

BULLETIN

New career pathways for industrial supervisors in the UK, France and Germany

Background

There is some quantitative evidence on the volume of substitution of traditionally qualified supervisors in industry by staff with higher education qualifications, but very little is known about which forms substitution takes, the basic conditions facilitating substitution policies and the company goals associated with it as well as the consequences of this policy. This study has tried to address this gap, drawing on case study research in the UK, France and Germany. Three case studies in two industries (mechanical engineering and chemicals) have been conducted in each of the three countries covered. The large companies studied were chosen because they had substitution policies in place. A comparison of the case study features with the national contexts revealed that the German case studies are more of an exception to national development than the UK and French ones. The 3 year study has been funded by the European Commission under the LEONARDO DA VINCI programme. It brought together researchers from Céreq (France), ISF (Germany) and IER (UK). The study has been co-ordinated by Dr. Ingrid Drexel at the ISF in Munich.

Preliminary Remarks

Substitution in this context is defined as the policy of recruiting younger employees, educated at higher education institutions, without substantial work experience into supervisory and management positions in production and maintenance (in short: industrial supervisor positions), that would previously have been filled with semi-skilled or skilled workers, promoted after many years of service. However, there are cross-national differences in the management structures, the education and career paths of traditionally qualified industrial supervisors and the qualifications of the highly qualified substituting for promoted workers in supervisory positions. The core groups of the highly qualified substituting for traditionally qualified

workers are higher technicians in France (who have completed a 2-year HE course), engineers in Germany (who have completed a 4-year HE course at *Fachhochschule* (FH)) and university graduates in the UK.

Current and Future Extent of Substitution – The National Context

In the **UK** there are currently no statistical data available on the extent of substitution of highly qualified staff for traditionally qualified industrial supervisors. However, qualitative evidence and other indicators suggest that substitution in the UK is much more advanced than in France and Germany. A further increase in the substitution of promoted workers by the highly qualified is most likely to take place in the UK, due to the following factors: a swift turnover in the workforce in the wake of high external flexibility; the persistent lack of a pool of skilled workers and the concurrent swift expansion in higher education; and a market-led regulation of the relationship between the level of education and employment, reinforced by the decline of trade union power.

In **Germany**, the proportion of FH engineers occupying Meister positions (the German equivalent to industrial supervisors) has increased from 1 per cent at the beginning of the 1990s to about 4.6 per cent in 1998 according to representative surveys. There is some scope for further substitution, but there are a number of features restricting the extent of substitution, such as a big reservoir of traditionally qualified Meisters; a relatively controlled expansion in the number of the highly qualified, accompanied by a recent drop in the number of engineers; and the maintenance of the principle of occupational labour markets, regulated by contracts.

Substitution policies seem to have a certain tradition in **France**. The share of higher technicians among the

industrial supervisors has increased from 4.4 per cent in 1982 to 11.7 per cent in 1997. France seems to take a middle position in terms of a likely further increase in substitution, as it favours co-existence policies. The French situation is characterised by the customary employment of higher technicians as industrial supervisors; a formal correspondence between the pay band of the *maîtrise* (the French equivalent to the industrial supervisor) and the qualification level of higher technicians, laid down in the collective agreements; the necessity to create a balance between the opportunities the rapidly growing supply of highly qualified technicians offer and the reduced recruitment capacities of companies; and the more numerous career opportunities for workers, emanating from the greater role medium-level positions play in contrast to other countries.

Forms of Substitution

The case studies have revealed a wide range of substitution constellations in terms of how highly qualified staff are being introduced to industrial supervisor positions. These policies can range from recruiting highly qualified staff to industrial supervisory positions straight after they have finished their studies, to placing them after completion of graduate training programmes, to recruiting them after they have gained some years of practical experience, either as workers, specialist staff or even managers. However, some kind of work experience was expected in most case studies.

These constellations indicate the existence of cross-national patterns, country-specific developments and also case-specific features. For example, in the **French** case studies policies have been put in place preparing employees for supervisory positions. Such policies were absent in all three **German** case studies due to specific circumstances, whereby the companies usually either recruited recently qualified or experienced engineers. The **UK** case studies revealed that graduates were sometimes initially recruited to positions as technicians or workers. But they stood a better chance of being promoted after a couple of years with the company than those without a degree. However, it needs to be mentioned that all three countries covered employed promoted workers as well as highly qualified staff as industrial supervisors.

