for all. Before we turn back to this

¹² This econometric study selected male adolescents from a given birth cohort, following their careers (2002–2014) in 98 municipalities (local city councils), with corresponding policy variations. Other evaluations, however, contest this result and harsh conclusion. They hint at a necessary differentiation of these preparatory courses. ‘TAMU’, for instance, created for 18–30 year old people with social and personal difficulties, resulted in a 30 per cent higher employment compared with control groups (for example, Rambøll Management (2016): *TAMU-effekten: En rapport om job- og uddannelseseffekter og samfundsøkonomiske gevinster*, København; LEAD (2022): *Beskæftigeles- og samfundsøkonomiske effekter af TAMU*, København).

alarming conclusion, however, let us describe the main features of the Danish dual VET system.¹³

(2) All *vocational training in a company* is preceded by a basic school course usually of one year (*grundforløb*), which is longer for students with low school qualifications. A broad introduction to vocational knowledge (first half year) is followed by an introduction to the specific vocational programme chosen by the student (second half year). The following (up to) three-year main programme is based on the alternating principle, typically organised as four or five periods of school-based education (five to six weeks) and training at the workplace. Students must have a training agreement with an approved company. For (the increasing number of) those, however, who have not found an apprenticeship, school-based training is provided with varying practical phases.¹⁴ At the beginning of the school-based contracts, apprentices receive as an incentive, namely some money for basic equipment (between 8,000 and 10,000 DKK, which is up to about 1,300 euros).¹⁵ Special access routes are created for young adults over the age of 25, often combining internships and school-based learning. So, for the age-group 25- 29, the transition for adults to the strong Danish continuing VET system appears to be fluid.

Companies pay an apprenticeship ‘salary’ which is determined by collective agreements. As in Germany, this training allowance increases during the three- to four-year training period in line with the increasing proportion of value added through practical work. At about 20 to 30 per cent of adult wages, the Danish first-year apprentice-allowances seem to guarantee greater financial independence than in Germany where first-year apprentices earn between 17 and 27 per cent of the average gross wage.¹⁶ All schools, including vocational academies or universities, are free of tuition fees. During the trainees’ school periods, the employers get the salary reimbursed through the AUB¹⁷ system, to which we shall return.

¹³ Short summaries with graphics are produced by the Ministry of Children and Education and are recommended (for example, Ministry, 2024).

¹⁴ One of these schools that offers school-based training is NEXT Education Copenhagen (NEXT Uddannelse København), the largest system of gymnasiums and vocational schools in Denmark with around 7,000 students across 12 campuses in the Greater Copenhagen area. NEXT offers all four standard Danish upper-secondary programmes (htx, hhx, stx, and hf) and over 40 vocational programmes in addition to eux-programmes which include general upper secondary exams, post-graduation courses, and an optional tenth grade. NEXT's structure allows for synergies between its academic and vocational offerings.

¹⁵ Throughout the paper, we calculate 0.13 DKK = 1 euro.

¹⁶ In 2024 a first-year apprentice in carpentry and design received a monthly ‘salary’ of 9,534 DKK (about €1,270), which is 21 per cent of the average monthly salary and thus at the low end of the scale. A first-year electrician apprentice receives 11,295 DKK (1,506 euros), climbing to 18,298 DKK (2,440 euros) in the fourth year, which is about 40 per cent of the average monthly wage. First year apprenticeship wages can go up to 12,500 DKK (1,680 euros) per month; adult apprentices (25 and over) receive higher wages.

¹⁷ See also <https://businessindenmark.virk.dk/guidance/aub-bid-arbejdsgivernes-uddannelsesbidrag/aub-bid-employer/>

Youth policy towards early (and somewhat egalitarian) financial sovereignty is also reflected in the Danish SU system (*Statens Uddannelsesstøtte*), introduced in 1970. All Danish young people from 16 to 18 years currently receive a basic grant of 1,101 DKK (143 euros) plus means tested supplements that might become even a bit generous (up to 3,055 DKK (397 euros)) for young people living in households with low earnings.¹⁸ Young people over 18 years of age receive a uniform SU rate of DKK 7,086 (921 euros) per month before tax when they no longer live at home and are in higher education tracks (Gymnasium, Vocational Academies, Bachelors, Masters, PhD). These grants are non-repayable (in contrast to the German Bafög), but time-limited according to the standard period of study (for example, three years for the Bachelors, two years for the Masters). Adult students (25 years and over) receive higher grants or loans. Unemployment benefits are relatively generous; the unemployment periods, however, are deducted from the individual SU entitlement, which provides an incentive to keep this time as short as possible. In June 2024, the Danish parliament set new rules for SU: from January 2027 onwards, students who started higher education after 1 July 2025 are confronted with a substantial shortening of the SU period from its current 70 months to 58 months. The maximum period can be extended through a corresponding (but repayable) loan for another two years.

(3) *Denmark's system of governance* relies on close coordination between the social partners and the relevant state authorities at both central and local level; regional levels (like the *Länder* in Germany or the Cantons in Switzerland) exist but do not play an important role in the fields of education and labour market policies.¹⁹ On a general analytical level and related to our concept of risk and power sharing, it is important to note that this coordination contains elements of both competition and cooperation, termed *polycentric governance* in the excellent study by Carstensen et al. (2024). VET governance is split between a traditional monocentric system and a polycentric system based on social partner decision-making. The monocentric aspect includes ministerial supervision of vocational schools, control of school-based education in general skills in the basis programme, as well as ensuring that educational revisions by the trade committees comply with the overarching national standard. Furthermore, the Ministry of Education – under the tight control of the Ministry of Finance – controls funding. The polycentric system consists of approximately 100 local bipartite trade committees (responsible, among other things, for approving companies to provide vocational training) and 45 bipartite national committees of the social partners, which define the

¹⁸ All information in this section is taken from <https://su.dk/english>.

¹⁹ Denmark is divided into five administrative regions known as '*regioner*'. These regions are relevant for several reasons, including health-care administration, regional development and local governance. The regions manage hospitals, health services and certain welfare programmes, ensuring that citizens have access to necessary services. They also play a role in planning and implementing regional policies, including economic and environmental initiatives. The five regions, however, are to be reduced to four: Copenhagen and Seeland will be one, affecting the hospital sector the most, but it also means a new configuration of institutional capacities.

occupational profiles (content, duration, proportions of practical and theoretical training) and adapt them to the changing needs of the labour market.

The work of the social partners in the national committees is supported administratively by so-called education secretariats, jointly owned (and financed) by the social partners. The same secretariats may serve multiple trade committees and can thus disseminate information about activities and performance across occupational sectors. Managers of the secretariats themselves meet in their own networks to discuss and learn from each other. They might also commission external expertise to actualise and enhance the common knowledge which, at the end of the day, serves also as a conflict resolution mechanism. Such a useful intermediary administrative capacity is, to our knowledge, not present in Germany.

Moreover, a 20-member Council for Vocational Education and Training (EUR) negotiates with the ministry responsible for education. EUR consists of eight members from the employers' association (DA) and eight members of the trade union confederation (FH); one representative each from teachers, students, municipalities, and regions complements this council of strategic relevance. The polycentric and monocentric systems are also interrelated through lobbying efforts by the trade committees, and the EUR – through its composition – also plays an important role in internal conflict resolution among social partners. So as far as we can see there is no constituent actor who has a veto position.²⁰

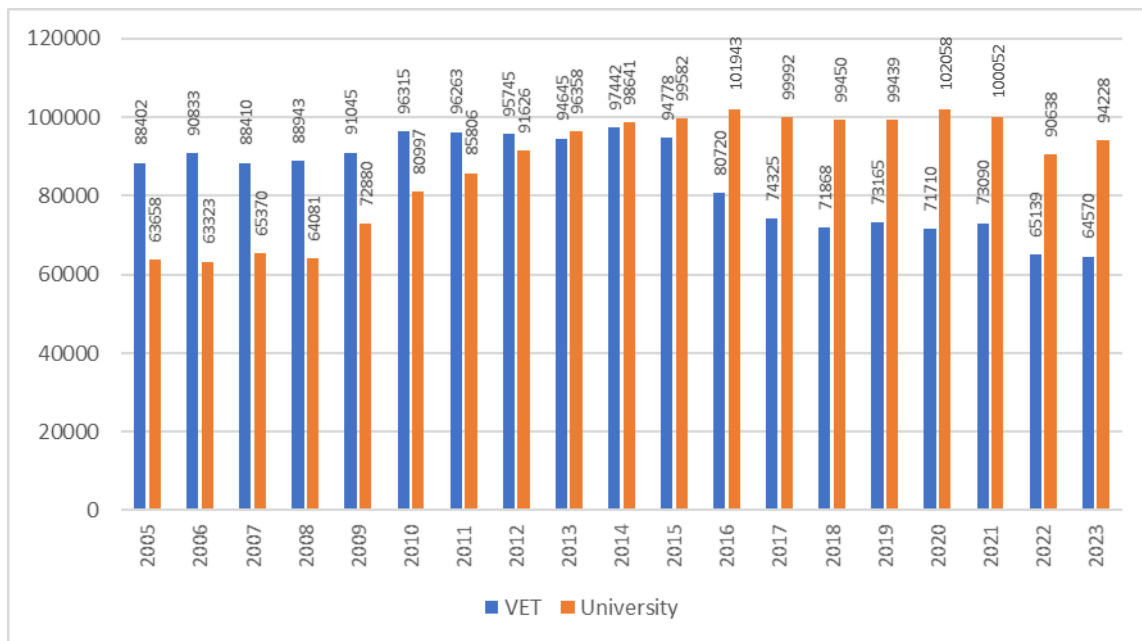
Unlike in Germany, however, many larger companies have withdrawn from the dual system and primarily recruit university graduates. The Danish training system is thus increasingly anchored in small and medium-sized companies; correspondingly, the construction industry, hotels and restaurants, as well as retail trade have relatively high training quotas. This development has led, as already mentioned, to an erosion of VET's attractiveness, inducing young people to turn to academic tracks (see Figure 3). In some occupations, however, and related to the 'greening' challenge, a revitalisation of the 'traditional' dual approach seems to be taking place, for example, in the electrician and plumbing sector (Carstensen et al., 2024).

