

Current problems and developments of VET in Germany - The educational case for modernisation

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Although Germany's Dual System has fared comparatively successfully in the past, pressure to reform at least parts of it and to improve deficiencies in some particular fields has become stronger. This has been underlined recently by the recognition that, in the IT sector, manpower shortages must not only be attributed to the universities but also to Dual System apprenticeships organised by industry and chambers. While some critics claim that a more flexible approach to the qualification problem could lead to more training places and more efficient training programs, others argue that reform options are rather limited. Looking at the parameters determining both the features and the functional quality of the

Dual System, it is understandable that the German VET system is perceived as a devotedly conservative framework which clearly rules out radical changes, such as modular qualifications. On the other hand, one of the urgent problems these days is the integration of weaker learners and also the growing number of lower secondary school-leavers who are not capable of meeting employers' expectations. Against this background, reforming the system by developing new types of formal training opportunities could be a reasonable strategy to cope more efficiently with the challenge of youth unemployment. However, whereas upgrading the system by offering new exacting training schemes now appears to be under way, the lower end of the "qualification ladder" has been neglected.

This paper holds that „modernisation“ must not only mean adapting the training system to economic and technical developments, but also keeping up those educational and social functions which form an essential part of the “philosophy” of Germany's Dual System.

Introduction

Training in the Dual System of VET is still the major non-academic route for German school-leavers giving them formal access to the labour market as a skilled worker, craftsman or clerk (Bynner and Roberts 1991). The system recruits between two thirds and three quarters of the 16-to-19-year-olds (depending on school background) and thus contributes to holding the number of unskilled employees down who have never been strongly represented in the German labour market (Büchtemann *et al.* 1993: 510f; Greinert 1994: 116). Unlike in Britain or France, where they form a marginal sector within the vocational training systems, dual apprenticeships exist in nearly all branches of the German economy including the professions and parts of the civil service. In 1998, 612,771 young people took up an

apprenticeship in one of the 358 “recognised skilled occupations” (for figures see *Bundesministerium für Bildung und Forschung*, 1999). All in all, more than 1.6 million young people - with a female share of 40% - are learning their trades through the Dual System. Although it has fared comparatively successfully in the past, pressure to tackle deficiencies in some particular fields seems to have become stronger in recent years.

For an understanding of the scope and intensity of the German debate, it is crucial that the features of the Dual System are not solely linked to its alternating training structure - meaning that training takes place in a company providing the apprenticeship and in a vocational part-time school (which accounts for one to two days of weekly training provision). As a matter of fact, the German system is rooted in an “occupation-orientated” training culture: *Occupations* in the German meaning of the term stand for integral vocational qualifications based on uniform training schemes and highly standardised examination procedures (Benner 1977). Although some of the recently revised schemes (such as the metal and electrical trades) now allow for more specialisation (Borch *et al.* 1991), they still cannot be split up by isolating discrete modules or independent competency units. While some critics are now calling for more flexible training ordinances hoping that this may lead to more training places and more efficient training arrangements in companies, others maintain that the scope for reform is rather limited. Scepticism in the German discussion has become centred around the question of whether modular principles are generally compatible with the organisational features of the Dual System as well as with the didactical pattern and pedagogical understanding underlying training arrangements (Deissinger 1998; 1999). Yet on the other hand, one of the serious problems these days is the integration of those school-leavers who are not capable of meeting employers’ expectations as well as coping with training standards laid down in training ordinances. It is estimated that every year some 100,000

young people leave general education without a formal qualification (Beckers 1998: 16). The situation for these young people is currently determined by at least three structural factors:

- With the emergence of the new technologies and the disappearance of old-established training occupations, the lower segment of skilled practical work has been shrinking in quantitative terms. In a “globalising” economic environment, this means that income and career opportunities for young people with minor or no general or vocational qualifications are bound to decrease.
- The new occupational profiles, however, that have been designed and decreed in the past fifteen years prove to be too demanding for the so-called weaker learners. Consequently, companies become more and more selective as they act in a training market where the supply of training places fails to meet the demand quite regularly.
- Regional diversity, which has always led to imbalances in Germany’s training statistics, seems to aggravate the situation as young people looking for an apprenticeship placement in the east of Germany (the new federal states) have to find their way into a labour and training market which is tighter and less accessible than in the western states.

