

# 1 Introduction

In the mid-1980s the German apprenticeship scheme was facing what was possibly its most severe challenge. Whilst favourably regarded, indeed held up as a model for emulation by outsiders, its ability to deliver quality training to the large mass of school leavers was being called into question both by politicians and by policy researchers. By the end of the 1980s, however, the symptoms of crisis had largely disappeared. The consensus was becoming much more one that the 'dual system' had passed the test, and that it had the potential to provide the country with the highly skilled workforce it needed to meet the challenges of the 21st century. This paper, drawing upon the publications of the Federal Training Institute (especially BMBW, various years) and the federal Institute for Labour Market Research, and a series of 'expert interviews' reviews the developments of the 1980s and particularly those of the last five years. It assesses the extent to which the optimistic conclusions drawn about the 'dual system's' capabilities are justified.

The remainder of this paper consists of seven sections. A brief introduction to the nature of the 'dual system' is given in section 2. Section 3 summarises the nature of the crisis which the system underwent in the first half of the 1980s and section 4 describes the recovery of the late 1980s. In section 5 the changes in the nature of apprenticeships and apprentices which have taken place over the last decade are reviewed. Sections 6, 7 and 8 are concerned with the three challenges currently confronting policy makers in the Federal Republic: the challenge induced by the steep fall in the number of young people (6); the challenge induced by the demands of new technologies and new ways of working (7); and the challenge posed by the 'disadvantaged' groups who fail to enter or to complete a course of vocational training (8). A final section draws some conclusions and suggests that recent developments in the German Democratic Republic mean the future for the youth labour market and the labour market for skilled workers is very unclear.

## 2 The background

The German apprenticeship system is distinguished by two characteristics, first its broad coverage, second – and hence its designation as 'the dual system' – its combination of school based and workplace based training. Apprenticeships provide the pathway into employment for some 70 per cent of school leavers (see Chart 1). Training places are provided for occupations in all sectors of the economy, in services as well as manufacturing, in large firms as well as small firms, in white collar occupations as well as blue collar occupations. The period of training lasts between two and three and a half years, and rather than a wage, the trainee receives an allowance which, even in the final year, is still only a fraction of the wage of a comparable skilled worker.<sup>1</sup> Practical training is carried out in the place of employment, either on the job or (in larger organisations) in special training centres. More theoretical training is provided by special technical schools which apprentices attend for one or two days per week.<sup>2</sup>

Since 1969 the in-firm element of apprentice training has been governed by the Vocational Training Act. This specifies that the regulations determining the content of training are to be determined jointly at national level by employers' organisations and trade unions.<sup>3</sup> The technical schools which provide the off-the-job element of training are under the jurisdiction of the individual states (*Länder*), although nowadays training regulations will normally also contain the joint recommendations of the state education ministers concerning the content of the college based training to be given. Responsibility for monitoring the performance of firms lies with the local chambers of industry and commerce or of artisan business, to which all employers are obliged to belong. The chambers set and conduct the final examinations, and it is they which award certificates of skill competence.

In most years during the 1960s and 1970s the overwhelming majority of young people seeking a training place had been able to find one. Not all received a place in the firm of their first choice,

or even in the occupation of their first choice,<sup>4</sup> and there were some regional mismatches in supply and demand for apprenticeships, so that the positive net balances (surplus of places offered over applicants) recorded at a national level in most years did disguise some cases of negative net balances at the occupational or regional level. However, these were generally, if not universally, regarded as of minor significance.

Youth unemployment was still seen as a problem, but it was seen as a problem specific to certain 'disadvantaged groups', which failed to gain or had difficulty gaining entry into the apprenticeship system, or having gained entry subsequently dropped out. The size of this problem and responses to it are discussed at more length later in this paper.

### **3 The crisis of the early 1980s<sup>5</sup>**

At the start of the 1980s the youth labour market was struck two blows simultaneously. The second oil price rise and the subsequent recession led to a sharp increase in unemployment as firms rationalised and reduced their workforces. In the large firm sector training activity, which had always tended to follow a procyclical path, was also cut back. At the same time the post war 'baby-boomers' were coming onto the labour market in their greatest numbers. Between 1970 and 1981, the peak year, the number of 16-19 year olds in the population rose by a third, putting maximum demands upon the employment and training system at a time when it seemed least able to meet them. Despite appeals by the federal Chancellor, other national and state politicians, and representatives of industry, which resulted in more training places being offered in 1984 than ever before, the shortfall that year was also greater than at any time in the past. Based upon a conventional interpretation of supply and demand statistics, which were in any case subject to criticism for habitually disguising the true extent of the problem, a net deficit of 5 per cent was recorded for 1984 (Table 1). Nearly 60,000 young people were still looking for an apprenticeship place at the start of the training year in September, whilst an unknown number had at least temporarily abandoned their wishes and either returned to school or technical college or had gone out on to the market for unskilled jobs.<sup>6</sup>

At the same time as very many young people were experiencing especial difficulties in surmounting the 'first threshold', the transition from the school system to the training system, yet others were experiencing especial difficulties in surmounting the 'second threshold', the transition from the training system to the employment system. This, too, was an almost entirely new phenomenon. Traditionally, or so it was generally thought, the large majority of apprentices, and practically all of those who wished to, stayed with the company which trained them once they had successfully completed their apprenticeships. The assumed high costs of providing training suggested it would be in the firm's interests that this were so. It was only in the early 1980s that, on the basis of large scale surveys conducted by the federal authorities, it began to be recognised that the picture was rather more complex. There was a much higher staying rate and a much higher retention rate in large firms than in small firms and in certain occupations as compared to others.

