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REGULATION AND CONTROL OF THE LABOUR PROCESS AND THE DIVISION OF SKILL

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1. Introduction

This paper takes up the debate concerning ‘control of the labour process’ and extends Braverman’s notion of control as management-versus-shopfloor through incorporating a skill dimension and analysing the labour process as control of the division and hierarchies of skills. It draws on research funded by the EPSRC into skills and innovation in the construction industries in the four countries, Denmark, Germany, The Netherlands and the UK.

The paper presents an analysis of skills using a much wider definition than that deployed by Braverman, one that is social rather than technical (Braverman 1974). The division of skills is understood as an effective means of controlling the division and thus the organisation of labour. The high fragmentation of skills in the UK is analysed at professional and operative levels through case studies, contrasted with Continental systems and put in the context of the societal divisions between manual and non-manual, the wage relation and collective agreement, and training systems in the four countries.

Our argument uses the French regulation theory (Boyer 2002), linking an investigation of the nature and role of the institutions and organisations exercising control functions in the construction process in their societal context to an analysis of skills. We argue that the control of the labour process occurs through the division of skills and that this happens in fundamentally different ways in different regimes of regulation and modes of production. The German construction sector operates with a low control function in the construction process and product. The UK construction is a low skilled economic sector with a high level of control of the construction process and the product.

Control takes on different forms and a different nature. In the UK, it is directed at the output. On site this takes the form of control of the contract relations, control over subcontractors’ quality standards by the main contractor, the client, private insurer and public authorities such as the local authority building control. These stringent controls become necessary as access into the industry is unregulated and there are very low barriers of entry for firms and for operatives to operate and work in the industry. In the Continental countries access is

regulated. In Germany, for instance, the chambers of industry and commerce – installed with great authority to safeguard quality, norms and standards – check capital requirements and management and technical competence of firms. Trade professions are also strictly regulated through the obligatory master craftsperson status. In the UK liberal free market, tradition has substituted regulation. Remnants of a different industrial structure still exist, in construction in joint industry boards, training organisations and standard setting institutes in the services trades. Requirements and societal investment, however, are low at the entry level and the results are that output has to be strictly controlled. Operatives in the UK construction enter into casual employment relationships with little formal initial training and greatly rely on informal on-the-job learning. The meaning of skills is thus pivotal in the understanding of the particular role of control in differing systems of regulation.

Our hypothesis is that the UK system is characterised by its great emphasis on controlling the product. This is reflected in the contracts of service of construction professionals and operatives and is substantiated by the role of insurers. The latter occupy a prominent place in the quality control system in contrast to their counterparts on the continent whose insurance function is merely cursory and involves insuring the quality of the product against defects. In the UK, the insurers have become involved in the process, by setting up their own inspection system which largely duplicates the states' control function, exercised through the Local Authorities and to a small part through private inspectors. Insurers in the UK also publish their own extensive technical manuals for the industry, following closely the building regulations guidance literature, thus repeating the work of the state's building regulation authority.

In contrast, the German construction sector, for example, is characterised by the regulated control of the process. This is attributed mostly to the different system of governance (Lane 1997). The concept of the social market economy is characterised by the high level of social regulation, for instance, through collective organisation and associative forms of meetings. Social partnership is based on the cooperation of employers' and employees' representatives. This occurs on various geographical levels, nationally, regionally and locally and in many different organisations and institutions. These social interactions in the various committees represent local networks. In this transnational comparison the role of these networks in ensuring quality standards is examined.

In Germany the regulated control of the input into the industry occurs very effectively through the regulation of skills provision via the public training system, the dual system, which supplies the high quantity and quality of vocational skills for the industry. Equally important are: the social partner managed institutions and bi- and tripartite run sector organisations, such as the social funds, occupational accident and health insurances, the sector dialogue and the collective agreements and, at the firm level, employees' participation in the works council system.