The social partners and the Danish government reacted by establishing *vocational academies* to stem this trend. The number of students admitted by these institutions increased from 9,124 in 2009 to 10,588 in 2023, constituting a stable share of approximately 15 per cent of all newly admitted students in tertiary education. According to one study (Ibsen/Thelen, 2020, 24), these academies are largely disconnected from or even competing with the traditional VET system. Although these programmes can

²⁰ The study by Carstensen et al. (2024) focuses on two trade committees representing the electrician and plumbing sectors and their adjustment to green skills. It shows, among other things, how competition for students pushed the social partners to enhance their green profile and the mechanisms for conflict resolution in which the Council for Vocational Education and Training (EUR) played an important role as mediator.

involve short firm-sponsored internships, they argue that the practical training component is typically very limited (around three months over the entire two years) and does not lead to a secure job at the workplace afterwards; while the vocational academies had the potential to become the kind of hybrid institution found in Germany, they have instead become specialised, short-duration tertiary education programmes with limited workplace training.²¹

Figure 3: Number of young people entering VET and university studies in Denmark, 2005–2023



Source: <http://dst.dk/ext/uddannelse/Uddannelsestabeller>

To finance dual vocational training, all companies have paid a levy to the vocational and educational training fund (AUB) since 1997. The current (2024) amount per year is 3,149 DKK (409 euros) for skilled full-time employees. This mandatory contribution is adjusted annually based on average wages and demographic development. The AUB is managed by a board of directors composed of 16 members on a parity basis (eight from DA, eight from LO). In addition, there is a chair who does not belong to either an employers' association or a trade union. The fund is an independent institution that is not bound by instructions but is institutionally assigned to the fund for additional pensions, which is also financed by contributions.

The bulk of AUB funds go towards reimbursement of training allowances for days spent at vocational school, with the remainder going towards continuous vocational training

²¹ Visiting one of these academies, however, throws some doubts on this rather negative judgement (see Box 1 in Appendix). We left the visit with the impression that 'this is a place where I would like to study'. As our personal experience with only a single case might be biased or even be misused as 'propaganda', we leave the judgement to the reader.

and education. The AUB also increasingly finances other expenditure, such as trainees' travel costs to vocational school, boarding costs when staying at vocational schools or additional wage costs when posted abroad. Furthermore, the AUB's contribution was decisive in establishing the *Centre for Knowledge on Vocational Education (CEVEU)*, a research consortium between University College Copenhagen, Aalborg University, Aarhus University and the think tank DEA, based on a tripartite agreement in November 2020.²²

VET curriculars are updated on a continuous basis through agreements between the Danish social partners and the state. Recently and in a significant step towards bolstering Denmark's green transition, the Ministry of Children and Education took the lead on a comprehensive new agreement focused on enhancing vocational education. This initiative includes financing of work-based learning, upskilling teachers in green competences, promoting learning mobility for the acquisition of green competences, and introducing a green component in the final exam of VET students. The agreement reflects a collaborative effort among government bodies, education institutions and industry partners, as described in the theoretical section above (covenants). This underscores the shared commitment to preparing the next generation for the challenges and opportunities of the green transition (ReferNet Denmark and Cedefop 2024). Carstensen et al. (2024) provide a vivid and keenly analytical demonstration of how the 'greening' challenge has been translated into action in the electricity and plumbing sector.

As in Germany, the intensity of in-company training is decreasing in Denmark. In 2016 this prompted the social partners to conclude an agreement (or covenant, as conceptualised above in the theoretical part) with the government to create incentives for additional training places to be paid from 2018 onwards. The 'training-place AUB' defines annual targets for the training quota. The target is defined in terms of training points and varies with the estimated future shortage of skilled labour, which is recalculated annually. In 2025, the score for electricians was 1.00 (a decline from 1.09 in 2022), for bakers and confectioners 1.26, and for social and health care assistants 1.24. If companies exceed the target quota, they receive a 'bonus' (called an 'apprentice subsidy'). If they do not meet the quota, they must pay (2024) 27,000 DKK (3,510 euros) to the 'training-place AUB' for each training point not met. The companies that meet their quota receive a 'bonus' of up to 15,000 DKK (1,950 euros). The amount of the bonus depends on the payments made by the companies that do not reach their points. The 'bonus-malus' system seems to work: over 40,000 firms have been forced to pay the fine of 27,000 DKK, making – according to the employers – many firms aware of the

²² Apart from stimulating and coordinating research on VET issues, CEVEU engages in the dissemination of information and communication through a website, LinkedIn, newsletters, short research reviews, podcasts, webinars, conferences, action learning and action research (CEVEU Lab), workshops, courses, and pedagogical tools. For CEVEU's research plan see <https://ceveu.dk/wp-content/uploads/sites/51/2023/11/forsknings-og-udviklingsstrategi-ceveu-2023-26-final-11.pdf>

need to participate in the training of skilled workers leading, to ‘a large increase in new apprentice agreements since 2018’ (interview).²³

One remaining challenge of the Danish VET system is, as already mentioned, the substantial number of dropouts, particularly among young immigrants of non-Western origin (European Commission, 2020a; Field et al., 2012). This deficiency seems to have been mitigated, however, as between 2005 and 2021 the out-of-school rates at upper secondary level fell in Denmark by 7 percentage points. One reason for this success was the introduction of school-based mechanisms to track vulnerable groups of students not returning to school (OECD, 2023, 57). Another (more general) reason for the containment of drop-out rates may be a further Danish specificity, the so-called ‘taximeter’ system, which has been refined in recent years as an efficiency-incentive mechanism.

According to official documents (Ministry of Children and Education, 2024), Danish educational institutions have two sources of revenue for financing their programmes: state grants that amount to about 80 per cent of the total funding of institutions; of this amount, ‘taximeter’ determined grants make up 92 per cent, the rest coming mainly from participant fees. *Taximeter management* (‘*taxameter*’ in Danish) means that state-financed appropriations are dependent on activity levels and politically determined taximeter rates per activity-level unit. In other words, the size of the grants is directly linked to the results of the institutions measured as the annual number of full-time students. The intention is to efficiently transfer financial means from educational programmes with decreasing activity to programmes experiencing growth. Apart from subject-related incentives (higher tariffs, for example, for MINT subjects), there are also social-related incentives, for example, differences in regional living or building costs. In recent years, the taximeter tariffs have been directed in particular towards reducing study times to bring qualified and skilled students into the labour market more quickly.

The taximeter system, however, is contested because of its increasing complexity and – partly – opacity. DEA for instance, the interest representative body of Danish Vocational Schools and High Schools, complains about discrimination related to general higher education, namely neglect of the technological development that has increased the costs of, for example, laboratories and technology-oriented subjects such as IT. Moreover, in 2021, there were 1.1 more students per teacher in the Higher Technical Examination Programme (htx) and the Higher Commercial Examination Programme (hcx) compared with the gymnasium track (stx); this means less time for the individual students in

²³ Adding up to 127 million DKK (€16.5 million) into the ‘training-place AUB’ budget in 2023, as against 128 million DKK in subsidies; in case of surplus, employers are reimbursed. According to a report by the Centre for Economic Policy and Governance of the Ministry for Economics (7 November 2023; only available in Danish) the increase in apprenticeship places since 2018 has been driven only by companies at municipal level. New figures on apprentice contracts are missing as statistics are being rebuilt; a rigorous evaluation of the apprenticeship incentive-scheme is not available.

vocational programmes than for students in general upper education.²⁴ To our knowledge, however, there has been no comprehensive evaluation of the taximeter system.²⁵

2.3 *Summary and conclusion of the Danish school-to-work transition system*

To summarise the Danish case of school-to-work transition governance, we can start with the succinct conclusion of Ibsen and Thelen (2020, 2) who compared Denmark with Germany: ‘Germany has pursued a firm-led strategy in which adjustments to VET reflect the needs of the country's largest and most sophisticated firms, emphasizing the economic objectives of training, but at the partial expense of its social inclusion functions. By contrast, Denmark has pursued a more state-led strategy; legislative reforms in the 1990s played an important role in shoring up the VET system's social inclusion functions, but these interventions may have also contributed to deterioration in the public image of VET. An unintended result has been a decline in participation among the most advanced Danish firms, which in turn has reduced the attractiveness of VET for Danish youth, trends that the government has since struggled to reverse.

Based on our more recent overview, however, we must emphasise some differentiation of Danish strengths and weaknesses. First, related to our concept of power sharing, we noticed that the Danish governance regime based on cooperation and consensus is still intact, despite serious challenges and corresponding reforms. No veto player could be identified, although the Danish combination of monocentric and polycentric governance (with complex and partly opaque horizontal and vertical negotiations) needs time before it reaches an agreement, which often takes the form of covenants that bind both parties – the state, as well as the social partners – to follow the agreed strategy and to commit to learning during the process of implementation.

Second, employers’ contributions to finance VET (AUB) should not be considered only as a cost-factor that potentially strangles competitiveness but also as an investment in adjustment capacities to cope with global and technological challenges, as well as – and that seems to be invaluable – in maintaining the power balance between the state and the civil society (self-regulation and social partnership). Moreover, combined with the apprentice-place incentive mechanism (‘bonus-malus-system’) social partners with the support of the government have created an internal redistribution mechanism which can be considered to be a promising risk-sharing device. Currently, this device might not look powerful in terms of sheer size, but it has the potential to become an important

²⁴ For details see: <https://deg.dk/politik/oekonomi-skoledrift/taxameter-tilskudssystem>

²⁵ According to one of the experts we talked to, another problem is that institutions only get a refund after students pass their exams. This involves difficulties in programme funding and leads to lower professional norms and standards (as it means less money for the institution). The taximeter system is also accused of being partly responsible for the underfinancing of educational institutions.

instrument to keep alive the idea of VET (dual learning by combining theory and practice).

Third, Denmark seems to be unique in creating, through the AUB system, not only an incentive mechanism for employers (the ‘practice’ side), but through the taximeter system also an incentive mechanism for VET schools, academies and universities that provide education and training (the ‘theory’ side). It should be emphasised that ‘taximeters’ serve not only to foster efficiency in teaching but also to take into consideration important equity issues (for example, regional living and production cost variations). Although our rather superficial observations do not allow firm conclusions, we got the impression that, apart from the need for simplification, this system could do more to support VET providers, which seem to be at a disadvantage financially compared with general education providers.

Fourth, and in terms of risk-sharing, Denmark’s universal and relatively generous grants to students in upper-secondary education (SU system) seem to us exemplary yet rather neglected in the international debate. As the process of school to work transition is decisive for a sustainable work-life career, all central factors in successful transitions need to be considered. In other words, effective and future-oriented education and training through excellent teachers and teaching infrastructure is one prerequisite, and may be crucial for most young people. But the attainment of self-consciousness and identity are also important when it comes to professional sovereignty. An essential element in gaining such sovereignty is financial autonomy as early as possible, independent from the social and economic background of parents or neighbourhoods. Both Danish universal SU scholarships and tuition-free education and training at all schools, and even to some extent the apprenticeship wages and generous unemployment insurance benefits, contribute to early financial autonomy. The recent reform of the SU scheme which cut the duration of regular study time is likely to decrease the freedom for trial and error (changing study subject after an initial period), however. Overall, this system might give rise to moral hazard problems, but in our view the moral assurance aspects (Schmid, 2020) clearly dominate, namely the empowerment of young people to take risks, to engage in trial and error, and to concentrate on the genuine theoretical/scientific and practical aspects of their chosen subjects (be it art, technique, design, health, care, environment, teaching and so on). Moreover, the ‘social-capital’ building function of the unique Danish institution of folk high schools for young adults deserves special attention.