These findings were consistent with propositions advanced elsewhere that there was a fundamental difference in approach to the provision of apprenticeship training between the industrial and commercial (or large firm) sector and the artisan (or small firm) sector.<sup>7</sup> Firms in the former sector can be characterised as adjusting their training levels in accordance with short to medium-term business prospects, but also as investing substantially in the training they give. Firms in the latter sector appear to train anticyclically and seem much less likely to regard training as an investment.<sup>8</sup> Instead, they appear to give much more weight to apprentices' contribution to production, viewing them as a source of cheap labour, and in consequence have an almost unlimited demand for trainees.<sup>9</sup> When the number of training places offered by the large firm sector shrinks (as a result of economic developments), or the numbers seeking apprenticeships rises (as a result of demographic developments), so is the small firm sector better able to satisfy its demand for

trainees.<sup>10</sup> Once these apprentices have completed their training they are no longer so attractive to the firms concerned. A substantial proportion are discharged or, seeing few prospects, leave. Many seek jobs in the large firm sector, often at a semi-skilled level (hence the quip about Opel – the motor vehicle manufacturer – being the largest employer of bakers in the country).<sup>11</sup>

In the mid-1980s, as record numbers were completing their training, it seemed that as many as 20 per cent of newly graduating apprentices who wanted to stay were not receiving takeover offers (Herget/Schögen/Westhoff, 1987) – a share four times as great as that which prevailed at the start of the decade. Larger firms were not offering the same semi-skilled job opportunities as they had previously, and thus they were less able to absorb the excess trainees of the small firm sector. Moreover, they also found themselves less able to employ all those they had trained themselves, particularly those who, in response to political pressures, they had trained for ‘social’ rather than ‘economic’ reasons.<sup>12</sup> As a consequence, the equivalent of over one in eight of all those completing their apprenticeships in 1984 spent at least some time subsequently unemployed and in September that year the stock of unemployed newly graduating apprentices stood at nearly 50,000 (Table 2).

## 4 The recovery of recent years

Within five years the situation had changed substantially. This was only in part the consequence of an about turn in the German economy. From Table 3 can be seen that in the second half of the 1980s employment grew and unemployment fell scarcely faster than in the other major OECD countries, whilst output growth was comparatively sluggish. Much more it was the consequence of the shrinking of the size of the youth cohort, at a rate even faster than that at which it had previously expanded. Between 1981 and 1989 the number of 16-19 year olds fell by 35 per cent. Whilst, for reasons to be discussed later, this did not translate immediately into an equivalent reduction in the numbers seeking a training place, demand for apprenticeships certainly diminished. By 1989 the national balance in the supply of and demand for apprenticeship places had switched from the 5 per cent deficit recorded for 1984 to an 11 per cent surplus. The number of young people officially categorised as failing to find an apprenticeship fell at the start of the 1989/90 training year to only 18,000 – only 30 per cent of its 1984 level (see Table 1). Equally, there were indications that the transition from apprenticeship to employment was preceding more smoothly. The relative number of newly graduating apprentices experiencing some unemployment on graduation remained much the same as four years previously (13 per cent), but the number registered as unemployed in September 1989 was much lower, standing at only 21,000 (see Table 2). This suggested that average duration of ‘unemployment after an apprenticeship’ was considerably shorter.

Consistent with the previously discussed proposition of inter-sectoral differences in training behaviour, there was a relative fall in the number of new training places accounted for by the small firms (artisan) sector and a relative increase in the number accounted for by the large firms (industrial and commercial) sector.<sup>13</sup> In the same way, there was a decline in the numbers starting training in those, mainly artisan, occupations for which the number of new apprenticeship contracts had increased rapidly over the previous decade and out of line with future employment prospects for workers with the skill concerned (see Casey, 1986).

If, at the end of the day, the most apparent threat to the legitimacy of the ‘dual system’ had been overcome, the employment and training market for young people was not entirely unproblematic. A closer examination of the net demand and supply ratio for apprenticeship places at state level reveals this (Table 4). The overall positive balance of 11 per cent was contributed to by, amongst others, a deficit of 2 per cent in the city state of Bremen and a surplus of 28 per cent in Bavaria. The phenomenon of mismatch, to which these figures bear testament, is one that has been growing in importance; inter-regional disparities have been worsening throughout the 1980s, almost regardless of developments on the national (youth) labour market. Back in 1982 Bavaria

(still the "best performer") recorded a net surplus less than 4 percentage points better than the national average, whilst Bremen (still the 'worst' performer) recorded a net deficit only 4 percentage points worse than the national average.

The performance of the 'dual system' throughout the 1980s reflects the much more widely commented upon growing north-south divide in Germany. The industries of the south are often more modern than those of the north, and they have more often been growing than contracting. However, the dominance of small firms in the south has also played a part, for as has been pointed out, such firms employ relatively more apprentices. So far the federal authorities have proposed no specific measures to counter the problem of the regional imbalances in the market for training places, although young people who leave home to take up an apprenticeship in another part of the country are eligible for special benefits to help meet the costs of accommodation and travel. In addition, it is now generally agreed that regional policy should accord apprentice training provision a greater priority.<sup>14</sup>

## 5 The changing character of the system

The character of the apprenticeship system has changed in other ways in the course of the last decade. As was hinted at earlier, the age profile of young trainees has changed considerably. The typical new apprentice is not a 16 year old school leaver, and has not been for many years. The average age of an apprentice in 1987 was some 18.5 years, one year higher than at the end of the 1970s and two years higher than at the start of that decade (Table 5).