2. Training and Education

2.1 Different Concepts of Skill

For Britain and to an extent the Netherlands the word 'skill' is separate from 'qualification', whereas on the Continent there is only one word, 'qualification', and 'skilled' labour is almost universally assumed to be 'qualified' through a formal training process. In Britain the general notion of 'skill' is as the individual physical attribute required to fulfil a particular task or

output, rather than as a social construction embedded in the labour process. So, for example, the skills of a bricklayer are regarded in timeless terms as the ability to lay bricks rather than as related to the productive potential of a (trained) bricklayer and an integral part of a complex and dangerous construction process governed by social norms and regulations. Such a conception is always of the manual dexterity required to fulfil a single task, even though the process might demand the planning and coordination of fifty tasks, rather than a few, and interfacing with a range of specialists. This physical notion of skills is historically rooted, to be found, for instance, even in Adam Smith's description of the division of pin-making through the manufacturing process where 'skill' is equated with single operations in the work process. It is reiterated by Braverman in the 1970s, who likewise assumed that automation would lead to a general loss of skill in the workforce due to the fragmentation of tasks associated with assembly line production (Braverman 1974). Deskilling on this understanding becomes a technologically determined process and thus a solution to skill shortages.

An alternative approach to skill is to regard it in social rather than physical terms as the product of collective negotiation and as constructed not only through the work process but through different levels of education and attachment to different institutions and means of regulation. Skill in this sense refers to occupational and professional divisions recognised through collective agreements, wage and salary structures, employment and contract conditions, education and training programmes and classifications, professional or social partner organisations, etc. 'Skills' so defined can be observed in skill hierarchies and differentials within firms and on sites, as well as in occupational divisions generally recognised in society.

2.2 The Nature of Operative Training

The nature of the training system in the UK changed fundamentally with the overhaul of the qualification system and the introduction of National Vocational Qualifications (NVQs) in the late 1980s. NVQs are derived from a functional analysis of job activities and are thus predicated on outcomes that are measured as occupational competencies. Construction training in the UK today is conceived around the delivery of task-based competencies with knowledge seen as an 'add-on' component. The approach to training in the other three countries in this study differs in that occupational competence is understood as broader than the sum total of job activities and the training process is seen as integral and critical to its attainment. Training focuses more on inputs and integrates both theoretical knowledge and practical work-based training. This is exemplified in the stress laid on the time taken to undertake a particular task, a factor of little significance in the British system. Thus, while all training systems comprise both breadth, consisting of knowledge and practical expertise in a range of construction trades, and depth, that is theoretical knowledge of building processes and general educational attainment, the weight attached to each varies very considerably.

In the UK the NVQ system was conceived around the ability of trainees to competently carry out site-based tasks. With this emphasis on work-related skills, much of the underpinning theoretical knowledge taught under the previous City and Guilds qualification was lost. Instead, practical tasks carried out on full-scale rigs came to dominate over the classroom- and workshop-based practical exercises on third-size models characteristic of the old system. A number of studies have raised concern over the lack of underpinning theoretical knowledge and the implications this has for an individual's ability to progress to higher qualification levels (e.g. Steedman 1992 and 1997). A senior FEFC inspector interviewed in June 2000 confirmed that lack of underpinning knowledge, specifically higher level science and

mathematical skills, at NVQ Levels 1, 2 and 3 prevented construction trade students from progressing to technician qualifications.

In order to compensate for this lack of knowledge, the Qualifications and Curriculum Authority is developing technical certificates that will be gained after 70 days off-the-job training. These technical certificates will relate to theory only, while the NVQ relates to practice. It is planned that Modern Apprenticeships will then accommodate these certificates, incorporated as one day a week in college, as well as key skills and an NVQ3 qualification. This again differs from the rest of European practice in that theory and practical skills will be compartmentalised into entirely different qualifications.

The notion of occupational competence is central to recent revisions in the training systems in both Denmark and Germany. However, it does not entail a separation of theory from practice, as has been the case in the UK. In Germany, for example, more emphasis is being attached to ‘developing the competence to act autonomously within one’s occupational environment’ as well as initial vocational training being the basis for life-long learning (BIBB 1999). There is generous leeway in how these goals will be met and the organisation and regulation of training through the social partners and the state ensures that the needs of both employers and workers will be balanced. Construction trainees enter into broad-based construction training from the outset with only later specialisation into one of fifteen trades (table 1).