Fifth, and this is a weakness, even Denmark is confronted with a small yet stable transitional area that seems to provide little help for very disadvantaged young people. We found one sophisticated econometric study that showed no evidence that the labour market chances of young people with low cognitive abilities at the end of primary education are substantially improved through various preparatory courses. It might be that ‘employment first’ instead of ‘education first’ is a better alternative for these young

adults, an issue we will elaborate on when considering the lessons for Germany in the next section.

3. The German system of school-to-work transitions

Germany's SWT system, historically, is characterised mainly by the dualism – even called a 'schism' by some experts – between higher education (HE) and vocational education and training (VET). Its VET system comprises school-based and company-based education and training. The small but increasing sector of school-based VET concentrates on the new service sector (health, care and education); the large but decreasing company-based VET is common in the decreasing industrial sector (crafts, manufacturing and construction), and is known as the 'dual' learning approach or the apprenticeship system. Historically, dual VET has been the dominant track for young people for entering the labour market, although in recent times school-based VET and HE have gained in importance. Although many reforms in recent decades have tried to mitigate this divide in skill formation, the status gap between VET and HE remains high.

3.1 Constitution and actors of the German governance system

The German dual vocational training system combines school and work, more precisely theory and practice, learning and working, and training and earnings. This dual system is firmly anchored in the German education system and its roots go back to the Middle Ages. The collaboration between predominantly private companies and public vocational schools, as well as consensus-oriented collaboration between employers and employee associations (social partners) are its essential governance feature. This cooperation is regulated by law, especially in the Vocational Training Act (*Berufsbildungsgesetz, BBiG*) and the Crafts Code (*Handwerksordnung, HWO*), which lay down the nationwide regulations for vocational training. Since then, numerous adjustments have been made, for example, by introducing new vocational career-paths, updating existing training regulations, and expanding job profiles. The Federal Institute for Vocational Training (*Bundesinstitut für Berufsbildung, BiBB*) oversees further development of VET. The 16 states (*Länder*) and social partners are represented in its governing bodies.²⁶

There are currently 327 state-recognised vocations or professions in Germany. Their standards are developed and recognised jointly by the social partners, transposed into federal law, and monitored and enforced by around 80 chambers of industry and commerce, in other words, self-governing bodies under public law. Because of the

²⁶ The main committee ('*Hauptausschuss*') of the BiBB consists of representatives of employers, trade unions, the states ('*Länder*'), and the federal government. It acts as a statutory advisory body of the federal government, represented by the Federal Ministry of Education and Research and – in connection with the regulation of standards – the Federal Ministry of Economy and Energy. The chair of the main committee is appointed in turn by the representatives of the employers, employees, the states, and the federal government. In carrying out their tasks, the President of BiBB works closely with BiBB's main committee and its subcommittees, as well as the scientific advisory board.

lengthy consultations between these decision-makers, however, any revision or new adoption of professional regulations usually takes several years. This is a growing problem given the rapidly changing requirements for knowledge and skills, as well as the respective need for adjusting job profiles.²⁷

Another important governance feature of the German dual system is its specific federal constitutional structure, in which the federal government is responsible for vocational training in companies, and the states (*Länder*) are responsible for education, including vocational schools. The 16 *Länder* finance the vocational schools but benefit from the dual system. The federal government makes contributions to individual support through means-tested scholarships (*Bafög – Bundesausbildungsförderungsgesetz*) and – since 1996 – to vocational careers (for example, *Meister-Bafög*).

In accordance with the German Constitution there is a specific structure of risk sharing in the school-to-work transition regime: private companies or companies bear around two-thirds of the total cost of initial vocational training (approximately €15,000 per trainee) every year. The assumption is that companies will save on future recruitment costs and the costs of training new employees; trainees also increasingly contribute to a company's production or services during their training period. In addition, companies avoid or reduce the risk of hiring employees who do not 'fit' into the company but who are difficult to dismiss because of relatively strict employment protection legislation.²⁸

The burdens are distributed quite unevenly among companies, however. Micro firms (1–9 employees) and small firms (10–49) carry relatively the largest burden but this is becoming less and less the case. The distribution of burdens among medium-sized (50–249 employees) and especially large companies (250+) appears to be distributed more 'fairly', but a significant proportion of companies in these categories (a third or a fifth) are still not involved in training. Overall, the company structure of German VET can be interpreted in such a way that the micro and small companies that (still) provide training make a significant contribution to the overall functioning of the labour market, while medium-sized and – especially – large companies tend to train workers only for themselves.²⁹

This unequal participation of companies in vocational training has long been controversial between the social partners: most employee representatives call for universal contribution rates (all companies pay into a common fund), while most

²⁷ For further details of the complicated decision-making processes, including the role of corporate professional associations and the chambers of industries and commerce, see Cedefop (2020, 32f., 40–43).

²⁸ For a comparison of average costs and benefits of German and Swiss apprenticeships see Muehleman et al. (2010) and Muehleman/Pfeifer (2023), commented on in footnote 8, p. 11, in Bellmann/Schmid 2023. Whereas the German dual system tends to provide training for companies, the Swiss dual system rather trains for the labour market. In Germany, a good two-thirds of trainees stay with the training company after they graduate, but this is much less the case in Switzerland.

²⁹ For details, see Table 3 in Bellmann/Schmid (2023, 22).

employer representatives reject a contribution system. Both parties base their arguments on fairness: the unions argue that it is the duty of all employers to cover the costs of vocational training; employers' representatives argue that companies differ in their ability to bear this burden, so it would not be fair to burden them equally. There are some historical exceptions, however, for example in construction, in which all employers pay contributions into a common fund for vocational training.

In addition, and beyond the construction sector, inter-company vocational training centres set up by the Chambers of Industry and Commerce are financed up to 50 per cent from employer contributions to the chambers and are also supported by the Ministry of Education and the Federal Ministry of the Economy. One example is the *Vocational Training Centre of the Chamber of Crafts and Trades (HWK)* in Lübeck, which currently receives co-funding from the European Social Fund (ESF+). It provides training in automotive mechatronics (e-Mobility), carpentry, sanitary, heating and air conditioning technology, and electronics (smart homes and energy storage systems). These inter-company apprenticeships (ÜLU)³⁰ complement the practical training offered by companies and the theoretical training provided in vocational schools with additional shorter modules that are otherwise not feasible due to technical and material requirements. Small and medium-sized enterprises (SMEs) in particular can benefit from sending their apprentices to such institutions because their smaller scale and often specialised nature may limit their ability independently to offer such training or acquire the often expensive technical materials needed for the training. The ÜLUs ensure also that VET curricula are updated to align with companies' innovation needs, particularly in the context of the twin transition (digital and greening). They complain, however, of the violation of the original agreement on financial risk sharing, namely one-third federal, one-third state (*Länder*) and one-third employer. ÜLU providers demand much stronger public financial support.³¹

In the first year, trainees receive a monthly allowance, which, according to the WSI tariff archive (2023), is currently between €790 (agriculture in North Rhine-Westphalia) and €1,231 (nursing in the public services of federal states, excluding Hesse). Remuneration is normally negotiated as part of regular collective bargaining, together with the employees' wages. It is therefore also linked to the negotiating positions of the respective unions, which vary greatly from industry to industry and from region to region. Accordingly, there are significant differences between levels of training allowances, including across the 16 *Länder*. The automotive trade in Thuringia, for example, pays a training allowance of €810 in the first year, and in Baden-Württemberg it pays €979.³² In some sectors, social partners responded to the supply gap with drastic increases in apprenticeship allowances (for example, 26.5 per cent in bakeries). Finally, in 2020 the

³⁰ Known as 'Überbetriebliche Lehrlingsunterweisung' (ÜLU).

³¹ See the homepage of this centre: <https://www.hwk-luebeck.de/ausbildung/ueber-die-uelu>

³² For comparison: the average gross wage per month in Germany (full-day contract) was €4,480 in 2023.

Law on Minimum Allowances stipulates that the training allowance must be increased by at least 18 per cent in the second year, by 35 per cent in the third year and by at least 40 per cent in the fourth year.

For full-time school-based vocational training (see below, for example, in the health and nursing sector), different regulations regarding compensation apply across sectors and across states (*Länder*). In many cases, trainees do not receive any remuneration, but must – if their parents do not (or cannot) support them – apply for training scholarships (*Bafög*), whereby the amount of funding depends on the parents' income and must partly be repaid up to a maximum of around €10,000. In medical professions, for example, trainees are trained at vocational schools that are privately owned and charge up to €600 in fees per month. Many trainees therefore must work part-time to earn a living, and many decide, instead of entering vocational training, to stay at school to obtain university entrance qualifications.

3.2 *The four paths of the German school-to-work-transition (SWT) system*

Table 1 summarises the German system of school-to-work-transitions (SWT) and presents four main transition-paths: the VET system, transition, the upper secondary track, and the tertiary track, which means university, including the universities of applied sciences (*Hochschulen*). The figures reflect all entries after post-primary education.

Before we enter into detail, attention should be drawn to the main structure and trends reflected in the changes over the past two decades (the deltas from 2005 to 2023 on the right side of the table). The VET system still makes up over one-third of all entries (37.6 per cent), albeit with a declining trend: The overall number of VET trainees declined by 6 per cent, mostly because of shrinking youth cohorts; the decline in entries into the upper secondary segment corresponds these dynamics. The share of entries into the tertiary track (university) went up to 26.3 per cent, but has stagnated in absolute terms during the past decade, also for demographic reasons.

This overall trend masks two opposite trends. The so-called *transition area* shrank by 40 per cent, which can be interpreted positively (fewer young people are entering a highly risky track that often ends in the labour market ‘no-man’s-land’). Second, the state as employer (at all levels) drastically reduced its education and training activities by 36 per cent, a fact almost forgotten in the public debate. On the other hand, full-time school-based VET in the service sector (especially in the female dominated health, education and care sector) increased by 36 per cent, although it has remained stagnant since about 2018.