There are a number of explanations for this. First, in the 1970s, as a growing proportion of young people stayed on at school to complete their matriculation certificate, the effective school leaving age was rising. More important, however, a growing proportion of those who passed their matriculation examination chose not to go on to university (or at least not immediately), but instead to take up an apprenticeship.<sup>15</sup> In 1988 as many as 16 per cent of all apprentices possessed their matriculation certificate, compared to 6.5 per cent ten years previously (Table 5). Whilst it cannot yet be said that any training occupations have become the exclusive preserve of these with such a qualification, or that the possession of such a qualification is a necessary requirement for taking up training in a particular occupation, highly qualified school leavers are to be found concentrated in a very few occupations, mainly in commerce, insurance and banking.

A second explanation is that a growing proportion of young people are not entering apprenticeships directly from school. Research carried out in the first half of the 1980s drew attention not only to the variety of routes coupling the school to the training system but also made an attempt to quantify their relative importance (Brandes/Brosi/Menk, 1986). Whereas, it was estimated, some 70 per cent of those leaving the general school system do eventually take up an apprenticeship, half of them do not do so immediately. Some 23 per cent spend a year or more as a full time student at a vocational school or on a special preparatory course, and 11 per cent spend a time working, being unemployed or inactive, or doing their military service. On this basis it can be calculated that in the early to mid-1980s only one half of new entrants into the 'dual system' were entrants direct from school, a third came from vocational schools and preparatory courses, and the remainder from amongst those otherwise away from the general school system. Since it ceases to be only minimum age school leavers who determine the demand for training places, but older teenage groups as well, it is not surprising that the numbers seeking an apprenticeship failed to follow the size of the 16 year old cohort down immediately but did so only with a lag.

There were other ways, too, in which the character of the 'dual system' was changing in the course of the 1980s. Some, like that of the gradual increase in the age of apprentices, were of a long-term nature; others were much more short-term developments, sometimes reversing trends or a previous period. The most important of the first type of change was the increase in the proportion of apprentices who were female. At the start of the 1970s women constituted scarcely over one

third of the total; by 1988 they made up 43 per cent and it is generally assumed that the upward trend will continue in the coming years (Table 5). More volatile, by comparison, have been the relative shares of the service and production occupations and, related to this, of the large firms (industry and commerce) sector and the small firm (artisan) sector. As has been described already, there was a marked increase in the proportion of apprenticeships being undertaken in the small firm sector in the 1970s, but this movement was to some extent undone in the latter part of the 1980s. As the share accounted for by the small firms sector rose so, but less than proportionately, the share accounted for by service occupations fell. As the share accounted for by the large firms sector grew again in the 1980s so again the share accounted for by service occupations grew (Table 5). Forecasts of the future structure of the labour force suggest that this trend too is likely to continue into the coming decade (Hofer/Weidig/Wolff, 1989).

## **6 The new demographic challenge**

Both the ageing and simultaneously higher level of qualification of the apprentice population, and its gradual feminisation, are developments relevant to the principal concerns of employers and politicians engaged in thinking about training requirements and training policy for the 1990s and beyond. Once again, the problem facing the German youth labour market is one of demographic change, but the manifestation of the problem is the very opposite of that which it was in the early 1980s. Instead of there being a 'surplus' of young people seeking apprenticeships, there is likely to be a shortage. The fall in the size of the 16-19 cohort which commenced in 1981 will continue to the mid-1990s, and in 1995 the number of young people in this age group will be only 55 per cent of its 1981 level. A small recovery but then stabilisation is expected thereafter (Chart 2). Aggravating a demographically induced problem is a change in the behaviour of young people and their attitude towards training. By the end of the 1980s the proportion in possession of a matriculation certificate who were opting to follow an apprenticeship rather than higher studies had ceased rising and, indeed, had started to fall, and this fall is expected to continue into the 1990s. Compared to a high point of just over 700,000 new apprenticeships which were concluded in 1984, the prediction is of only 500,000 in 1995. A commonly expressed fear is that the resultant shortfall in the number of skilled workers will prejudice the ability of the economy to train a sufficient quantity of skilled manpower to assure the preeminence of the country as a supplier of quality goods and services.<sup>16</sup>

Various ways have been suggested to overcome it. One has been to encourage more efficient use of the most highly qualified applicants for training. Whilst the training regulations for each occupation specify the normal duration of an apprenticeship, they do permit a reduced duration under certain circumstances. Such reductions are made in practice, but there is no systematic knowledge of when and why. Over the last few years, the government and the Federal Training Institute have been exhorting employers to make greater use of the possibility to accelerate training for those applicants possessing a matriculation certificate. As well as making any given intake more quickly serviceable, this might increase the attractiveness of apprenticeships to the more highly qualified, who feel that their certificates are being duly recognised. In consequence, it might help overcome the stagnation or decline in the proportion of those with a matriculation certificate choosing the apprenticeship route which has been observable in the last year or so. Furthermore, it is recognised that if the more highly qualified are to be better exploited, they will have to be attracted into more occupations than the narrow range in which they are currently concentrated. Whether it will indeed be possible to induce them into traditional production occupations remains to be seen, but it is possible that the transformation of jobs consequent upon new technology might have a positive impact.

Young women, too, are seen as an underutilised resource. They have traditionally trained in a very limited number of occupations, mainly in the commercial or personal services sector. In the

course of the 1980s the government, through the Federal Training Institute, has promoted a series of demonstration projects under the title 'girls in men's occupations' in an attempt to encourage a breakdown of existing patterns of segregation. Measures of that segregation which can be extracted from the official statistics on apprenticeship training have shown that some movement has occurred over the last decade. In particular this has taken place at the extremes, so that the proportion of young women training in heavily male dominated occupations has increased and the proportion training in heavily female dominated occupations has decreased (Table 6).