Cross-National Conditions Facilitating Substitution Policies

The case studies have shown that a number of conditions facilitating the establishment of new recruitment and selection policies for industrial supervisors appear to display similarities across the companies and the countries covered. But their effect on the new recruitment and selection policies varies between companies and countries. Other more specific factors are also relevant.

Context-related factors

All companies covered have *rationalised employment*, although the extent, type and timing of the measures vary across the companies studied. These changes have impacted

on the number of industrial supervisor positions; they have in most cases weakened the position of workers as the recruitment pool for supervisor positions; and they tend to have put more pressure on industrial supervisors.

(Local) labour market conditions also facilitated the new recruitment and selection policies in a number of cases. Companies might have gained a position on the market that allowed them to recruit well qualified staff more easily and to offer highly qualified staff less rewarding positions in cases of internal restructuring.

Irrespective of the company and the country, there were only *few manifest conflicts* over the establishment of the new recruitment and selection policies due to a range of factors. The production units of all companies covered are part of multi-national combines or companies. Following pressures to maintain productivity, they have undergone *similar changes in relation to production structures*, leading to changes in skills requirements.

Common goals of the new policies

All nine companies covered argued that changes in recruitment and selection policies were mainly caused by *changes in skill demands* associated with the new role of the industrial supervisor. Industrial supervisors are now expected to have acquired a more formalised body of knowledge than their predecessors to cope with technical skill demands and more formalised ways of working; to practise a new leadership style, which puts more emphasis on motivating employees and further developing their skills instead of simply controlling staff; and to have social and commercial skills, as industrial supervisors now have to liaise with a broader range of people, both internally and externally. Quite often traditional industrial supervisors are seen to be lacking these qualifications. The highly qualified are seen to be offering a whole range of required and valued skills, and they are regarded as capable of delivering the cultural changes required.

Companies have started to *call into question established career paths for workers*. Work experience should no longer be the sole criterion for promotion to a supervisory position in production. Instead, new criteria are to be established and they are to be evaluated employing new recruitment and selection tools - particularly in UK and French companies - in an effort to make recruitment and selection processes more objective. Some companies wanted to open up supervisory positions to groups other than skilled workers, partly in an effort to break the previously prevailing close working relationships between workers and industrial supervisors. Changes in recruitment and selection policies have also been motivated by a desire to reduce pay levels.

Differences in Context, Extent and Forms of Substitution

Apart from the similarities in the establishment of new recruitment and selection policies, a number of peculiarities and differences exist, often related to the country in which the company is situated.

Economic and organisational conditions

The three UK companies have seen a very dramatic decline in the workforce, unknown to the six companies in France and Germany. There were also differences between countries in whether or not measures to cushion redundancies were in place. In three companies, the establishment of new recruitment and selection policies seems to have been facilitated by the way the workforce was reduced. For example, the long-lasting recruitment freeze two French companies had in place seems to have favoured the external recruitment of highly qualified staff due to a lack of internal staff being considered suitable for promotion to supervisor.

The contractual situation of the workforce has a strong impact on how the new recruitment and selection policies are put into practice and on the career aspirations of workers. Again, all three UK companies have reached a level of workforce flexibility unknown to the companies in the other two countries.

The roles of industrial supervisors are different in terms of number of subordinates they are responsible for and the duties of supervisors. In all **English** and **German** companies the number of subordinates is higher and the responsibilities of the supervisors are far-reaching compared to the situation in the **French** companies. However, it needs to be mentioned that the number of subordinates for whom a supervisor is responsible varies between industries and depends on national definitions of what constitutes an industrial supervisor.

Vested interests of the companies in these policies

The senior management in two **German** companies want to change radically the access criteria to production management positions, partly to break the power of Meisters. In contrast, the French companies opted for co-existence policies, to secure social harmony among workforces that have served the companies for a long time and to secure the functioning of the important internal labour market. **French** companies also prefer young higher technicians to grow into a position as industrial supervisor. Like the French companies, the **UK** ones went for a co-existence strategy that involved the promotion of both traditional and graduate staff to supervisory positions.

Education and training of industrial supervisors

In the past *industrial supervisors* in **German** companies were recruited from a pool of traditionally qualified *Meisters*, who had already completed a comprehensive programme of continuing education and training; although in some cases skilled workers without a *Meister* qualification were also promoted to industrial supervisors. In the **UK** and **French** companies investigated, workers were first promoted to industrial supervisors and then sent on relevant training courses, as required. In the French case clear career paths existed for long-serving workers, indicating the importance of internal labour markets, particularly in the chemical industry.