Table 1: The German system of school-to-work transitions (SWT): entries into one of the four main tracks of vocational and higher education in 2023

Transition tracks	Absolute number	% of total	delta 2005
The VET system	694,500	37.6	- 6%
a) Companies (dual VET)	456,352	(24.7)	-12%
> women	> 167,481 (36.7%)		
b) Schools (school VET)	187,421*	(10.1)	+31%
> women	> 140.191 (74.8%)		
c) Other school VETs	50,727**	(2.7)	-36%
Transition area***	249,790	13.5	-40%
> women	> 97,168 (38.9%)		
Upper secondary track	419,085	22.7	- 7%
> women	> 222,953 (53.2%)		
Universities	485,695	26.3	+33%
> women	> 254,504 (52.4%)		
All entries in 2023	1,849,060	100.0	- 6%

* Full-time school-based VET predominantly in the areas of health, education, and social affairs. This figure does not include 31.218 entries into special school-based VET, among others trainees aiming at dual qualifications (a VET degree and access to university), a figure which declined from 29,177 (2005) to 16,207 (2023); for details see Autor:innengruppe (2024), pp. 186–87.

** School-based VET at professional vocational schools, including those under state (*Länder*) law or in a public-law training relationship (medium civil service [*Mittlerer Dienst*] education and training, for example, the police).

*** In various preparatory programmes to obtain a school qualification or professional experience (for example, internships); increased slightly again in the past two years because of the integration of refugees, especially from Ukraine.

Source: Bundesministerium für Bildung und Forschung (2024), pp. 9, 10, and Table 6 (p. 42); provisional figures of *integrierte Ausbildungsberichtserstattung (iABE)*.

The following observations deserve attention with regard to Table 1:

– First, measured in terms of annual entries, *VET* is still the most important path into the labour market for young people, but its importance has declined slightly, especially the traditional company form of vocational education and training, namely the

apprenticeship system (–12 per cent since 2005). Vocational training in schools (often combined with practical training), in turn, gained in significance within VET and is still strongly linked to traditional ‘female’ professions in health, education and care, women making up almost three-quarters of all trainees. In Germany, for most students, entry into the vocational education track is determined at the age of 10 or 12, when the decision is made to attend secondary school (usually up to the age of 16) or to enter grammar school (*Gymnasium*) or other upper-secondary tracks, which leads to the *Abitur* as a prerequisite for any tertiary (academic) education. Around 50 per cent of students between the ages of 15 and 19 are in vocational training. However, that does not mean they stay on that path. There are – apart from dropping out of school – some opportunities to switch to higher education tracks.³³

– Second, entries into the ‘*transition area*’ account for 13.5 per cent of all entries, particularly relevant for young males (over 60 per cent). This intermediate sector grew mainly in the first decade of this century, reaching a level of 417,649 in 2005, then fell significantly to 224,850 (2021) but expanded again slightly to the current level of about 250,000 due mainly to language training for young refugees from Ukraine. The transition area primarily serves as a buffer for school leavers with little or no formal qualifications (Dohmen, 2023).³⁴ For young people with formal qualifications that enable access to universities or technical colleges, the transition area plays almost no role, at 2 to 3 per cent of entries (Figure E1-2 in Autor:innengruppe, 2022, 168).

– Third, every year about a quarter of young people (22.7 per cent) enter the *upper secondary track* in predominantly publicly provided and financed secondary schools, whose qualification (*Abitur*) provides admission to academic education and training.

– Fourth, at 26.3 per cent, students entering various forms of *higher education* exceed the number of upper secondary students, now also with a slight majority of women and with the more practice-oriented universities of applied science or technical colleges becoming more important over time.

In the vocational training sector, access to jobs is structured ‘horizontally’ through professional certificates, which tends to limit mobility between professions. The ‘vertical’ stratification also limits social mobility, which is reflected, among other things, in the increasing proportion of young people who have university entrance qualifications but enter the VET track. This proportion now reaches around a third of dual career

³³ In international comparison, in both countries the drop-out rate of the regular education tracks, measured as the percentage of 25–34 years-old below upper-secondary education, seems to be high: 18 per cent for men, and 15 per cent for women in Germany, and 20 per cent and 15 per cent in Denmark, respectively (OECD, 2024, Table A1.2, p. 61).

³⁴ In 2005, 86 per cent of young people entered this system without a formal qualification; in 2020 the figure was 70 per cent; the proportion of young people with only a primary school education was 47 per cent (2005) and 44 per cent in 2020; among young people with only a secondary qualification, the figures were 15 and 13 per cent, respectively.

entrants. These school leavers are predominantly in the upper middle and upper classes of the dual system, typically associated with well-paid jobs and respected professions in industry and commerce, such as technicians, industrial mechanics, bank clerks or IT technicians. According to many academic and political experts, this horizontal and vertical stratification of the German SWT system reproduces social inequality across generations (Haasler, 2020, 65; Protsch/Solga, 2016; Solga/Dombrowski, 2009). Overall, studies point to an occupational segmentation of risk in the dual system: high contract termination rates can be observed in occupations in which a disproportionate number of young people with only a primary school leaving certificate (Hauptschule) are found. In other words, professional, company-specific, or individual-specific risk factors accumulate in this transition process.³⁵

Dropping out of a chosen education and training track is a persistent problem. Compared with the dual system (24 per cent), 38 per cent of young people in the school vocational system terminate the contract, temporarily interrupt it, or change their training subject. Proportionally more men than women drop out of school-based vocational training; the opposite is true in the traditional dual sector. Only about half of the school programmes are subject to nationwide regulations; curricula vary between the 16 *Länder* (federal states) and are not sufficiently standardised. They therefore differ in terms of the quantity and quality of education and training providers. The most notable deviation from the original ‘dual system’, and a growing area, is the health sector, especially nursing professions that are regulated jointly by the federal and state governments. Graduates of school-based courses are less likely than dual-vocational graduates to find a permanent job in the short term, and they often need additional training or further education before they can finally establish themselves on the labour market.

The transition sequences after early termination of a training contract are quite complex: almost half of the ‘dropouts’ come back and ultimately complete their training; others complete a period in the ‘transition area’ or take up a fixed-term employment contract. A recent study based on the National Education Panel (NEPS) shows that in many cases dropping out of dual vocational training is a normal search process that ultimately leads to successful reorientation (Holtmann/Solga, 2022). However, a significant minority end up on precarious trajectories, moving between unemployment, diverse labour market programmes or menial jobs.

There is considerable controversy among researchers concerning the ‘transition area’, the aim of which is to mitigate such segmentation at the outset. Some would like to abolish it completely (Dohmen et al., 2021), considering it a complete failure, while others see it potentially as a ‘chance-improving system’ (Arbeitsgruppe 9+1, 2022). The latter note that the transition area should not be assessed primarily in terms of its contribution to the fastest possible access to regular vocational training. They also complain that its function

³⁵ For more details compare Autor:innengruppe (2022), pp. 181–183; Brzinsky-Fay (2022), Dohmen (2023) and Dohmen et al. (2021).

as a second opportunity to acquire higher general educational qualifications has been neglected. They point out that three-quarters of young people with only a lower secondary school education acquire an intermediate qualification at vocational schools in a maximum of three years, thereby significantly improving their chances of starting a career.

In 2022, the majority (35 per cent) of people in the transition area entered the ‘vocational preparation year (BVJ) including one-year career entry classes’; a substantial proportion took part in ‘educational courses at vocational schools that provide basic vocational training that can be credited’ (20 per cent); a further substantial proportion (16 per cent) finished such courses without qualifications; and ‘career preparation measures (BvB) of the Federal Employment Agency’ accounted for only 13 per cent of all beginners in the transition area. Acquisition of secondary school leaving certificates is viewed more positively than vocational preparation measures (Arbeitsgruppe 9+1, 2022). Finally, the report by the *Rat der Arbeitswelt* (World of Work Council) (2021) criticises the fact that the transition area currently includes over 320 funding programmes and initiatives from the federal government, the states (*Länder*) and the EU. The Council suspects that such a large number makes it difficult for young people to choose an offer that suits them.

3.3 *Recent developments and problems*

Various policy reactions to some of the problems mentioned above are worthy of mention, reflecting the solid learning capacity of the German SWT system. The increasing tensions between the shrinking traditional vocational training system and the expanding university and college system have led to efforts to make both subsystems more permeable and to build institutional bridges. This consists of opening some doors to higher education courses for vocational training students. The two most important permeability gates were the opening of higher secondary school attendance to young adults who have completed a vocational training programme (second chance education); and the recognition of previous vocational training knowledge as an element in higher education programmes, particularly for those who have acquired the *Meister* degree (third chance education). However, the overall effect of opening such gates remains modest.

The main approach to institutional bridging combines apprenticeship training with a diploma or bachelor's degree. This model is also intended to promote closer links and permeability between vocational and academic courses. So far, however, such dual study programmes have played a subordinate role in the German vocational training system as a whole and account for less than 5 per cent of all enrolments in the education system.³⁶

³⁶ Graf (2013) provides more details (including its historical development) on what he calls the ‘hybridisation’ of vocational and higher education. In addition, Graf systematically compares the unique German model with other hybrid forms in Austria and Switzerland: in Austria this concerns the vocational

This model emerged in the 1970s in Baden-Württemberg on the initiative of large companies (for example, multinational corporations such as Bosch and Daimler Benz). Private and business-oriented foundations are important drivers of this development. The model combines practical learning with theoretical courses in a compressed form (often in alternating blocks of three or sometimes six months). These are offered primarily by vocational academies, technical colleges, or universities, and sometimes also by company-owned academies. Initially, the focus was on various technical areas of manufacturing industry, but recently business-related services have become more important. After successful completion, students receive a double certificate: a fully recognised vocational qualification and a bachelor's degree. In many cases, however, only internships are carried out, without the acquisition of a vocational qualification (Ansmann et al., 2020).

Broadening and extending vocational training programmes to up to three and a half years is another approach aimed at meeting the increasing demand for high or combined qualifications. A good example of the merging of different professional specialisations and new job profiles is that of 'mechatronics engineer', which combines mechanical and electronic skills and competencies. The 'green' economy is proving to be a strong driver in this direction, especially because such expanded training programmes particularly attract school leavers for whom otherwise only tertiary education would be an option. New qualification requirements arise primarily from the wind power industry, building technology, photovoltaics or solar thermal systems, transmission technology, bioenergy and the corresponding installation and services.³⁷

In the past decade, promising new doors have been opened to improve the permeability of vocational and higher education by linking the VET system more closely with the continuing education system. The Qualification Opportunities Act of 2019 (*Qualifizierungschancengesetz*) introduced the right of employees to access further training funding regardless of qualifications, age or company size if they are affected by structural change (for example, the introduction of digital technologies) or are seeking further training to access a shortage occupation. Interested employees can receive subsidies or indirect support such as educational leave. The funding covers training costs and salary compensation, which must be co-financed by the employer, which thus favours SMEs in terms of risk sharing.

secondary school (BHS), and in Switzerland the universities of applied sciences (*Fachhochschulen*) that offer vocational diplomas or bachelor's degrees on a dual basis.