Finally, both the government and the Federal Training Institute have been urging employers to reconsider their attitudes to members of the more 'disadvantaged' groups on the youth labour market, such as the handicapped, those with no qualifications and first generation immigrants. Increased recruitment into apprenticeships of members of these groups, it is argued, might help overcome the forecast shortages of skilled labour.

As well as making more strategic responses employers are making rather more tactical responses. Principally, these are designed to improve their individual competitive position in the market for trainees. Unlike in Britain, however, this has not resulted in a bidding up of youth wages (or as is more appropriate with respect to Germany, of the 'training allowance'). Instead, a number of larger firms have increased the value of the fringe benefits they offer, or introduced new benefits (such as meeting travelling costs or the costs of a midday meal).<sup>17</sup> Some companies have been more imaginative in combining a strategic with a tactical response. One major motor vehicle manufacturer – Audi – has sought to increase the number of trainees it attracts by offering young women who train and stay with it guarantees of reemployment valid for as long as seven years if they were to leave to have and bring up children.

Given the higher quality of the training, the greater security of future employment offered and the better remuneration which is attached to that employment, the large firm sector as a whole has so far been relatively successful in recruiting the desired number of apprentices. The small firm sector has performed much less well and, as the discussion of earlier sections of this paper would have suggested, it is here that the major shortfalls are experienced.<sup>18</sup>

## **7 The challenge of modern day working**

The second concern is not with the quantity of skilled labour in the medium term but with its quality. Whilst the thoroughness of the training prescribed in the regulations for each occupation was not called into question, it was recognised that they were not always relevant to the demands imposed by the most modern products and services and the most up to date methods of working. In some cases this lack of modernity might even have served to discourage young people from following training in a particular occupation. For some occupations the training regulations were those laid down before the last war or even earlier, and for many there had been no revision since the 1950s or 1960s. Larger and more advanced firms supplement the minimum requirements of the training regulations with their own additions to take account of changing materials and technology; smaller, less advanced firms do so much less. Formally, apprentices have to be tested in their final examinations to see if they can meet the requirements which are laid down in the regulations, but informally a multiplicity of standards prevail. Thus, on the basis of their knowledge of the employing organisation, examiners are likely to adjust the rigour with which they test individual candidates and the extent to which the questions they ask make reference to extra-curricular skills.

In order to bring young people's skills up to date and to increase their transparency, steps have been taken to revise of the training regulations falling under the jurisdiction of the Vocational Training Act. Each year since 1969 progress has been made for a number of occupational groups, and by the end of 1989 96 per cent of all training places covered by the Act were covered by regulations which had been subject to revision. The process of revision was also one of rationalisation. The objective was not only to bring minimum requirements into line with present

day demands and conditions, but also to eliminate unnecessary duplication by combining closely related courses, and to abolish occupations which had become irrelevant to the needs of an advanced industrial society. As a consequence of this, there has been a fall in the number of recognised apprenticeships, from 465 in 1980 to 382 in 1988. Some of the most important revisions have been those of recent years. Thus in 1986 new regulations were introduced for the occupations in industrial engineering, in 1988 for the engineering occupations in the artisan sector. For the first group of occupations some 160,000 young people are in training, for the second nearly 200,000. Other major groups for which training regulations have been reformed in recent years include the electrical occupations (for both the industrial and artisan sectors), the commercial and clerical occupations and the retailing occupations. It is hoped that by the early 1990s the first round of reforms will be completed and that work can commence on a second round.

The reform process, which as a consequence of the 1969 Act is founded upon joint negotiations and consultations between trade union and employer representatives, supported by the resources of the Federal Training Institute, is not a particularly fast one. In the case of the regulations for engineering occupations in the artisan sector, the initial proposition to commence the reform was made in May 1983 but the new regulations, which were finally agreed upon in 1988, did not come into operation until August 1989. In the case of the regulations for engineering occupations in the industrial sector, reform procedures were initiated in 1979 but, following interruptions, the new regulations were first effective in August 1987. For other occupational groups the process was shorter – between three and four years – but its long average length, together with the infrequency with which reforms do take place – a minimum of twenty years – suggests an element of inflexibility in the German apprenticeship system, one that is an inevitable consequence of the high degree of regulation to which it is subject.<sup>19</sup> It therefore seems likely that the more progressive training firms will continue to treat the regulations as minimum requirements and to supplement their requirements by their own training in the use of the newest technologies. On the basis of case studies, it has been suggested that the training given in such circumstances is more ‘specific’ than ‘general’, and this has led some commentators to express doubts about its full transferability (for example, Beuschel/Gensior/Sorge, 1988).

Of course, this could be interpreted as a failure to meet the objectives which the reform process was professed to have. Yet in other ways, steps were made in the desired direction. Thus the wider skill bands which were created did expand the range of tasks which a skilled worker was considered capable of performing. Although it represents an extreme example, a good illustration of this is provided by the apprenticeship system for occupations in the industrial engineering sector. Previously there were 37 separate occupations for which a young person could qualify: subsequent to the reform there were only seven. It has also been observed that the recommended curriculum for the school-based part of training, which has been published simultaneously with nearly all of the new training regulations, has ensured that nationwide standards now apply here too, so that an apprenticeship acquired in one state will now be recognized more readily elsewhere. Finally, and not so directly a consequence of the reforms themselves, there has been a growing standardisation of examinations, at least in the industrial and commercial sector. The local chambers of industry and commerce have remained the examiners, but over the last decade an increasing number of them have been availing themselves of the services of the Institute for Vocational Examinations and Teaching Material, purchasing centrally produced examination questions rather than constructing their own. The use of common examinations is seen to promote common standards of marking, and this too should lead to a more universal acceptance of qualifications acquired.