Against this background, reforming the system by modifying and extending the range of formal training opportunities at first glance appears as a reasonable strategy to avoid youth unemployment due to the partial failure of the VET system. However, whereas upgrading the system by offering new exacting training schemes has been enforced in the past two decades, the lower end of the qualification ladder has been neglected. One of the more recent innovations has been carried out in the Information Technology (IT) occupations which now cover a so far neglected segment of the labour market⁴. It can be assumed that these occupations, among others, will most definitely exclude substantial numbers of young people who fail to reach a certain educational standard. The problem Germany faces at the

moment thus consists of a more and more socially segmented training market. At the same time school-based forms of work preparation seem to gain importance as a “catch-all” for unsuccessful school-leavers.

This article holds that modernisation must not only be directed towards adapting the training system to economic and technical developments (which is at the core of the IT debate), but has to make sure that those educational and social functions which form an essential part of the “philosophy” of Germany’s Dual System are preserved. Here, one of the crucial notions is that the training system should give everybody the opportunity to reach a skilled employee’s status.

The “philosophy” of vocational training in Germany

Germany’s apprenticeship system has its roots in the corporatist framework established by legal sanction in the late nineteenth century (Deissinger 1994), which not only remained virtually unchanged in its crucial features up to the establishment of a homogeneous training law in 1969 (the Vocational Training Act), but was incorporated in the main into the modern training system. Much earlier in this development, compulsory attendance at the part-time vocational school emerged as the second pillar underlying formalised vocational training. Although the dualism of learning sites and legal responsibilities is held to be the striking feature of the “German system” of vocational training (Greinert 1994), it is characterised by working principles which reflect the organisation of the training process as a whole, and thus reach far beyond the dual or alternate structures:

- As already mentioned, the Dual System is an apprenticeship system and as such determined by the notion of *vocationalism* (Beck et al. 1980; Deissinger 1996; Deissinger 1998, Deissinger 1999). The *vocational* or *occupational principle* implies

that initial training is clearly workplace-led and predominantly practical with work experience throughout the training period. At the same time, however, the VET system makes sure that skill requirements are defined “around the workplace” (Harney 1985). Both objectives require a stable organisational and institutional framework and, of course, strong employer participation beyond the delivery of competence needed for a specific job. For this purpose, the administrative and organisational contribution of the chambers is irreplaceable (Zabeck 1975). Being “competent authorities” according to the 1969 Vocational Training Act, they supervise enterprise-based training and are responsible for occupation-based examinations. Hence, the priority within the Dual System has always been towards “broad-based knowledge and the acquisition of basic techniques” (Géhin and Méhaut 1995: 65).

Both at the federal and state level, standards and conditions of skilled apprenticeship underlie a complicated network of regulations and technical procedures. Although the apprenticeship itself is the responsibility of employers and trade unions, quality control (Raggatt 1988) is linked to a public interest in the qualification process. To label the Dual System a “bureaucratic horror by liberal standards” (Goodhart 1994: 29) may sound exaggerated, but there is certainly some truth in it as the legal aspect is an essential component of this public responsibility. The 1969 Vocational Training Act (Deissinger 1996) follows the notion of a “training culture” (Brown and Evans 1994) where training is not simply rated as a contractual duty but as an educational process under public control. On top of this, the School Acts add mandatory school attendance for virtually everybody who trains in the Dual System.