³⁷ Among young men, vocational training in plumbing, heating and air conditioning technology recently climbed to fourth place among priority career choices, while motor vehicle mechatronic remained in first place; among young women the former first career choice of hairdresser was replaced by office management clerk (*Kauffrau für Büromanagement*) and medical and dental professionals (*Medizinische und zahnärztliche Fachangestellte*) (Bundesministerium für Bildung und Forschung 2024, Figures 7 and 8).

The Act to Strengthen the Promotion of Training and Further Education (*Aus- und Weiterbildungsgesetz*) of July 2023 introduced a Youth Guarantee (*Ausbildungsgarantie*), albeit with the caveat that ‘the primary responsibility of the economy for training the next generation of skilled workers remains untouched’. Some of its components (strengthening career orientation, increasing regional mobility, preparing for in-company training, providing training assistance, developing youth employment agencies as key players) were welcomed by almost all relevant actors. The component of building up external training capacities (*Außerbetriebliche Ausbildung*) in the case of the long-term serious undersupply of private VET places, however, met fierce resistance from employer organisations.³⁸ This option was therefore toned down to become a ‘last resort’, with such strict preconditions (especially approval by the social partners) that its implementation seems highly unlikely.

Finally, only the care sector testifies to a fundamental and lasting reform in Germany. In 2017–2020, the federal government tried to raise the attractiveness of vocational training in this sector through a generalist approach in the syllabus (comprising child, hospital and elderly care), leading after three years to the acknowledged ‘nursing professional’ qualification (*Pflegefachperson*). At the end of their study, ‘nurse apprentices’ can specialise as a ‘child-, hospital- or elder nurse’. Financing is now ensured through a collective fund (*Ausgleichsfonds*) administered by the *Länder*, to which mainly hospitals and the inpatient or outpatient care facilities contribute, and to a lesser extent the *Länder* and care insurance companies. There is now a legal right to training remuneration, even for the newly created academic track, that is, for the care BA with at least six semesters’ study (Bundesregierung, 2017; Bundesministerium für Familie, Senioren, Frauen und Jugend, 2020). Young people who often previously had to pay fees for training schools can now count on financial support. The apprenticeship allowances in this sector were recently increased and now are the highest in any sector based on collective agreements made mandatory by the government through sector-wide extensions. Since then, the number of trainees has been growing. In addition, sector-wide wage compliance rules (*Tariftreuregelungen*) and a minimum wage for qualified nursing staff of 18.25 euros (compared with the overall mandatory minimum wage of 12 euros) are an effective brake on low wages in this sector.

These improving reforms, however, have not been able to stem current global trends related to demographic, technological (digitalisation) or ecological change (climate crisis). The indicators with regard to this new problem load are telling. Although demand for dual training among young people has recently increased again, it remains significantly below the number of training places offered by companies. It is becoming increasingly difficult to match supply and demand for training places with the result that an increasing proportion of unfilled training places is confronted by an equally growing number of young people who are unsuccessful in their search for a training place. As of

³⁸ The Federation of German Employers (BdA) and the Central Association of German Craft (ZDH).

30 September 2023, this affected almost 64,000 young people, 5 per cent more than in the previous year. This is a very worrying development given the major shortage of skilled workers, as researchers from the German Institute of Labour Market and Vocational Research (IAB) observe (Fitzenberger et al., 2024). The result of this underdeveloped adjustment capacity is alarming. In 2022, almost 2.9 million people between the ages of 20 and 34 had no vocational qualification, which corresponds to a share of 19 per cent.

3.4 Summary assessment of the German school-to-work transition system

The main problem with the German dual apprenticeship system lies, first, in its dependence on employers' willingness to offer apprenticeships, which is closely linked to their economic situation (Troltsch/Walden, 2007). Therefore, it was not surprising that the number of new training contracts fell during the Great Recession of 2008/2009 and during the Covid-19 crisis. The number of contracts slightly increased recently, but did not return to the pre-Covid level (Fitzenberger et al., 2024).

Second, preparation for the use of new technologies, in other words companies' 'absorptive capacity', seems to be rather slow compared, for example, with the Swiss case (Backes-Gellner/Lehnert, 2023; Bellmann/Schmid, 2023). Dicks (2022) recognises large gaps between curriculum development and education and training needs in Germany as a result of digitalisation and automation. Although the (further) development of curricula is only one governance instrument among many, it is obvious that many professions are heavily affected by digitalisation, decarbonisation and automation. Furthermore, as the responsibility for imparting these new technologies to young people lies mainly with professional teachers and trainers of individual companies, up- or reskilling such professionals is another urgent matter that has been neglected in the German VET system.

Third, since the Covid-19 pandemic, discrepancies between supply and demand of training places have accelerated further (Fitzenberger et al., 2024). In the meantime, the 'classic' mismatch between supply and demand, which means that job offers often do not match applicants' certified skills, is still a major component of such discrepancies. However, the mismatch of expectations, which means the divergence between applicants' aspirations and employers' skill-expectations – identified as a central problem of risk sharing (Schmid et al., 2023, Section 2.2) – is at 43 per cent now the most important factor explaining the overall imbalance in labour supply and demand (Autor:innengruppe, 2024, 183–84). It probably results from a deficient career orientation in school.

Fourth, and probably most important, the change from an employers' market to an applicants' market has continued and increased the matching problems on the training market. The shortage of skilled workers caused by a drastic demographically-related

decline in the number of young workers and further enhanced by the pandemic is alarming. IAB reports record substantial job vacancies and points to an increasing number of young adults (20–34 years old), often young people with a migrant background, who do not have a vocational or professional qualification, making up almost one-fifth of this age group (Fitzenberger et al., 2024).

Closing the skills gap will be the biggest challenge for the German SWT system in the next decade. To meet the need of better promoting vocational training, a first step has been made with the Alliance for Training and Further Education initiative in 2015 (and renewed in 2023), which was signed by representatives of the federal government, the Federal Employment Agency, employer associations, trade unions and the federal states. This alliance has certainly been supportive in preparing the latest reforms, but it has no legally binding capacity in the sense of the covenants described in Section 1. More fundamental reforms seem to be necessary but are hardly to be expected as there is still a broad consensus (if not pride) that the German dual school-to-work transition system is basically sound. Furthermore, German federalism – with its mixed responsibilities but many veto options (Linder, 2007; Scharpf, 2006) – does not seem to be particularly suited to such reforms.

In brief, the future challenges for the German further SWT governance system lie in greater efforts to include low-performing students in the traditional vocational training system, to tackle the shrinking capability of SMEs to provide sustainable training places, to expand hybrid forms of vocational or higher education, and to link initial vocational training with continuous vocational education or training to strengthen teenagers' and young adults' labour market capabilities.

In the face of these challenges, it is doubtful whether the latest reforms and the recently enacted vocational training guarantee (*Ausbildungsgarantie*) will be a panacea. This brings us back to the starting question. Can and should Germany learn from Denmark, which seems to be better at steering young people and young adults into sustainable work? To address this question, we turn to the learning conditions and the potential lessons for Germany.

4. What can Germany learn from Denmark?

The slogan 'learning from other countries' does not have a good reputation in academic or political discourse. References to a neighbour's 'greener grass' can be countered easily. First of all an easy riposte is 'you didn't look properly'. In other words, the grass may look greener, but there are a lot of weeds or even ecologically harmful fertiliser in it – in labour market terms, for example, unemployment might be low but it is not being measured properly or it might be kept down at the price of inequality. Second (and more seriously): 'you overlooked the fact that the context is different', especially in terms of history or culture, which is why other countries 'cannot be copied'. Third, it may be that

those sceptical about cross-border learning do not even dare to look because they consider their own grass to be the best of all worlds.

Regarding the first objection to learning from other countries, we refer to the findings of the literature on global knowledge diffusion, which encourages policy transfer and, in a recursive process, promotes the further dissemination of knowledge and ideas that feed reform discourses through advocates (Stone et al., 2020); we also hope to be able in the following to further substantiate the favourable impression that Denmark left in the case study by comparing systematically school-to-work transition performance indicators.

We have already at least partially fended off the second accusation with the comparative statistics on transitions; however, the different context elaborated there still requires an explanatory, in the sense of transferable, generalisation.

The third and probably most interesting case corresponds to Karl Deutsch's famous dictum: 'Power is the ability not to have to learn', which leads to 'pathological learning'. It is worth recalling this dictum in full because it anticipated insights of modern behavioural economics (Kahneman, 2011): 'By pathological learning in the case of an individual or an organisation we may understand a learning process, and a corresponding change in the inner structure, that will reduce rather than increase the future learning capacity of the person or organisation. Will and power may easily lead to such self-destructive learning, for they may imply the *overevaluation of the past against the present and future*, the *overevaluation of the experiences acquired in a limited environment* against the vastness of the universe around us; and the *overevaluation of present expectations against all possibilities of surprise, discovery, and change*' (Deutsch, 1966, 247).

In what follows we will consider all three reservations against 'learning from others', knowing very well that we are on slippery ground in each case. Finally, we formulate some concrete reform proposals for discussion.

4.1 Is the Danish school-to-work transition system superior to the German system?

As elaborated in the first theoretical section, the transition from school to work should ultimately enable young people to achieve professional sovereignty, in other words, to earn income for a decent (at least) living through employment. In addition, it is also about the ability of young people to assert themselves in the face of the changing demands of the labour market and to make their own contribution to solving global – especially digital and green – structural change (Schmid et al., 2023, 15–20). The

performance indicators showcased in Table 2 are an attempt to provide an approximate answer to the question posed in this sub-section.³⁹

Table 2 Comparing the performance of school-to-work transition systems in Germany, Denmark and the EU25/27 (young adults aged 25–29 or 30–34 as a % of total age group; rounded up or down to whole figures), 2020, 2021 or 2022

	GER	DK	EU27
Level of education (30-34)			
(1) Young adults below upper secondary	14	16	15
(2) Young adults with upper secondary/post-secondary	48	32	43
(3) Young adults with tertiary	38	53	42
Level of employment (30-34) *			
(4) Employment rate below upper secondary	58 (32)	63 (37)	56 (32)
(5) Employment rate upper secondary	86 (68)	83 (61)	80 (61)
(6) Employment rate tertiary	90 (72)	90 (81)	88 (79)
NEET-risk / unemployment risk (25-29) **			EU25
(7) NEETs upper/postsecondary education general / unemployed	12 / 3	7 / 1	16 / 6
(8) NEETS vocational track / unemployed vocational	8 / 2	7 / 2	16 / 7
(9) NEETS tertiary / unemployed tertiary	6 / 2	11 / 6	9 / 4
For info: relative income (25-64) ***			EU25
(10) Below upper secondary / post-secondary non-tertiary	72 / 113	90 / 124	84 / 109
(11) BA or equivalent	152	113	135
(12) MA or equivalent	184	144	171

The table is partly based on Table A9 in Schmid et al. (2023, 130); EU25 = countries that are members or accession countries of both the European Union and the OECD. The 25 countries are Austria, Belgium, Bulgaria, Croatia, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Poland, Portugal, Romania, the Slovak Republic, Slovenia, Spain, and Sweden. NEET = not in employment, education, or training; NEET rate minus unemployment rate = inactivity rate (not available to the labour market).