The attempt to improve the quality of training has sometimes involved an extension of the duration of apprenticeships. The reformed engineering and electrical apprenticeships last for three and a half years; their predecessors lasted only three. In retailing the two year apprenticeships (for sales assistant) has been increasingly displaced by the three year apprenticeship, and, whilst the reform did not abolish the former, it seems to have accelerated this process (see Schenkel, 1989).<sup>20</sup> Similarly, the reform of the clerical occupations is likely to see the phasing out of the two year, office assistant apprenticeship there. More difficult to implement has been the attempt to encourage the acquisition of what can best be termed ‘general competences’. The new regulations for the

engineering and electrical occupations require that apprentices be able ‘on their own to plan, carry-out and control’ their work, and that the final examination should test them in this as well as their ability to perform fragmented, occupationally specific tasks. What is unstated is both how these general competences be taught and how they be examined.

## 8 The challenge of the ‘disadvantaged’

Although the ‘dual system’ is, in comparison with the vocational training systems of many countries, an extremely encompassing one, there remains a not inconsiderable minority of young people who fail or threaten to fail to acquire any vocational qualifications at all. Indeed, over the last decade an average of nearly 10 per cent of each age cohort has passed into adulthood without obtaining a vocational qualification or a university or college degree. If the unqualified are considered in relation to those who undertake an apprenticeship or its equivalent, a more appropriate comparison, then it seems as if more than one in eight of those who leave school without going on to further study fails to secure a vocational qualification.

It is this group which is seen as being amongst the most ‘disadvantaged’ on the German youth labour market. Important groups amongst them are foreigners, particularly young people of Turkish or Yugoslavian parentage, and those with no secondary school leaving certificate at all. The former are more than three times as likely as young Germans to end up with no qualifications, the latter six times as likely as those with a secondary school

school leaving certificate. Others include young people with social problems, including those who are or have been drug abusers and those who have been in trouble with the law. According to a recent survey (Kloas/Sacks, 1991), about half of those who fail to obtain a vocational qualification never seek a training place. Amongst young men this is mainly because they are more interested in trying to earn money immediately, amongst young women because their family requires their help in the house or because of pregnancy. Amongst those who seek, half do so in vain, the remainder are successful but drop out, because they feel unable to cope, because of difficulties with their employer or because such personal reasons as pregnancy intervene.

Over and above the group which can be thought of as the ‘psychologically disadvantaged’ is a second group which can be thought of as the ‘economically disadvantaged’. This is the group of young people who, under normal circumstances could be expected to find a training place but who, as a result of a particularly unfavourable situation on the national or local youth labour market, fail to do so. Thus, whilst the size of the first group is largely determined by demographic factors, the size of the second is also related to the economic conjuncture. In the early 1980s concern for this group became dominant, at the end of the 1980s the latter group had come to the fore again, and it was only in certain, geographically limited areas of the country that pockets of ‘economic disadvantage’ were still recognisable.

The policy response to the problem of those who are threatened with exclusion from the ‘dual system’ has not been the creation of an alternative system of vocational training but rather the establishment of network of aids that will bring them up to the standard that will enable them to apply successfully for an apprenticeship place, or with the provision of special assistance, to them or their employer, whilst they are following their training course, or with the provision of a workplace in which they can pursue a course for which they are fitted. This workplace is in an ‘external’ (*überbetriebliche*) training centre<sup>21</sup> and is initially for one year only. If, however, the young person fails to find a place in a company for the remainder of his or her apprenticeship, the full period of training can be completed there. The ‘external’ training centre based programme is the programme which serves ‘economically disadvantaged’ as well as ‘psychologically disadvantaged’ young people. The programme concentrating on preparing young people for an apprenticeship involves courses of up to one year, and the numbers catered for have fluctuated considerably over the 1980s, from over 80,000 in the middle of the decade to little more than 50,000

at the end. The programme giving special assistance to 'disadvantaged' apprentices has grown rapidly in importance, involving little more than 2,000 young people in 1983 to over 37,000 by 1989. The programme providing training places in 'external' training centres' has also grown in terms of the numbers served, although in the last few years it has stabilised at about 21,000 participants, of which, currently 3,500 are 'economically disadvantaged' young people.

The total of 60,000 apprentices supported under the last two programmes can be compared to the total of 1.6m young people currently in an apprenticeship. It can also be compared to the 160,000 under 25 year olds estimated as being not participating in or not having graduated a vocational training course. As was suggested earlier, making the 'dual system' even more encompassing than at present might contribute to relieving possible future shortages of skilled labour. However, the price of integration is a high one. The individual measures and courses mounted under the various programmes described above are necessarily very labour intensive, and some require the provision of special accommodation and the services of social workers as well as trainers. Federal government expenditure supporting 'disadvantaged' young people in apprenticeships (as opposed to on pre-apprenticeship, preparatory courses) tripled between 1984 and 1990. Nor is admittance to a scheme a guarantee of success. For example, the drop out rate amongst supported apprentices is well over one third. Despite the 'dual system's' favourable record in comparison the procedures and institutions affecting the transition from school to work elsewhere, German politicians and labour market administrators remain as concerned about the problem of youth unemployment as their counterparts abroad.