As regards the *new type of industrial supervisors*, the **UK** counterparts have to be prepared to take part in appraisals and (compulsory) training measures upon appointment to team-leader or team-coach. Compared to the past there has already been an explosion in the numbers of people taking supervisory management qualifications. Given the relative dearth of those with intermediate level qualifications, graduates enjoy a significant advantage in this respect over most workers, who have mostly low level qualifications.

In the **French** companies higher technicians without professional experience are rarely recruited as industrial supervisors and hardly ever straight into the higher levels of production management. Companies also intend to create qualification pools (workers with higher level qualifications) to assist in the recruitment and selection of industrial supervisors, although the type of qualifications required vary between companies. The functioning of the internal labour market is therefore not called into question.

In **Germany**, two companies studied had recruited experienced engineers, managers and technicians to industrial supervisor positions, whereas one company had employed young engineers without professional experience as Meisters. In none of the cases studied were the highly qualified recruited to worker positions prior to their employment as industrial supervisors. In future, two companies plan to reserve access to higher managerial positions to engineers only. One company intends to keep its options open, but expects Meisters and technicians to complete further comprehensive continuing education courses.

Consequences of Substitution Policies

Substitution policies have an effect on the employees concerned and it raises a number of resultant problems for companies. However, such an analysis of the consequences of substitution policies is faced with a number of difficulties: the long term effects of substitution policies are hardly visible as yet; current assessments of future developments may prove incorrect; and the establishment of new recruitment and selection policies occurred parallel to profound changes in work organisation and management roles, thus making it nearly impossible to separate the effects of the two developments on employees and companies.

Consequences for workers

Following the establishment of new recruitment and selection policies, the promotion opportunities for workers have deteriorated, at least in the medium term, and the conditions for promotion have changed. These changes will be felt more strongly in the German companies studied.

Consequences for traditionally qualified supervisors

Changes in recruitment and selection policies have been achieved via early retirements, dismissals or resignations of traditionally qualified managers, particularly in the German and UK companies. Traditionally qualified supervisors also

sometimes had to take up different jobs within the company, either in staff positions in technical offices or in some cases working on production, following organisational restructuring. Their pay levels were sometimes secured (as in the **German** companies), and sometimes not (as in the **UK** companies). In contrast, traditionally qualified supervisors in all three **French** companies have kept their positions due to a variety of reasons. With one exception, none of the companies have created alternative career paths leading up to new expert positions; instead job changes were dealt with on an ad hoc basis.

The changes in recruitment and selection policies have partly provoked demotivation and scepticism as regards the future for traditionally qualified supervisors in all **German** and **UK** companies covered. In the German companies these changes have been perceived as a devaluation of the traditional Meister qualification. In contrast, one **French** company had tried to reduce competition from the highly qualified for supervisory posts.

Consequences for the new type of industrial supervisors

The consequences of the substitution policy seem ambivalent for the highly qualified industrial supervisors, fairly irrespective of the country and the company investigated. On the one hand, the recruitment to lower level management positions opens up new opportunities for the highly qualified entering the labour market and career opportunities for those who started in jobs that were not traditionally regarded as graduate level entry. On the other hand, the highly qualified may fear for their *medium or long-term career prospects* if they stay on for too long in this type of job, if it means they have little chance of applying their technical skills, the exercise of which may be vital for other jobs. Consequently, the highly qualified have a vested interest in moving on to other jobs as specialist staff, causing relatively high levels of turnover in supervisory positions. This is particularly true for **Germany** and the **UK**. In **France**, the promotion prospects of the higher technicians working as industrial supervisors are effectively capped, as access to more senior management positions requires further demanding studies and geographical mobility.

Furthermore, there seem to be *discrepancies between the skill profiles of the highly qualified and the skill requirements* of their jobs, again fairly irrespective of the country and the companies covered. The highly qualified recruited to supervisory positions are seen as having certain skill deficits, even though in some instances they may be formally overqualified for the job. In the German companies, lack of certain technical and social skills and experiences were reported. The situation was similar in the UK, where it was also noticed that graduate supervisors sometimes had difficulties in gaining acceptance amongst the workers. In contrast to an often discussed hypothesis, these skill deficiencies are not only due to a lack of experience, as the examples of many highly qualified with work experience within or outside their current company show. These skills deficits may also be due to a range of other factors, such as the lack of appropriate specialist

technical skills and qualifications, including specific knowledge relating to the production process and the plant.