The Dual System under Strain

In the past decade, the German Dual System has become increasingly exposed to criticism as to its obsolescence in the face of a rapidly mutating economic and social environment (e.g. Geissler 1991). Moreover, both in the political and scientific community, the serious situation in the training market, above all in the east of Germany, emerged as a permanent issue of public concern. Although 612,771 new training contracts came into force in 1998, an increase of more than 25,000 in one year, nearly 36,000 school-leavers could still not find a company that was prepared to train them in one of the then 356 (1999: 358) recognised training occupations². On the other hand, it is interesting that in September 1998 vacant training placements numbered more than 23,000 (*Bundesministerium für Bildung und Forschung* 1999: 36f). According to the new *Vocational Training Report*, presented by the Federal Government on 12 April, 2000, the situation in the training market one year later has only improved due to state subsidies. Against the background of 631,000 new training contracts (30 September, 1999), the number of unprovided young people (all Germany) went down by 18% as against 1998³. At the same time, however, the Report unmistakably says that the east of Germany still remains a problem area for apprenticeship seekers. It remains to be seen if expectations will be met in 2000 to increase the supply of training placements in the east for the first time since re-unification in 1990 due to genuine efforts by companies themselves⁴.

The Federal Government has made it clear that it sees the situation as still far from being satisfactory as steps to cure the unstable situation on the training market in the new federal states have to be taken. As a matter of fact, the fragile economic framework in the east has made it necessary to pump public subsidies into training schemes which are not linked to the Dual System directly but have been created for the purpose of establishing alternative ways of vocational

preparation and integration. Against the background of more than 400,000 unemployed young adults under 25 years in the whole of Germany, the Federal Government in 1998 triggered the JUMP initiative (*JUgend Mit Perspektive* - which means "Youth with Perspectives"). This program (Ehmann 1999) is supposed to bring young people into training beyond the regular training market (*Bundesministerium für Arbeit und Sozialordnung and Bundesministerium für Bildung und Forschung* 1999). Remarkably, JUMP is not an employment initiative as it puts training and re-training in its various forms first. This implies that the government wants more companies to get committed to training. One of the striking examples of such a policy is provided by the prime minister of the largest German federal state, North-Rhine Westphalia, who has become famous for his journeys throughout the state to convince more employers to participate in training.

It is apparent from this that Germany's VET system remains exposed to structural and regional frictions as well as being under pressure from external developments. Among these pressures, unemployment as Germany's major social and economic problem⁵ certainly produces particular strain for the training system. Therefore the 'crisis' of the Dual System has two sides:

- At "threshold one", from school into training (Zabeck 1979), all social groups - especially employers - will have to strengthen their efforts to offer training opportunities for school-leavers as the demand for training places is expected to rise by 1 - 2% per annum within the next ten to fifteen years (Kümmerlein 1996: 108). Looking back, however, it cannot be encouraging to see employers' participation in the Dual System fall from 34.3% to 23.7% between 1985 and 1995⁶.
- More strikingly, the problems at "threshold two", from training into employment, have sharpened in recent years. Although the training system and the employment sector are bound by a strong professional or vocational link (Maurice 1993; Konietzka

and Lempert 1998; Deissinger 1998), career opportunities in the nineties, even if they are grounded in skilled training, were clearly more exposed to labour market restraints than in former decades (Timmermann 1994: 81ff).

Yet there is no evidence that the Dual System, which in the past helped to keep youth unemployment comparatively low (Clement 1985; Casey 1986; Schlaffke 1996), is the reason for this 'unsuccessful story', as no training system in the world can create jobs. This argument is supported if one looks at more market-orientated vocational training systems with neither a dual-learning arrangement nor a vocational or occupational orientation of the qualification process, such as Britain. The decline of youth unemployment in Britain seems directly connected to the general improvement of the labour market situation and not to a new quality of links between training and work. And it is also true that the mismatch between vocational education and the world of work in school-based and state-controlled systems, such as France, has never been a pivotal problem in Germany (Lasserre 1994). The latter's qualities seem to be closely linked with its both highly stratified and also highly standardised VET system and the fact that careers emerge as a product of education and training in the first place (Müller and Shavit 1998). It may thus be argued that the "crisis" of the Dual System appears first and foremost to be conditioned by the labour market and other external factors rather than by qualitative problems or structural inflexibility of the system itself.