## **9 Conclusion - unification the new challenge**

In reviewing recent developments in the German apprenticeship system it is important to stress that the changes made have been marginal and incremental. There has been no major overhaul of structures, because there has been no perceived need for it. In the opinion of most of the interested parties, and certainly the dominant parties, the 'dual system' overcame the challenge of the early 1980s with its legitimacy intact. Fundamental deficiencies were not seen to be revealed, although there continue to be a few academics and politicians who point to imbalances in the system, including tendencies to undertrain and overtrain, and to a mismatch between skills needed by the economy and skills produced which could only be rectified by greater government intervention. Nevertheless, the calls for a statutory obligation to provide apprenticeship places and for a 'levy-grant' scheme to finance training activity<sup>22</sup> which had reverberated through the debate of the mid-1970s to mid-1980s had died away almost completely.

Had the crisis it experienced been of longer duration, and had the political situation been different, it is possible that reforms along these lines would have been considered. (History also shows they would have been fiercely contested.) As it was, the same factors which contributed to the crisis' onset also contributed to its demise. And it having, albeit thanks to an element of fortuity, passed one critical test, supporters of existing arrangements could look forward with some confidence to the challenges of the 1990s. The tone of statements by the federal government and the Federal Training Institute imply that, whilst the scope of these challenges is not inconsiderable, they are certainly solvable within the framework of existing arrangements and institutions.

What is more, in so far as shortages of skilled workers constituted one of the most pressing problems foreseen for the future, the events in Germany since late summer of 1989 appeared to have considerably alleviated them. The massive influx of citizens from the German Democratic Republic (GDR) had brought more than 500,000 people to West Germany by the spring of 1990, whilst a further 150,000 arrived by the end of the year. The majority of these 'settlers' (*Übersiedler*) were thought to be young and qualified. With monetary and social unification in summer 1990 the former West Germany acquired an almost boundless reserve of labour in the East, which was added to as the collapse of the economy there threw hundreds of thousands out of work.<sup>23</sup>

Yet if unification was a source of considerable advantage to West German employers, it created new and substantial problems for the training authorities in the united Germany, faced as they were faced potentially massive youth unemployment in the new *Länder*. The apprentice system there, which shares common roots with that in the West, is heavily dependent upon employer provision of training places. Whilst not all firms have been shedding labour on a massive scale, very few have been recruiting, and school leavers have been the first to suffer as a result. In the very short run, the youth labour market was relieved by a more than doubling of the proportion of young people staying on at school beyond the age 16 (from about 15 per cent to over 30 per cent). In the short to medium term, it is hoped that the establishment of publicly sponsored 'external' training centres will provide the training opportunities that cannot be offered by companies themselves. The 'unification treaty' (Einigungsvertrag) provided for the establishment of the programme of aid for 'economically disadvantaged' young people to be established in the eastern states and opened also to those who lost their jobs whilst still in training. It is estimated that up to one in three apprentices in the former GDR will be trained in such centres over the next few years (BMBW, 1991). However, as important as guaranteeing the quantity of apprentice training is guaranteeing its quality (see Rudolph, 1990). Most apprenticeships in the GDR had been of two years duration and had a much more 'artisan-like' quality. As has been shown earlier, much of the effort of those responsible for training in the West during the 1980s has been directed to upgrading the quality of training and bringing it closer into line with modern materials, technologies and methods of working. Materials, technologies and methods in the East are dramatically underdeveloped in comparison with the West, and the ability of most Eastern firms to comply with Western standards is limited. Failure to comply, however, will frustrate their ability to attract school leavers of quality and condemn the East to long-term backwardness.

The challenge that those responsible for apprentice training policy face at the start of the 1990s is many times greater than that they faced at the start of the 1980s. In their search for solutions for the 1990s, they may take succour in the experiences and (relative) successes of the 1980s. Whether economic 'take-off' (*Aufschwung*) will come to the rescue in the East in the same way that demographic change did in the West in the mid-1980s is uncertain. It certainly cannot be predicted with the same certainty as can changes in the size of an age cohort. Nor, if it were to come, would it be an unmixed blessing, for it would ultimately bring back the problems of skill shortages and young people shortages which dominated the discussions of the end of the decade and for which no long lasting solution was found.

## Notes

1. Estimates put the training allowance at between 20 per cent and 27 per cent of a skilled worker's wage in the first year and 27 per cent and 53 per cent in the final year, with levels towards the lower end being more usual.
2. The law requires that all young people under the age of 18 attend school on a part-time basis for a minimum of one day per week.
3. Training regulations (*Verordnungen*) lay down the minimum levels of skill and knowledge expected of an apprentice. They are often quite bulky documents and they are couched in very specific terms, covering what is to be taught, at what stage and for how long, and specifying the periodicity, content and duration of examinations.
4. In 1987/88 53 per cent of those who registered with the youth employment service as seeking an apprenticeship obtained a training place in the occupation of their first choice. Not all young people did register, and it is possible that it was those who were least successful in their search who did register.
5. This section draws extensively from an earlier study of the German apprenticeship system (Casey, 1986).
6. Contemporary estimates suggested that some 30-35,000 took up pre-apprenticeship courses and some 40-50,000 returned to school, either to continue in general education or to start some form of vocational education.
7. The equation of artisan (*Handwerk*) and industrial and commercial (*Industrie und Handel*) with small and large is an approximate one. The distinction is based upon the firm's legal and organisational status, and hence the Chamber with which it is registered. However, nearly 90 per cent of artisan firms have less than 20 employees.
8. In the early 1970s a government commission (the Edding Commission) made a deep going study of the costs and financing of apprenticeship training. As well as investigating the net costs of training for different types of firm, the commission made an extensive appraisal of the quality of the training in terms both of inputs and of outputs. The commission's report made clear the difference in net costs between small and large firms and also illustrated the much higher quality of the training provided by large firms. The sort of in-depth evaluation undertaken in 1973 has not been repeated. A small scale study undertaken in 1980 broadly confirmed the commission's picture of the difference in net costs of training between the two types of firm. More recently (see Damm-Rüger/Degen/Grünwald, 1988) a fresh attempt has been made to measure the quality of training, although the methodology of the study was considerably less rigorous than that applied by the commission. One of the main findings was that, in relative terms, the quality of training provided by small firms had improved, although it still fell considerably below that of larger firms.
9. It is notable that, whilst in firms with less than 10 employees apprentices make up, on average, 15 per cent of the workforce, in firms with more than 500 employees they make up less than 6 per cent (see BMBW, 1989).
10. This is referred to as the 'sponge function' of the small firm sector, and was first illustrated systematically by Steinbach (1974) in a background study for the Edding Commission.
11. A 'pull' as well as a 'push' effect has to be recognised here. The earnings of a semi-skilled worker in a large firm are usually considerably higher than those of a skilled worker in a small firm.
12. It is uncertain how much of such 'training beyond own needs' took place. However, it should be remembered that the marginal costs of offering an additional apprenticeship place could sometimes be very low (see Casey, 1986).
13. In 1984 industry and commerce accounted for 48.6 per cent of new training places and the artisan sector for 35.4 per cent. In 1988 these proportions had become 51.7 per cent and 33.1 per cent.
14. At the Ruhr Conference of spring 1989, called to discuss the structural difficulties of the eponymous region, the federal government's pledge of financial support included the allocation of DM 91m to support apprentice training in areas affected by firm closures.
15. This reflected in part their assessment of poor prospects on the graduate labour market, in part the fact that a growing proportion of them were from families where university students were not the norm and