Consequences for the organisation of work

In view of the avowed lean management philosophy, it is surprising that six out of the nine companies have not reduced the number of management levels. Three companies (one in each country) have even increased the number of management levels in the company hierarchy. This change was not intended, yet was necessary to cope with the resultant problems of new patterns of work organisation and changes to recruitment and selection policies. In two of these companies, traditionally qualified supervisors were employed in newly created (temporary) management positions.

It can be assumed that complex interrelations exist between the new recruitment and selection policies, the establishment of more formalised work routines and changes in the levels of management. More hierarchical levels and a greater distance between supervisors and production processes, as in some of the German companies, require more formalised work routines, which, in turn, promote the employment of the highly qualified. And the highly qualified expect promotion prospects, requiring a good number of management levels. These complex relationships facilitate each other, but they do not necessarily imply each other.

By contrast, in the much slimmed down **UK** companies responsibilities were pushed down to the lower levels of (supervisory) management and to teams, and companies were much more careful that supervisors could meet much more demanding personal specifications and role expectations. In some circumstances, but not always, this favoured the appointment of graduates with relevant work experience to these positions.

Consequences for the personnel policies of the companies

In **German** companies the new recruitment and selection policies could deplete the qualification reserves of companies in the short term, as many workers may be doubtful of the benefits of having to finance their own education and training without realistic prospects of promotion. But there might also be long-term effects on the companies qualification pools, as the relative value of a relevant apprenticeship might be questioned. In contrast, the recruitment of the highly qualified to worker positions will improve the skill levels of workers in the **French** and **UK** companies, as long as the promotion prospects of the highly qualified are seen as sufficient. However, this recruitment strategy is likely to diminish the promotion prospects of those with a suitable qualification below degree level (for example, the Baccalaureat or Modern Apprenticeship). This in turn may prevent people from embarking on this qualification route, designed to enhance the skill levels of workers. If the highly qualified are only recruited to more demanding positions, a polarisation of workers may be the result, leaving those with fewer opportunities demotivated. However, in contrast to Germany, a negative impact on continuing education and

training is less likely to happen in French or UK companies, as it is much more likely that the employer rather than the employee takes the initiative.

As mentioned earlier, there is a tendency towards a *high turnover of highly qualified staff in industrial supervisory positions*. Some German company representatives, regard this as positive, as it prevents supervisors from becoming too powerful. However, there are also a number of more problematic effects. The skill deficits and the lack of experience of the highly qualified supervisors, together with the increased workload of managers in general, may in certain cases lead to a sub-optimal *execution of certain functions or to delegating certain functions to lower levels*.

Consequences for continuing education and training policies of companies

As a consequence of the new recruitment and selection policies, companies have to impart social and leadership skills to a greater extent and technical skills to a certain degree for highly qualified supervisors. The extent to which these skills can at least be partly acquired through experience in a number of worker positions and internal knowledge of how the company operates depends to a large extent upon the range of skills required and responsibilities exercised in those roles. The establishment of intensive continuing education and training programmes for industrial supervisors to counteract skills deficits, as was the case in three French companies and one UK one, requires substantial personnel management effort. This involves organising the various stages of the training programme, and also financial resources, even more so because of the relatively high fluctuation on the posts for which they are trained.

French and **UK** companies also need to create the prerequisites for their co-existence policy, that is, the provision of continuing education and training programmes for the traditionally qualified workers aspiring to a career in supervision and management. In particular, workers may need support to develop their abilities to operate as effective learners. In the UK some such measures are in place.

Companies are being expected to promote the continuing education and training of their workforce. Where this was previously underdeveloped, as in many **UK** companies, employee development schemes have proved largely successful. However, in **German** companies, where the prospect of promotion to Meister and significantly increased financial rewards drove the continuing education and training system, the reduced promotion prospects may mean that the lifelong learning of workers will be hampered in the medium or long term. To counteract this, more initiative and investment on part of the companies will be required, as individual commitment to learning and development becomes less reliable as a driver of the continuing education system as a whole. The concept of 'competence development' is driving employee development in **France**, but insofar as it requires promotion opportunities to motivate workers where these are blocked off the rationale for the system may be undermined.

Conclusions

Substitution processes

There are a number of factors which seem to have contributed to the establishment of substitution processes. First, many companies covered seem to pursue substitution policies with the aim to implement new forms of production management in the hope of *achieving higher productivity levels*. The highly qualified seem to be more open to such changes and they are equipped with valuable knowledge and skills.