Sources: For lines 1–6, Eurostat, special extracts and authors’ calculations, year 2020.*) Lines 4-6: “Employment” in 2020 according to the Eurostat definition, i.e., any regular employment over one hour in the reference period (in brackets the values corrected for part-time estimated according to Figure A10 [(Schmid et al. 2023, p. 131)].**) Lines 7-9 see OECD (2023: Tab. A2.2, p. 70), figures for 2022;

When it comes to the performance indicators of school-to-work transition systems, we focus on young adults aged 25–34 because at this age the transition from school to work

³⁹ Further indicators would be helpful for comparing the performance of school-to-work transition systems, such as: the match of labour demand and supply (ratio of vacancies to job seekers or unemployed); the ability to adapt to structural change (professional mobility); chronic shortages of skilled workers; the fit of qualifications with the requirements of a green and digital economy; sustainable employability (for instance the proportion of young adults in further training and education); regional mobility; labour productivity.

should have been completed. Because of the increasingly longer period in which young people remain in education, this is particularly true for the 30–34 age group. Professional sovereignty should be achieved by this age at the latest. Because the institutional (causal) contextual factors are relatively stable, we assume that the young cohorts (15–19, 20–24, sometimes even 25–29) will end up with the educational and employment status of today's young adults (30–34). The age group comparison can therefore – certainly with methodological reservations – be used as a pseudo panel. Briefly summarised, the evaluation of Table 3 draws attention to the following differences in performance between the Danish and German SWT systems.

With regard to education, the proportion of young adults (30–34) below upper-secondary level, remarkably, is almost at the same level for both countries, near the average of 15 per cent for the EU27. The real differences appear at the ‘middle’ and ‘high’ levels. After our excursions deep into the Danish and German education systems (Sections 2 and 3), it is not surprising that the strength of the traditional dual system in Germany lies at the middle level, in Denmark at the tertiary level.

It is well known that the employment level – in other words, the income generating level – rises along with qualifications; the EU27 demonstrates this clearly (Table 2, lines 4 to 6). While only 56 per cent of the low-educated are in employment, 88 per cent of the highly educated have a job (weighted averages). Denmark and Germany display higher employment at all three educational categories than the EU27 average. With some caveats (see below) this observation can be interpreted in a positive way. Both countries have education and training systems, including a strong – although different – vocational orientation, that endorse a high level of income generating employment, which is – according to our normative approach – a precondition for individual sovereignty.

A discernible distinction can be drawn between the two countries only at the tertiary level, when corrections are made for part-time employment (see values in brackets). Germany reaches an equal employment level only with a higher degree of part-time work which can be interpreted as a lower level of income-generating sovereignty, especially for women because they carry the main ‘burden’ related to part-time work. Moreover, under the assumption that part-time work in Denmark is more often combined with further education or training, especially among the young, this difference hints at a further advantage for Denmark related to our central goal of sovereign earning capacity.⁴⁰

⁴⁰ Within the Danish retail sector, 69% of employees work part-time. The share is even higher in industrial cleaning (73%) and hotels/restaurants (80%). In fact, most private service jobs offer fewer than 15 hours per week. Marginal part-time workers are often young people, typically students, 76% being young students in retail, pointing to a possible win–win situation for both sides of industry, in which students wishing to supplement their student allowances with earnings from a marginal part-time job are matched by employers’ needs for highly flexible and cheap labour to match changing business cycles. This is further underpinned by the fact that young people and students are not only overrepresented among marginal

When it comes to the risk of becoming NEET among young adults,⁴¹ both countries perform significantly better than the EU25 average. There is one exception, however: at the tertiary level, both the NEET risk and the unemployment risk in Denmark exceed the EU25 average. On the other hand, Germany performs consistently better at all educational levels, especially at the tertiary level. A caveat might therefore be made about the better performance in Denmark. However, the more generous Danish unemployment system might mean that people even for short transitions will register for unemployment benefits whereas this might not be the case in Germany, where those who have just left secondary education will not expect to have access to benefits. Also, students who spent time in ‘folke højskole’ and the like will also be registered as NEETS, which in this case is obviously not problematic but rather to be interpreted in a positive way. Danish youth unemployment tends to be of short duration and can therefore be interpreted as ‘productive transition unemployment’ reflecting complex or complicated job search processes, whereas in Germany youth unemployment tends to be of long duration, reflecting a segmented labour market (Schmid, 1996, 776; Schmid et al., 2023, Table 3, p. 37).⁴²

Income expectations play a major role in young people’s choices of education and career. Lines 10 to 12 of Table 2 (including older adults here due to a lack of data) indicate that the gap in income between the low-qualified (here below upper secondary qualifications) and the high-qualified (BA and/or MA) is substantially higher in Germany than in Denmark, even compared with the EU25 average. This gap has increased continuously and sharply in Germany since 2000, more so for men than for women (Bosch, 2023). Only employees with higher-level vocational training or with advanced training to become a master craftsman or technician were able to keep up to some extent with tertiary educated people. The Danish SWT system appears to provide fewer economic incentives than the German one to pursue an academic rather than a vocational or middle-level track: the percentage of 25–64 year old adults earning more than twice the median by level of tertiary attainment (full- and part-time workers) is about 6 per cent in Denmark but about 30 per cent in Germany (OECD 2023, Figure A4.4. page 98).

The comparison of performance indicators indicates that the Danish SWT system shows overall better values than the German one. This applies especially to the important indicator of the level of formal education achieved, that is, the goal of releasing as few

part-time service workers, but are also exposed to an earnings penalty, their wages being only about half that of their older peers in retail and hotels (Larsen et al., 2019, 143 and 153).

⁴¹ Unfortunately, and for a consistent comparison of performance, NEET figures for the age group 30–34 are not available.

⁴² Higher unemployment might be linked to the more common moves from job to job, often with spells of unemployment between, and as part of the ‘flexicurity’ model. OECD data also show the different pattern of unemployment by duration, for example, in 2023, 58% of Danish young unemployed people (15–24) were unemployed less than three months, while in Germany it was ‘only’ 38%; in Denmark, only 10% were unemployed more than one year, in Germany 36% (see OECD Data Explorer • Incidence of unemployment by duration).

young people as possible into the labour market without any vocational or higher education, but also to the job quality found in other studies. The job quality in Denmark is highest for the performance indicator ‘skills and career development’ and the governance indicator ‘collective interest representation’ (Hansen/Leschke, 2022; Piasna, 2023). The close institutional link between the Danish VET system and continuous education and training also seems to be an advantage in helping to avoid a large separate ‘transition area’ as in Germany.

In all these respects, Germany should try to learn from Denmark. On the other hand, Denmark faces higher NEET rates for tertiary educated young adults than Germany, especially in relation to unemployment. Although we interpreted this pattern in a positive way (productive ‘search’ or ‘transitional unemployment’), sceptics might see it rather as sign of Denmark’s more urgent need to invest more in dual learning systems, that is, to combine higher education tracks better with vocational orientation and work experience. In what follows, we will restrict ourselves to specifying the lessons for Germany, recapitulating our theoretical approach and the principles of risk sharing and poverty sharing.

4.2 *Principal lessons for Germany*

As outlined in Section 1, the theory of transitional labour markets proposes two overarching principles of good governance: power sharing and risk sharing. These are principles that abstract from the individual case and can therefore be ‘copied’. More provocatively, the common belief that ‘you cannot copy other countries’ seems to be more a sign of pathological learning than of scientific wisdom.

Regarding power sharing, it makes – first – a difference whether there are strong institutional veto players that could block necessary reforms or even only piecemeal adjustments to changing framework conditions and corresponding challenges. Second, good governance depends on the quality of horizontal (for example, between ministries) and vertical cooperation (for example, between local, regional, or industrial and central decision-makers). This also avoids the so-called ‘tragedy of the commons’ (Ostrom, 2008): the ‘garden’ of dual education and training must be tended together. All actors must participate and make their contribution. One crucial feature of balanced power sharing must be to avoid concluding agreements that are permanently at the expense of minorities, leading to structural inequality. Representing minorities in decision-making processes, giving them a voice, is important. Second, and a point that Eleanore Ostrom (2008) stresses following Hirschman (1970), any effort to develop new rules for governing and managing complex resources (as is the case for VET) is likely to generate unexpected results and be subject to initial errors. Thus, all technological and institutional interventions need to be approached as ‘*adaptive processes*’ that help to generate information about errors, so that those directly involved and others can learn from them rather than continue to make them. We recall here the dictum of Karl Deutsch

(see above) and the apt characterisation of the Danish system as a ‘concept of cooperative adaption’ by Jørgensen (2002:4). Finally, because qualifications and skills development are crucial not only for the functioning of labour markets, but also for the power of employees to exert their voice (for example, to negotiate on equal terms), balanced industrial relations also make a difference, as the case of Denmark (job quality index) shows.

Risk sharing should be discussed not only as ‘burden sharing’ but also as ‘opportunity sharing’. First, it makes a difference how actors perceive risks and evaluate the fairness or justice of the results when they take risks, in our case for instance when changing job, attending further training, or even launching a start-up venture. When this kind of beneficial risk taking cannot rely on solidarity in case of failure, people will remain risk averse. Young people in particular tend to shy away from taking risks in their decisions because they are commonly dependent on their parents and thus have no or limited reserves. A system of active security can help them overcome this. Good examples include universal state educational grants as in Denmark. Although these grants have been made more contingent by reforms in the past two decades (especially in 2010 and most recently with reforms set to be effective from 2027), with the aim of ‘incentivising’ young people to take up studies more quickly, stay on course and finish early, they still provide a solid foundation of individual sovereignty at an early stage. These and other safeguards, including longer stays at *folke* high school, which some young people embark on in the tenth grade (*‘efterskole’*) or after finishing school (*‘højskole’*) but before taking up vocational or higher education, allow them to explore their interests and to test a range of career and employment opportunities. The principle of moral assurance also applies to companies. As hiring young people or apprentices is increasingly associated with risks, flexible wage cost subsidies (including contributory ‘bonus-malus systems’) to help finance training, job retention or further training can overcome companies' risk aversion. In other words, companies must be supported in building up the financial capacities to pay decent ‘wages’ for apprentices or job-starters.