With regard to external forces exerting pressure on the Dual System, the debate has for some years focused on another aspect: Greinert holds that the "crisis of the Dual System is ... mainly a dilemma of adapting to social rather than technological and economic changes" (Greinert 1994: 118). In his eyes, the "real danger" threatening the existence of the Dual System may be seen in the phenomenon that education and career aspirations of young people and their parents have obviously drifted off further into the academic field held to be

the "golden path" to high social status and income (Lutz 1991; Schober and Tessaring 1993). This meritocracy in terms of career expectations is accompanied by a tendency of companies preferring graduates from the tertiary system for jobs that in the past produced natural career opportunities for apprentices. It could become a real danger for the Dual System as it dries up career trajectories outside the higher education system (Zabeck 1995: 98ff).

Two arguments may be used against this scepticism:

- First of all, it may be argued that career opportunities of non-academically skilled employees will remain satisfactory, especially as they are likely to be associated with new features of professionalism in a wide range of technical and commercial occupations (including the IT sector). This upgrading may be also true for the Master qualification which is likely to lose some of its management competence but could well profit from new tasks in the field of highly specialised technical skills. Thus technical functions both at the operative and the lower management level are predicted to become more demanding (Zedler 1997; Berger 1997).
- Secondly, the academic pressure on the Dual System becomes less relevant if one considers that the academic shift does not necessarily mean that Germany will see more students at universities. The truth is that the more practically orientated courses, above all the incessantly expanding vocational academies (*Berufsakademien*)⁷, attract leavers from the grammar schools. Moreover, a growing number of holders of the Abitur (the German A-level) enter the Dual System: in 1997, 16.4% of all new trainees held a higher school qualification (*Bundesministerium für Bildung und Forschung* 1999: 60). This, however, puts stress on the Dual System as it naturally increases the total demand for training placements.

The problem of social segmentation within the Dual System

The arguments mentioned above which focus on the adaptability of German VET have resulted in efforts that have been going on over the last ten to fifteen years to modernise the Dual System. The major innovation may be seen in the re-definition of occupational profiles, above all in the metal and electrical trade in the late eighties, but also in commercial occupations at the beginning of the nineties (Borch 1991; Stiller 1992). In 1998, 30 out of the now 358 skilled occupations were either newly created or at least updated. The latest and probably most promising development may be seen in the IT occupations that stretch the Dual System even more beyond its craft-based past (Müller *et al.* 1997). These newly regulated occupations have become more exacting as they integrate modern information technology and data processing. From an educational point of view, training for these occupations implies using new teaching techniques and training arrangements (Benner 1994).

The general labour market situation and the growing reluctance of employers to invest in training reveals that, while the Dual System seems prepared to cope with new demands in modernisation and quality terms, a complex quantitative problem remains for which a simple solution does not seem to exist. One clear indicator for this problem is the so-called 'participation quota' which depicts the number of school-leavers who actually enter dual training. This quota has changed over the past ten years and obviously reflects heterogeneous structural qualities of the training market which allow social exclusion or, at least, social disadvantage. A recent survey published by the Federal Institute for Vocational Training in Berlin provides the following data (Althoff 1999: 9):

Table 1: Participation rates of different groups of school-leavers entering the Dual System

	Participation rate in the Dual System	Availability of training places	School-leavers from general schools
1987	74%	102%	837,000
1989	75%	111%	709,000
1991	73%	121%	657,000
1993	65%	112%	800,000
1995	59%	103%	864,000
1997	57%	97%	913,000

In theory, two factors could explain the decline of participation: one reason may be the 'meritocracy' mentioned earlier which would have resulted in a lowering of the 'demand rate'. Indeed, it is true that the nineties saw a general reduction of the share of applicants (not entrants) among 16-to-18 year-old school-leavers opting for dual training (from 84% in 1989 to 68% in 1996) (Euler 1998: 85). Yet it may also be argued that the growing number of school-leavers shown in the table above does obviously correlate negatively with the actual participation quota ($r = -0.62$), while there is a positive correlation ($r = 0.55$) between the latter and the availability of training placements (measured as supply divided by demand). Moreover, foreigners and leavers from the lower secondary schools seem to suffer most when the training market produces restrictions: the correlation between participation in the Dual System and the general supply situation on the training market in both groups is higher ($r = 0.61/r = 0.67$) than in the case of middle school-leavers ($r = 0.53$) or, most noticeably, Abitur holders ($r = 0.04$)⁸.