Second, *weaknesses in the education and training* of workers, shortages of suitable candidates for positions in production supervision and management, the lack of continuing education and training, and the need to strengthen the group as well as the status of industrial supervisors, all favour the establishment of substitution policies. There is also a complex connection between the new recruitment and selection policies and certain elements of a Taylorist organisation of labour, particularly formalised production management, a great number of hierarchies and a division of labour that is based upon the lower level workers exercising mainly low-level skills.

Third, substitution policies are helped by a continuing *supply of highly qualified entrants* to the labour market and by the more practical alignment of much higher education. But these factors cannot sufficiently explain substitution; instead the vested interests of companies in wanting to introduce more radical changes outwith substitution policies play a crucial role. Weaknesses too in the mismatch between skill potentials and the changing duties of traditional industrial supervisors seem to have at least partly contributed to the establishment of substitution policies.

As discussed earlier, further increases in substitution processes seem most likely to take part in the **UK** and least likely in **Germany**. The situation is less clear-cut in **France**. On the one hand the importance of internal labour markets does not indicate an acceleration of substitution policies. On the other hand the extent of the substitution processes depends on the general labour market, with deteriorating job prospects of school-leavers increasing substitution.

Implications of models combining both access routes to supervisor posts

Combining elements of the traditional supervisor career development and the employment of highly qualified staff can avoid abrupt changes in recruitment and selection policies. There is considerable demand for such *synthesis approaches*, particularly in the UK. But in order to be successful four key principles need to be established. They relate to keeping access to promotion fairly open, raising qualification potentials of future supervisors, elevating the status of promoted supervisors and establishing a generally acknowledged qualification. Those companies studied who actually had adopted a synthesis model have not always combined all four principles.

The *co-existence model* is currently the dominant pattern. But it cannot be ruled out that it might just be a temporary phenomenon to facilitate the transition to recruiting more and more highly qualified staff. Highly qualified might also be in a more advantageous position to compete for supervisory posts due to their faster track promotion and the increasing convergence between job profiles of supervisory positions and the skill profile of the highly qualified. And finally, at least in German companies, workers will be less committed to continuing education and training given deteriorating promotion prospects.

Implications of substitution processes for VET and life-long learning

If substitution processes are going to increase significantly, the overall loss of promotion opportunities would make *vocational education and training* (VET) less attractive in countries like **Germany** where the VET system has traditionally been very strong, causing far-reaching consequences also for higher education. This could eventually lead to a situation where there might be little chance of reviving the worker promotion path, as it seems no longer credible or feasible. Ironically, the decline of VET from the 1970s through to the mid 1990s in the **UK** means that the job prospects for those entering the labour market now with intermediate level craft and technician qualifications are extremely buoyant in many occupational fields and geographical areas.

In **Germany** substitution policies threaten to undermine and destabilise processes that have led to substantive commitments of individuals to continuing education and training. Consequently, more emphasis will need to be put on initial education undergone before entering working life or shortly thereafter. The vision of *lifelong learning* will then be reduced to a range of short courses necessary to develop the appropriate skills. In contrast, employing more highly qualified staff as industrial supervisors in the **UK** seems part of a much more general movement to upgrade

the skill levels of all employees. Continuing education and training, and the need to combine learning and working, are becoming more important, although it should be remembered that many UK companies were starting from a very low base in this respect.

The introduction of new recruitment and selection policies also had an impact on continuing education and training of the highly qualified. The discrepancies between required and available skills of the highly qualified have prompted the provision of quite extensive and fairly individualised personal and continuing education development programmes. Yet *generally acknowledged certificates* facilitating labour market mobility have rarely been developed.

More specific conclusions that relate to education and personnel policies are to a large extent country specific as the principles of education policy and the assessment of substitution processes are very much affected by national traditions (for further details see Drexel et al 2000 and Drexel *et al.*, forthcoming).

Project Reports

Drexel, I., M. Möbus, F.Gérardin, B. Grasser, H. Lhotel, A. Brown and M. Maguire (2000). *Neue Karrierewege und lebenslanges Lernen: das Beispiel der Führungskräfte in der Produktion*. München: ISF.

Drexel, I., M. Möbus, F. Gérardin, B. Grasser, H. Lhotel, A. Brown, M. Maguire and B. Baldauf (forthcoming): *Cross-national comparisons of new career pathways for industrial supervisors in France, Germany and the United Kingdom*. Coventry: IER, University of Warwick.

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