Another criterion of fair, as well as effective ‘risk sharing’ is institutional (or fiscal) congruence of costs and benefits, based on the principle that ‘whoever orders must also pay’. Institutional incongruence might lead to insufficient and ineffective investments in ‘active’ labour market policies, especially in continuous education and further training measures (Schmid, 1996, 776–777). The Danish system of social partnership combined with pooling of public and private resources and a strong role for Danish communities in implementation might be a source of inspiration, here not in the form of direct copying but in the form of the underlying principles that resemble the concept of covenants developed in Section 2.

Summing up, the Danish system of school-to-work transition appears to have the following features that Germany could learn from: (i) an earlier career orientation in school to reduce uncertainty in professional choice; (ii) containment of speculative risk-

taking through credentialism, that is, unjustified income disparities in accordance with formal educational qualifications; (iii) financial security for young people that encourages risky trial and error during their long but uncertain path to attain professional sovereignty (though with some recent reductions in terms of their freedom to change study course); (iv) ongoing updating and modularisation of VET curricula to improve adaptability to demographic changes and developments in the world of work, such as digitalisation, globalisation and decarbonisation; and (v) close cooperation between schools, companies, VET associations and municipalities, leading to reliable agreements (covenants).

But even some weaknesses of the Danish system can provide lessons, for instance the fading of VET's attractiveness in general, and the rather unstable VET tracks in the tertiary sector. Finally, the recently stronger emphasis of Danish reforms on mandatory activation, 'learnfare' or even 'workfare' are in contrast with our normative ideal of sustainable school-to-work transitions and professional sovereignty. Before we turn to these challenges, some observations regarding German's ability and willingness to learn are in order.

4.3 *What about Danish and German learning capacities?*

As a small country heavily exposed to the global market, Denmark lacks (see Bellmann/Schmid 2023 on Switzerland) the power it would need *not* to have to learn (Graf, 2021; Katzenstein, 2015). The reform activity in Denmark since the turn of the millennium was impressive, although not always in the direction of the ideal welfare state once defined by Danish academic Esping-Andersen (1990). To some extent it has even been in the opposite direction, namely towards workfare (Carstensen/Ibsen, 2021; Hansen/Leschke, 2022), despite proudly raising the 'flexicurity' flag so much cherished at the top of the European Union (Wilthagen, 2007).

In this context, it seems to us important to note that 'professional sovereignty' (the central aim of sustainable work transitions) is to some extent in critical contrast to Esping-Andersen's 'social-democratic' ideal of *decommodification*: 'A minimal definition [of decommodifying welfare states] must entail that citizens can freely, and without potential loss of job, income, or general welfare, opt out of work when they themselves consider it necessary' (Esping-Andersen, 1990, 23). First, 'self-reliance' (or 'civil self-sufficiency') in the sense of Immanuel Kant (*Selbständigkeit*) is an important element of individual autonomy ('freedom to act') which cannot be reduced to total independence from the market ('freedom from want'); second, one cannot neglect 'moral hazard' as a fundamental feature of human society. From these premises, Esping-Andersen's definition of 'decommodification' might be read as an invitation to moral hazard. Individual property as a prerequisite of 'self-reliance', however, even in the sense of social or citizenship rights (Marshall, 1950/92), must include the obligation to consider the implications for others of one's own wishes. This is why good governance

comes in to guarantee a fair consideration of all wishes, including the consideration of doing one's best for the welfare of the whole community. And this is also why the theoretical framework of transitional labour markets (Gazier/Schmid, 2002; Schmid, 2020) emphasises 'moral assurance' (as a counterpart to 'moral hazard') as a requirement for enhancing individuals' as well as companies' capacities to act sustainably for the benefit of the community.

Compared with Denmark, given its size Germany seems to have more power not to have to learn. To date, Germany has been able to afford federal and corporatist structures that are more rigid and conflict-ridden than for example small Switzerland and Denmark (Linder, 2007; Scharpf, 2006), where there are no strong institutional veto players. Apart from the 16 states (*Länder*), German organisations that provide vocational training, such as the chambers of industry and commerce, have strong veto positions. Furthermore, greater geographical distances complicate the highly informal – yet institutionalised – network-based agreements between relevant social partners, as described in the Danish case. In addition, the dialogue between the social partners in Germany is often more confrontational than in Denmark and closely linked to wage negotiations, including on apprentice pay. To date, Danish polycentric governance has been successful in defending autonomous wage negotiations of the social partners.

All these structural features explain why the Danish reforms have been more fundamental and far-reaching than the German ones. Based on established theories of institutional change (Streeck/Thelen, 2005; Mahoney/Thelen, 2010), they can be interpreted as a conversion, that is, as a new interpretation of the original welfare state ideal. In contrast to reforms in Switzerland (Bellman/Schmid, 2023), however, these reforms were less concentrated on positively supporting education and vocational training. Rather, the focus was on incentivising returns to education through mandatory activation and substantial reduction of benefits (Carstensen/Ibsen, 2021; Hansen/Leschke, 2022). Although the German reforms were also partly fundamental regarding social and labour market policy, corresponding to some extent to the Danish reforms in terms of restricting benefits and enhancing mandatory activation (*Hartz IV*, more recently renamed *Bürgergeld*), this part of the reforms were never supported by all key players, neither was there a direct focus on incentivising young people to return to education (Schmid, 2019). The German VET reforms, however, can be described as institutional stratification that adds new elements to the existing traditional institutions, particularly in the form of dual higher education. These additional institutional layers are closely tied to the interests of large and transnational companies, which seem to have abandoned a consensual process of vocational training reform rather than wanting to play a leading role, a situation that seems to have parallels with Denmark (Ibsen/Thelen, 2020, 2024).

For Germany, only the care sector exhibits a fundamental learning process.⁴³ Preliminary evaluation studies testify to promising developments, but hint at still existing important gaps: frequent and well-designed practical guidance and a transfer of information between nursing school and clinical placement appear important but insufficiently implemented; data show an increased need for support services; practical learning design and dialogue between theory and practice appear challenging, while support services should be expanded (Olden et al., 2023). Another, empirically rich study on occupational choice concludes that the increase in training allowances in the care sector is going in the right direction but needs to be complemented by significantly improved earnings and career prospects later when actually pursuing the occupation. Apart from economic motives, the image of an occupation plays an important role in occupational choice. So far, ‘caring’ work still has connotations of a low education or even intelligence, so that young people from ‘upper middle class’ and especially from the ‘upper class’ find caring careers unattractive (Ebbinghaus, 2022). Adding additional intellectual challenges and responsibilities to curricula in care occupations (for example, by adding tasks related to medical or psychological issues) might be a further step to raise the attractiveness of this sector; the newly introduced curriculum for the bachelor of care qualification hints in this direction.

Can Germany continue to afford its hesitant stance with regard to learning from its neighbours or from best-practice experiences and maintain its institutional patchwork of school-to-work transitions? Will its ‘world’s most modern law’ (according to then Chancellor Olaf Scholz) on skilled worker immigration compensate for its piecemeal approach? Or is it not time to think about more fundamental and far-reaching reforms? Can the Danish experiences provide inspiration?

4.4 *Some thoughts on the reform of the German system of school-to-work transitions*

Drawing on our analysis, we conclude that Germany can learn from Denmark in at least two ways: first in relation to risk sharing, the costs and benefits of investing in vocational education and training (VET) seem more balanced in Denmark than in Germany; second in relation to power-sharing, Denmark seems to face less imbalance in and between political decision-making and implementation than Germany does. In what follows, we try to substantiate these generalised insights.

Teenagers and young adults are confronted with a multitude of risky decisions: choosing an occupation or, as has often been the case, a vocation (*‘Berufung’*) implies lots of uncertainties related to individual talent, market developments or technologies, as well as the responsiveness of the peer group. This choice is often further fraught with

⁴³ One reason for this probably lies in the fact that the care sector is in the main responsibility of the central government, whereas education and training of preschool nurses (*Erzieher, Erzieherinnen in Kindergarten*) belong to the responsibility of the Länder; no unified fundamental reform of this sector is in sight despite of the drastic lack of skilled labour as well as large deficits in preschool education.

decisions related to where to settle, finding a mate, founding a family, caring for frail elderly family members, and so on. In such a ‘compressed work career’ (Schmid, 2008, 177) it is important to be able to rely on a solid financial background independent from parents or other authorities possibly interfering in the process of personal identity building. Denmark’s universal education grants, even if increasingly conditional in recent times, are preferable to the means-tested loans available in Germany, which are rather meagre to boot and have to be repaid up to a maximum of 10,000 euros.⁴⁴ Young people from wealthy families, on the other hand, do not have to worry about money and might be inclined to speculative risk taking and study more prestigious subjects, especially if the corresponding jobs are highly paid later on. Again, even in this case, Denmark provides fewer economic incentives for such behaviour because of the relatively low-income differentials, as shown in Table 2.

This is not the place to discuss in detail how the Danish principle of financial sovereignty at an early stage in personal development could be ‘copied’ in Germany. More attractive apprenticeship allowances, as mentioned in the case of the German care sector reforms, hint at one possible direction to be taken; less restrictive and more generous ‘Bafög grants’ could be another possibility; even individual drawing rights from an education and training fund might be an option (Schmid, 2011, 98–105).

Related to the supply side of apprenticeship places, both countries suffer from a declining involvement of company investments in VET and a deterioration in the public image of VET. Denmark, however, still seems to have the advantage.⁴⁵ First, the state can compensate for this deficit to some degree by its own vocational capacities or the recently established vocational academies, furthermore by enforcing company compliance, at least at the municipal level, through higher penalties for not providing more apprenticeship places and/or inducing (through negotiation) an increase in employer contributions to the VET funds (AUB).

Danish ‘polycentric’ governance (or ‘cooperative adaptation’), which involves the inclusion of all relevant actors, seems to be a better bet than Germany where veto players

⁴⁴ In Germany they are called ‘Bafög’ grants after the *Bundesausbildungsförderungsgesetz*. In 2022, the average monthly amount was €611; about one sixth to one fifth of students receive Bafög. In September 2024, the Federal Constitutional Court rejected the complaint of a student that Bafög benefits are too low on the grounds that as long as the individual subsistence minimum is guaranteed the state is free to determine its own priorities with regard to how to distribute its scarce resources; http://www.bverfg.de/e/ls20240923_1bvl000921.html.