Against this background, a further description of the problem may be given:

- It is evident from the data available that leavers from the lower secondary schools (*Hauptschüler*), quitting with or without a

'normal' school qualification after nine years, form the second largest group in the Dual System. If we include leavers from the vocational preparation year (which produces the same type of school qualification), their share among all new entrants in 1997 was 35.7% as opposed to leavers at intermediate and grammar school level with 36.7% and 16.4% respectively. However, the Dual System is the rather 'normal' path for this group: 72% of all lower secondary school-leavers entered apprenticeship as opposed to 63% of all middle school-leavers and 30% of all grammar school-leavers respectively (Althoff 1999: 9). The official statistics also indicate that, although the initial aspiration among the *Hauptschüler* group in their last year at school to enter an apprenticeship is clearly higher than among middle school-leavers (80% as against 66% in the old federal states), they actually have more difficulty in finding training placements than other groups further up the qualification ladder.

Turks form the largest group of foreign apprentices in the Dual System with 41%. More foreign school-leavers than German ones (against the school-leaving youth population in general) have no school qualification and even fewer have an intermediate or higher qualification. Also, the proportion of foreign trainees is lower compared with the share of foreign young adults of the total population of 15-18 year-olds. Whereas the participation rate (school-leavers from general schools) among lower secondary school-leavers is much higher than the general rate (72% as against 57% in 1997), foreigners enter the Dual System far less frequently than Germans (42% as against 61%) (Althoff 1999: 9; see also *Bundesministerium für Bildung, Wissenschaft, Forschung und Technologie* 1998: 59). Furthermore, it can be said that foreign apprentices are very strongly represented in the craft sector and, in general, tend to occupy a very narrow scope of occupations.

The structural problems on the training market and the growing number of school-leavers who enter the Dual System thus combine

with a clear social segmentation regarding the dependence of training opportunities on the structural quality and, of course, the quantitative dimension that the training market can provide in a given year. In such a situation, acquiring a training placement no longer appears as a logical continuation of school education but as a Darwinist strategy to survive in the labour market in the long run. Therefore, it is very important to deliver a correct interpretation of the statistical material on the issue: the decline of the participation quota indicated above is not a consequence of sliding interest in training but rather one of the economy's tightening of the training budget in the face of labour market restrictions, which - like those on the training market - are most palpable in the east of Germany (Schöngen and Tuschke 1999). In this context, the clearest message to come from an analysis of the German training market is that the correlation between school education level and training market restrictions is highest among those with the lowest school qualifications (Althoff 1999: 9).

This can be further illustrated by mentioning another qualitative aspect: whereas in 1997, 50.8% of all trainees in the craft sector were recruited from the lower secondary schools, the industrial and commercial branches only trained a share of 24.4% out of this group (*Bundesministerium für Bildung und Forschung* 1999: 60). Undoubtedly, these figures reveal what may be called a 'crowding-out effect', since specific training opportunities are more frequently and more unequivocally associated with a higher school standard (Rösner 1998: 47). The picture is aggravated in regional terms as the proportion of lower secondary school students differs substantially between federal states, depending on their respective policy of opening up the higher education sector. In some regions of Germany, this has led to a dramatic decrease in the number of lower secondary schools and falling numbers of students, such as in Berlin, Bremen, Hamburg, Hessen or the Saarland (with rates of between 8.2 and 18.4% seventh form students staying in lower secondary schools). In 1996, the Saarland abolished the lower secondary school as a separate

institution, copying the model of integrated intermediate secondary schools typical for the federal states in the eastern part of Germany. On the other hand, Bavaria and Baden-Württemberg respectively still reported shares of 40.2% and 36.7% in 1995/96 of lower secondary school students in the seventh form (Rösner 1998: 49).