in part the perception that a double qualification (apprenticeship followed by a degree) could enhance future employment chances.

16. Some commentators are much more sceptical about the extent and seriousness of current and predicted skilled worker shortages. There are some who argue that the claims of employers' inability to find sufficient skilled workers are made to play down the significance of current high employment levels or to serve as ammunition in the fight against union claims for shorter working hours. At a less emotive level, it has been pointed out that a substantial proportion of skilled (manual) workers – perhaps between a quarter and a third – are currently employed in semi- or unskilled positions, and that they constitute a reserve upon which employers could draw (IAB, 1989).
17. This is not to say that the level of the training allowance is insensitive to the state of the youth labour market, rather that the response is a lagged one. Thus, after increasing at between 5 and 7 per cent over the years 1976 to 1982, training allowances grew at only 2 to 3 per cent in the years thereafter, whilst overall wage growth also slowed in these years, at least some of the lower rate of increase in the level of training allowances has also been attributed to the relative oversupply of young people on the labour market. Accordingly, it is expected that in the coming years the rate of increase in the level of training allowances will pick up. In the first part of the 1980s there were cases of collective agreements, notably that of the chemical industry, freezing the training allowance for a year as a contribution towards improving the position of young people on the labour market. Equally, in the late 1980s the construction industry, which had suffered a severe shortage of skilled labour and of young recruits, increased the level of the training allowance it paid, and now tops the tables as the highest paying sector of all.
18. Of the 85,000 unfilled training places registered with the federal employment service in September 1989, 51,000 (60 per cent) were with artisan (small) firms and 26,000 (30 per cent) with industrial and commercial (large) firms.
19. Defenders of the reform process argue that there is a difference between an *initial revision*, such as the large majority of occupations were subject to, and an *updating*, such as should occur in the future. They would argue that the process now has a momentum, which will make reforms much easier and quicker.
20. The 'inferior' two year qualification has been kept in existence on a provisional basis, subject to review by the employers associations and trades unions of the retail sector.
21. These 'external' training centres were established by chambers of industry and commerce, industry associations, etc., initially to provide training places for the teaching of skills which some firms could not provide alone. The federal government can contribute towards their capital costs and also meets their running costs where they are serving participants in special programmes for the 'disadvantaged'.
22. On the history of this demand see Casey, 1986. 'Pooling systems', governed by collective agreements, do exist in four industries; construction, garden maintenance, (artisan) masonry and (artisan) roofing. The first of these is by far the most important, covering in excess of 50,000 apprentices.
23. Estimates for the number of unemployed in the former GDR in mid-1991 are some 1.7m. A further 0.7m will be taken out of the statistics by special employment measures and by early retirement, and a further 0.5m members of the labour force will be working and or living in the West. In 1989 the GDR labour force numbered just over 10m (Autorengemeinschaft, 1990).

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**Table 2 Unemployment after an apprenticeship**

**Chart 1 Activities of a one year age cohort six months after completing full-time schooling\***

1. 'Dual system' (72%)
2. Technical college (8%) or other full-time training (1%)
3. University or polytechnics (5%)
4. Work (5%) or unemployment (1%)
5. Military service (3%) or other (3%)

\* schooling includes full-time vocational preparation courses

Source: BMBW, 1989 Kap. 3.2; own calculations.

**Chart 2 Number of 16-19 year olds in population in Britain and Germany,  
1970-2000**

Note: 1990 onwards are projections.

Source: Federal Ministry for Education and Science;  
Department of Employment.