⁴⁵ Ibsen/Thelen (2024) characterise this advantage nicely as the difference between ‘arrangers’ (Danish VET policymakers) and ‘orchestrators’ (German VET policymakers). Whereas the German state continues to have limited powers with regard to VET (Busemeyer, 2012), the Danish state has built on its capacities over time and shifted the balance of power within the VET system. This shift has enabled the Danish state to partially redirect VET toward providing second-chance training for young adults, something the German state has been unable to do. The key difference is that, to maintain the metaphor, whereas the *orchestrator's job is to develop, enhance or complete an existing piece of music* while adhering as closely as possible to the composer’s original creative vision, *arrangers rework and adapt it* (authors’ emphasis).

may still prevent or at least retard even piecemeal reforms. The Danish social partners and municipalities are involved not only in decision-making but also – and maybe especially – in implementation, involving ‘adaptation’ through flexibility in interpreting the rules and learning through continuous monitoring. As German industrial relations are more antagonistic than those in Denmark, following the Danish model is obviously more difficult. Some further movement in accordance with the German tradition but in the direction of Danish polycentrism (covenants) might nevertheless be possible. For example, the already known ‘compacts for work’ (*Bündnisse für Arbeit*) or ‘alliances for training and education’ under the lead of the *Länder* or the federal government should be made more stringent in terms of financial commitments; and they should be strictly monitored to allow ‘pacing’ (Hirschman) in accordance with commonly agreed interim goals to overcome the often-observed impasses characteristic of these institutions.

Germany's recently introduced ‘youth training guarantee’ (*Ausbildungsgarantie*), however, falls short of expectations. It allows the provision of VET outside the company only under the approved condition of a significant regional undersupply of training places, a currently unsatisfactory condition enforced by some key ‘social partners’ and most of the *Länder*. In a situation of overall shortages of skilled labour and an increasing independence of work from the place it is performed such restrictions on building up external training capacities are mistaken. Generally guaranteed access to external training places could not only increase the chances of vocational training for young people who are unsuccessful in their applications for in-company training after leaving school. Such capacities could also give rise to innovative pathways for dual vocational education and training.

Other options could complement such capacity-building, for instance increasing young people's regional mobility (as a functional equivalent of immovable local training institutions) through more generous coverage of travel, moving and accommodation costs. Regional transition management through youth career agencies (*Jugendberufsagenturen*) has recently been set up but could play an even more central role as an institutional device for networking key actors. The already established institution of inter-company apprenticeships (ÜLU) could be strengthened through a stronger commitment of the federal government or the *Länder*. Flexible handling of the premium for placing apprentices from external training institutions into ‘regular’ apprenticeship places should be made possible. In other words, instead of the current lump-sum (*Vermittlungspauschale* of €2,500), incentives according to individual or regional skill-needs would probably make this ‘stepping stone’ to the ‘regular’ labour market more effective. Here again, the Danish ‘taximeter’ and ‘bonus-malus’ system could be an inspiration to ensure the right incentives.

Further additions are conceivable with regard to capacity-building for implementation, especially the modular structuring of vocational training offerings (Bellmann/Schmid, 2023; Bellman/Helmrich, 2024). Modules that are manageable for young people and

companies not only increase transparency and acceptance but are also indispensable for vocational training policy at national and, increasingly, European level (European Qualifications Framework and European Credit System). It did not happen by chance that one of the most important elements in training reforms for electricians and plumbers in Denmark resulted in an increasing modularisation of curricula, as well as raising skill requirements (Carstensen et al., 2024). Many German vocational experts are sticking to comprehensive vocational or professional profiles and are resisting the trend towards modularisation. It is time to question this historically evolved ideal, not least from the point of view of its status-oriented and exclusive tendencies. Instead, VET policies should focus more on certified skills or competences, the quality standards of which have to be continuously adapted to technological developments.

Having transparent education and training modules would also make it easier to institutionalise a broader set of continuous VET programmes. The existence of the latter explains the higher level of activity in lifelong learning in Denmark. In Germany, in 2022, only 83,500 adult candidates (33.7 per cent of them women) successfully passed an advanced training examination in accordance with legal vocational standards (BBiG or HwO). This is only around 0.2 per cent of all people in employment, far from the '*Weiterbildungsrepublik*' envisaged by the federal government (Bundesministerium, 2024, 20).

The fact that there are 2.86 million young adults aged 20–34 (19.1 per cent) who have not completed vocational education or training (mentioned at the beginning) must also be differentiated in this perspective. As scandalous as this figure may sound, it may rather reflect the untenability of a comprehensive vocational ideal than a real problem to be solved. First, this group also includes people who have dropped out of training or studies but who nevertheless may have marketable labour market skills; second, the corresponding rate among German citizens without a migration background was 'only' 11.6 per cent. This is still too high. The rate among people with direct personal migration experience was 39.1 per cent; the rate among second generation migrants was 20.4 per cent.

Adaptation to the increasing diversity of the workforce is therefore necessary. To date, German curricular design has hindered mutual recognition and the crediting of vocational training. This applies particularly to immigrants and refugees, but generally also to the informal acquisition of skills in companies.

One crucial problem that needs to be tackled more purposefully is the gathering of valuable and reliable information on future skills, combined with transparent assessment of individual talents. The internships for career orientation provided for in the German federal government's new VET concept, for example, could be better prepared, supported and evaluated, including guided self-evaluation, as in Switzerland. Extensive vocational orientation should become an early subject of formal schooling, as in

Denmark. Its potential for closing the increasing gap between individual aspirations and employers' skill needs cannot be overestimated.

Experts not only warn of the importance of keeping an eye on increasing teacher shortages, but also recommend greater professionalisation among teaching staff, at the level of both general education and vocational schools or academies (Autor:innengruppe, 2024, 190–194; OECD, 2014, 418–443). Both Germany and Denmark could learn something from the Swiss approach to this challenge for the VET sector. By introducing the vocational 'matura', raising the standards of teachers, especially at the (nowadays prestigious) universities of applied sciences, and even inviting master craftsmen ('*Meister*') to teach at these institutions, the Swiss dual education system has a better foundation than at least the German one (Bellmann/Schmid, 2023).

Germany might also learn something from Denmark regarding the age and gender structure of teachers. Danish teachers are on average younger (which may give them an advantage with regard to being up-to-date with new technologies). Furthermore, the proportion of Danish men who teach in pre-primary and primary schools is higher than in Germany, and more Danish than German women teach at tertiary level, which in turn has the advantage of providing better balanced gender role models (OECD, 2024, figure D5.2).

Furthermore, as the analysis of the qualification-related wage structure has shown, young people are attracted by offers of upgrading education or training not only because it promises increasing earnings later in the life course, but also because it opens the door to status-promoting management positions, which many people find attractive because they enhance their professional sovereignty. This strategy, however, might not be without its trade-offs. As the Danish case has also shown, raising skill requirements might sharpen the tendency towards exclusion, especially for young people with low cognitive skills. Here, a strategy of 'employment first' instead of 'education first' by means of corresponding subsidies might be a feasible alternative. Such subsidies could take the form of either earned-income tax credits or wage-cost subsidies, depending on the situation. This requires further scrutiny.⁴⁶

Finally, and by analogy to the Danish financing model, it is conceivable to equip the Federal Employment Agency (*Bundesagentur für Arbeit, BA*) with a targeted vocational education and training fund to significantly strengthen its autonomous implementation capacities, in contrast to the – often politically driven – discretionary decisions of the federal government. Such a fund could be financed by a mix of general taxes and VET-specific contributions by employers and employees, which would make the BA more independent of the support of politicians who often allocate financial resources according to the state of the political weather. Such a fund would eventually fulfil the

⁴⁶ For a start see Blanchard et al. (2020) and Fischer/Schmid (2021, 39–40).

dream of the current CEO of the Federal Employment Agency Andrea Nahles to develop the BA into an agency for ‘Employment *and* Qualifications’.⁴⁷

This is a long and certainly not exhaustive list. But reforms in the school-to-work transition area are urgent. Danish efforts to re-establish the equivalence of vocational and academic education, fairer distribution of the corresponding financial burdens, and the long-established governance by voluntary multi-level negotiated agreements (covenants) could serve as guiding principles for Germany.

⁴⁷ The basic concept for such a fund has been developed in Schmid (2011, 98–105).

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Box 1: KEA: Copenhagen School of Design and Technology

KEA is a business academy with programmes organised into four departments: Design, Technology, Building, and Digital. KEA's motto '“*Having knowledge is not enough – You need skills*’ is demand-oriented: it takes companies' main challenges for a sustainable future as the starting point for curriculum development. Its mission also includes gender diversity and attracting students with different cultural backgrounds. KEA's modern buildings are situated in, among other places, Nørrebro, Copenhagen's most vibrant and creative neighbourhood. About 5,500 students from 70 nations are hosted in an open space, including cafeteria, library, background music, and places for team working.

Most students follow an academy profession degree (AP) within 13 programmes that last two years (four semesters) and add up to 120 ECTS (European Credit Transfer and Accumulation System) points. The AP in Computer Science, however, lasts two and a half years and yields a total of 150 ECTS points. *Automation Engineering*, to take another example, trains students to program machines and automated systems for industries, such as pharmaceuticals and food production. Students develop skills in programming various systems, including robots, production lines and industrial machinery. The curriculum covers programming languages such as PLC (a programming language in common use) and Python, as well as process regulation and robot technology. Additionally, students gain project management and business acumen to manage automation projects effectively. Practical experience is emphasised through a 10-week internship and a final project with a company, ensuring that graduates are well prepared for employment in the automation industry.

The AP qualification does not entitle students to study at university. There is, however, the possibility to choose a full bachelor degree programme that lasts three and a half years, spans seven semesters and adds up to 210 ECTS points. *Architectural Technology and Construction Management*, for example, equips students with the skills to manage and coordinate construction projects from design to completion. The programme culminates in a bachelor's project that integrates theoretical knowledge with real-world construction challenges. In addition, a top-up programme allows AP students to gain a bachelor degree in one and a half years, which adds up to 90 ECTS points.

Research is an integral part of all programmes. The *Circular Material Lab*, for instance, focusses on the circular economy, sustainability and new materials. We have seen, among other things, research on alternatives to leather based on apple-pulp, replacement of styrofoam based on fungal spores, and a substitute for plastic based on potato peel. *Lab 16* is a prototype workshop. It specialises in AM/3D printing and SMD (Surface Mounted Devices) Electronics, but also has a wide range of prototype-production machines such as a laser cutter, CNC (Computer Numerical Control) cutters, a plastic injection moulder and a printer cutter. *Maker Lab* is a workshop that provides students with the necessary facilities and tools to translate their ideas and study projects into physical prototypes. An extensive range of equipment allows them to explore different manufacturing methods and materials, such as laser cutters, a CNC milling machine, 3D printers, large format textile printer, embroidery machine and even poster, sticker and textile printers. Companies can collaborate with lecturers from KEA – and vice versa – on projects aimed at investigating relevant issues.

According to KEA's monitoring system, the transition from school to work (employment) is quite good; 41 per cent of its graduates get a job through their student job, internship or final project with a company; 80 per cent are employed in the private sector; 89 per cent get their first job within 6 months; 37 per cent have management responsibilities in their current position. Furthermore, in addition to the 5,500 full-time students, about 4,500 people participate in continuous training and education.

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