Hence there can be no doubt that students from the lower secondary schools not only face difficulties on the training market because it has tightened up, but also because they come from the school with the worst reputation. Consequently, the more exacting or attractive occupations are taken up by those school-leavers with an intermediate or higher school certificate. Even the more successful students from the lower secondary schools can hardly cope with the theoretical and technological content of some of the new occupations. One indicator is the percentage of those who quit their training prematurely: some authors assume a link between the present-day 16 to 18% (as opposed to 10 to 12% ten years ago) who break off their apprenticeships and the fact that the lower secondary schools have been suffering from degenerating standards for the past years. At the same time, there is now a stronger tendency among young people to enter the labour market without qualifications. Among these, some 80% become unskilled because they cannot complete their apprenticeships successfully (Alex 1997: 59, 62). Moreover, although it seems not dramatically high according to international standards, the share of school-leavers without a basic general education certificate amounted to 6.8% in 1998 (*Bundesministerium für Bildung, Wissenschaft, Forschung und Technologie* 1998: 38-45, 53, 198, 210, 224; *Bundesministerium für Bildung und Forschung* 1999: 60). These figures clearly do not fit the picture of the “society of the highly qualified” supposed to determine Europe’s industrial future. It is expected that the demand for employees without formalised training will fall to 10% by 2010 (Enggruber 1997: 204).

Perspectives

The question is how Germany’s vocational training system ought to react with respect to the problem of integrating the weaker learners or those belonging to the so-called problem groups. From an institutional and didactical point of view, three ways are conceivable:

- (1) The first approach could be to revise training schemes by dissolving the now existing occupational patterns and establishing a modular system with variable access opportunities and flexible levels of qualification standards. England and Scotland with their respective certification systems (National Vocational Qualifications, Scottish Vocational Qualifications, National Certificate Modules) have pursued this path by setting up a system of competences defined by employers and assessed in the workplace (Hodgson and Spours 1997; Steedman 1998; Deissinger 1999; Pilz 1999). This system has been designed to substitute traditional qualifications that were criticised as obsolete and also to bring the spheres of general and vocational education together. However, its chaotic appearance and high potential of flexibility has provoked criticism reaching from the general reproach of quality degeneration up to the contention that National Vocational Qualifications work according to behaviouristic principles (Hyland 1995). Hence, there is serious doubt whether a modular approach of this radical kind could pay tribute to the quality standards underlying the Dual System mentioned above or could form an alternative to the traditional apprenticeship (Deissinger 1998: 205ff).
- (2) On the other hand, implanting modules within an existing course of training as didactical elements must not necessarily mean dumping the occupational orientation of skill formation (Euler 1998: 96ff, 159f; Kloas 1997). It will be crucial, however, that vocational profiles, which through a modular concept offer more flexibility in terms of training content, become accepted by the labour market in the long run. This clearly requires combining

the notion of quality control with a strong will to keep the number of profiles or names of occupations comparatively low. The advantageous effects of such a 'mild' strategy could be that the modernisation of training content would become easier by inserting revised modules into the schemes and that re-training could be more clearly linked to initial VET. This reform option would in the first place contribute to adapting the training system to technological developments, but could also help companies who want to train young people with different backgrounds more flexibly. Therefore it would not only pay tribute to specialisation and modernisation requirements.

- (3) A third way to bring more flexibility into the Dual System could be to increase the number of formal levels at which vocational qualifications are obtained. Providing more flexibility by paying more attention to the educational achievements of young people seems, at least at first glance, more agreeable among interest groups involved in German vocational training policy than a plain modular approach. One future reform option could therefore be to supplement the so far uniform training schemes with an extra set of formal qualifications for the more potent learners (Pahl and Rach 1999). At the other end of the qualification ladder, differentiation could lead to special training courses for weaker learners including new stage-structured training schemes. The social partners are currently debating the topic of shorter training times. By stressing standards of training and quality, the German trade unions and the crafts are combining their efforts to preserve the traditional occupation-based pattern within the Dual System. Whereas trade unions have always feared that low-standard training would automatically lead to new wage structures (Kuda 1996: 18), the crafts expect that the occupational principle could be at peril if, for example, the so-called "small journeyman certificate" were introduced⁹. In the industrial sector, however, two-year training courses would be welcomed although demand

here is not universal (Zedler 1996). The General Secretary of the Federal Institute of Vocational Training has made it clear that differentiation should not mean giving up the totality of a skilled occupation (Pütz 1997). Also, one of the most recent statements of the Federal Minister of Education and Research underlines that less exacting occupations should require three-year courses and would therefore not establish a "second class" Dual System¹⁰.