**Table 1 Demand for and supply of apprenticeship places (thousands)**

|      | (1)<br>New<br>appren-<br>ticeship<br>contracts | (2)<br>Unfilled<br>appren-<br>ticeship<br>places | (3)<br>Unplaced<br>applicants | (4)<br>Shortfall(-)/excess(+)<br>of places offered<br>=(2)-(3) (4) as %<br>of (1)+(3) | (5)   |
|------|--|--|-------------------------------|---|-------|
| 1974 | 450  | 29   | 21                            | 8   | 1.8   |
| 1975 | 462  | 18   | 24                            | -5  | -1.0  |
| 1976 | 496  | 18   | 28                            | -10   | -1.8  |
| 1977 | 558  | 26   | 27                            | -2  | -0.3  |
| 1978 | 602  | 22   | 24                            | -2  | -0.2  |
| 1979 | 640  | 37   | 20                            | +17   | +2.6  |
| 1980 | 650  | 45   | 17                            | +27   | +4.1  |
| 1981 | 606  | 37   | 22                            | +15   | +2.4  |
| 1982 | 631  | 20   | 34                            | -14   | -2.1  |
| 1983 | 677  | 20   | 47                            | -28   | -3.8  |
| 1984 | 706  | 21   | 58                            | -37   | -4.9  |
| 1985 | 697  | 22   | 59                            | -37   | -4.9  |
| 1986 | 685  | 31   | 46                            | -15   | -2.1  |
| 1987 | 646  | 45   | 34                            | +11   | +1.6  |
| 1988 | 604  | 62   | 25                            | +37   | +5.9  |
| 1989 | 584  | 85   | 18                            | +67   | +11.1 |

Due to rounding, totals do not always add.

Source: BMBW, various years.

**Table 2**

**Table 3 Output, employment and unemployment**

|                              | 1984 | 1985  | 1986  | 1987  | 1988  | 1989  |
|------------------------------|------|-------|-------|-------|-------|-------|
| <b>GDP (1985=100)</b>        |      |       |       |       |       |       |
| Germany                      | 98.0 | 100.0 | 102.3 | 104.0 | 107.8 | 112.1 |
| major OECD<br>countries*     | 96.8 | 100.0 | 102.7 | 106.4 | 111.2 | 114.9 |
| <b>Employment (1985=100)</b> |      |       |       |       |       |       |
| Germany                      | 99   | 100   | 101   | 106   | 107   | 108   |
| major OECD<br>countries*     | 99   | 100   | 101   | 103   | 105   | 107   |
| <b>Unemployment (%)**</b>    |      |       |       |       |       |       |
| Germany                      | 7.1  | 7.2   | 6.4   | 6.2   | 6.1   | 5.5   |
| major OECD<br>countries*     | 7.3  | 7.2   | 7.1   | 6.7   | 6.1   | 5.6   |

\* USA, Canada, Japan, Germany, France, Italy, UK

\*\* Standardised

Source: OECD Principal Economic Indicators; OECD Quarterly Labour Force Statistics; own calculations.

**Table 4 Ratio of supply to demand of apprenticeship places by state**

|                          | 1982   | 1989   |
|--------------------------|--------|--------|
| Schleswig Holstein       | 95.9   | 104.1  |
| Hamburg                  | 95.3   | 98.1   |
| Lower Saxony             | 95.3   | 104.0  |
| Bremen                   | 93.7   | 98.2   |
| North Rhine-Westphalia   | 96.8   | 102.6  |
| Hessen                   | 95.1   | 110.3  |
| Rheinland-Pfalz          | 95.6   | 112.6  |
| Baden-Württemberg        | 100.9  | 119.7  |
| Bavaria                  | 101.2  | 128.0  |
| Saarland                 | 95.4   | 108.4  |
| Berlin (W)               | 95.6   | 107.3  |
| <b>Federal Republic</b>  | 97.6   | 111.1  |
| Coefficient of variation | 0.0248 | 0.0980 |

Note: The table reads as follows: In Hamburg in 1982 there were 95 apprenticeship places offered for every 100 young people seeking one. The coefficient of variation is a standardized measure of dispersion. A value of 0 would indicate that every state had the same balance between demand and supply. The extent of dispersion in 1989 was four times as great as in 1982.

Source: BMBW, 1983 and 1990; own calculations.

**Table 5 Characteristics of apprentices**

|                                  | 1970 | 1979  | 1988    |
|----------------------------------|------|-------|---------|
| Average age                      | 16.6 | 17.6* | 18.5*** |
| <b>Sex</b>                       |      |       |         |
| male                             | 64.7 | 62.2  | 56.9    |
| female                           | 35.3 | 37.8  | 43.1    |
| <b>Educational qualification</b> |      |       |         |
| basic high school certificate    | n.a. | n.a.  | 24.3    |
| matriculation                    | n.a. | 6.5** | 16.1    |
| <b>Occupation</b>                |      |       |         |
| production                       | 46.7 | 50.7  | 46.8    |
| service                          | 46.5 | 43.3  | 47.3    |
| <b>Sector</b>                    |      |       |         |
| artisan                          | 33.0 | 41.1  | 34.8    |
| industry/commerce                | 57.1 | 45.4  | 49.9    |

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\* 1978

\*\* 1980

\*\*\* 1987

Source: BMBW, various years; own calculations.

**Table 6 Female apprentices in selected occupations, 1977 and 1987**

|  | 1977 | 1987 |
|--|------|------|
| In male dominated occupations<br>(0-20% of apprentices female)     | 2.5  | 8.4  |
| In mainly male occupations<br>(20-40% of apprentices female)       | 6.3  | 6.9  |
| In mixed occupations<br>(40-60% of apprentices female)             | 19.4 | 20.0 |
| In mainly female occupations<br>(60-80% of apprentices female)     | 24.7 | 24.6 |
| In female dominated occupations<br>(80-100% of apprentices female) | 47.1 | 40.0 |

Note: The table reads as follows; In 1987 8.4 per cent of female apprentices were in male dominated occupations compared to 2.5 per cent a decade previously. Occupations are grouped according to the proportion of females training in them in 1977.

Source: BMBW, 1989.