There is no final answer as to the potential design of new training schemes for weaker learners in the German VET system. It will certainly depend on the extent to which modular principles penetrate into the German system. The three options indicate that modularisation can adopt different forms. Therefore it seems feasible to alter vocational courses along the line of a differentiation model (option 2). However, while optional supplementary modules linked to different stages of training would also be compatible with the occupational principle (option 3), a fragmentation concept (option 1) like in England (NVQs) or Scotland (NC modules, SVQs) would be a dramatic break with a long-standing tradition of VET (Deissinger 1999: 199ff; Pilz 1999). Hence any reform option will have to be measured against its potential effects on the principle of occupational or vocational orientation and its social function (Kutscha 1998: 259; Adler and Lennartz 2000) as it has to be harmonised with the traditional notion of quality control and marketability of qualifications¹¹. More clearly, however, any reform will also have to prove whether it can lead employers to offer training in the lower stratum of the training system.

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- 1 This has been underlined recently by the so-called "Green Card" debate which has focused on deficiencies of skilled employees in the IT sector (Rosenkranz 2000). These shortages are to be overcome by recruiting experts from Third World countries, such as India.
- 2 See *Forum Berufsbildung: Berufsbildung aktuell - Ausbildung* (www.berufsbildung.de).
- 3 See *Frankfurter Allgemeine Zeitung*, 13 April, 2000.
- 4 See *Südkurier*, 5 April, 2000. It seems to be promising that between 1992 and 1997 the number of new training contracts in the east of Germany actually went up from some 95,000 to 125,000 (*Bundesministerium für Bildung, Wissenschaft, Forschung und Technologie* 1998: 11).
- 5 Unemployment rates (March 2000): general rate = 10.6%; youngsters under 25 years = 10.9%; youngsters under 20 years = 8.0%; foreigners = 19.1% (data received from the homepage of the Federal Labour Office: www.arbeitsamt.de)
- 6 Data received from the homepage of the *Federal Institute of Vocational Training* (www.bibb.de).
- 7 See my forthcoming article on "The German 'philosophy' of linking academic and work-based learning in higher education - the case of the 'vocational academies'" (*Journal of Vocational Education and Training*, September 2000, in press).
- 8 Absolute figures not shown in the table (for details see Althoff 1999: 9).
- 9 The Mannheim Chamber of Crafts, for example, refuses to issue such certificates for apprentices who have not completed their training successfully, although they may receive an attestation or voucher if they pass the practical part of the examination before the chamber. The purpose of such a measure is that the person be rated as more than an unskilled worker when entering the labour market (see *Mannheimer Morgen*, March 3, 1998). See also Beckers (1998).

- 10 See *Wirtschaft und Berufserziehung*, 51(2), 1999: 9-11.
- 11 In May 1999, the German Assembly of Chambers of Industry and Commerce (DIHT) resolved a paper outlining a "satellite model" for the VET system (*Deutscher Industrie- und Handelstag* 1999). According to these ideas, there should be "three freedoms" for companies when settling the training contract: (i) reducing the training length down to a minimum of 2 years; (ii) inserting optional modules into the training process building on fundamental skills for everybody learning a specific kind of skilled occupation; (iii) bringing more flexibility to examination procedures. The problem is that these "freedoms", however, imply that training in a specific occupation could become "individualised" to an extent which rates the needs of companies higher than the "vocational" quality of the training scheme. As such, the paper seems not too far away from the British model where companies hold the major stake when it comes to deciding on training content and procedures.