Table 1 The training system in the German construction industry

Year 1 in weeks	Year 2 in weeks		Year 3 in weeks		Group 3 after 1 year site work	Trade profiles
Payment according to collective agreement	Group 5		Group 4			
Foundation training	General vocational training		Specialised vocational training			
15 weeks in firms and holidays 17 weeks in training centres 20 weeks in vocational schools	31 weeks in firms and holidays	11 weeks in training centres, 10 in voc. schools with trade specialism	36 weeks in firms, 10 weeks in voc. schools, 4 weeks in training centre,		Building	Bricklayer
						Concretor
						Furnace and chimney builder
					Finishing	Carpenter
						Plasterer
						Tiler
						Floor screeder
						Thermal and noise insulation fitter
						Dryliner
					Civil engineering	Roadworker
						Pipe layer
						Canal worker
						Well worker
						Tracklayer
						Well builder

(Clarke and Wall 1998)

When training is conceived as being broad-based and thus requiring both increased general knowledge and an introduction to the practical aspects of other construction trades before specialisation, it cannot be simply site-based ‘learning on the job’. As described above, general knowledge is taught in vocational colleges, equivalent to the British Further Education sector but in both the Netherlands and Germany a third institution is involved in the delivery of training – the industry-run training workshop. These centres are funded in

Germany by both the state and industry and in the Netherlands entirely through industry levy contributions. They provide the opportunity for trainees to experience full-scale construction work in the protected environment of a workshop and to handle the latest in construction tools, materials and equipment. They also contain classrooms where theory lessons can be taught. In Germany site-based training, that is training within the firm, has increased slightly since the revision of the training regulations in 1999. In response to continued pressure from the employer's organisations, the time that trainees spend in the training workshops has been shortened from 37 weeks to 32 and trainees now spend 84 instead of 79 weeks overall in the firm (Table 1). The trainees pay is part of the collective negotiations, and was agreed in 1997/1998 at DM 947,80 in the first year, DM 1,470 in the second, DM 1.856,80 in the third and DM 2.088,90 in the final year. This compares to the pay of an unskilled operative of DM 2.856, which is three times higher than the trainee's pay in the first year. The rates are negotiated as a percentage of the skilled operatives pay after completion of the traineeship. This is in the first year 24.5%, in the second 38% the third 48% and the fourth 54% of the skilled collective rate.

2.3 Skill Standards

The gap between skill levels in Britain and in the other countries studied grows ever wider the more standards elsewhere increase. The most dramatic upskilling process has occurred in the Netherlands where no one leaves school without an educational diploma and there are fewer and fewer unskilled entering the labour market. Students have the possibility to continue to a higher level and each level has a target for those entering, adjusted according to developments in the labour market and in consultation with the social partners. The aim is that all those working in construction achieve a minimum level of 2, if this was not reached initially. To meet this, a new, well-recognised adult further training scheme consisting of some college training has begun, subsidised by the social partners with levy income and directed first at carpenters, followed by bricklayers and concretors. The aim is to acknowledge and certify skilled labour through the use of an employment and experience passport. Consequently it is becoming increasingly rare for gangs to have any non-trained workers, though levels of work experience and education will differ. The collective agreement for the construction industry also now requires that all entrants are skilled and qualified. And most construction firms have a policy of offering permanent employment only to trained staff. This is because these are considered: to be safer as they have knowledge of materials and tools and how to deal with them; to have flexible skills, adaptable to a variety of conditions on different projects; to need less instruction and supervision; to make fewer mistakes; and to be better able to work with new modern tools. Professional and operative jobs alike are generally seen as becoming more complicated and requiring higher skill levels and the Ministry of Economic Affairs in particular regards a well-educated workforce as giving a competitive advantage to the Dutch economy.

In Germany an even starker ethos to employ only skilled workers in the construction industry pervades, as demonstrated by one of the construction firms visited which has stopped employing unqualified labour altogether on the grounds that rectifying quality problems costs too much.

In Britain, as in the Netherlands, attempts are being made to recognise the skills of those who are experienced but unqualified, having learnt on the job. Unlike the Dutch scheme, however, the On-site Assessment (OSA) scheme in the UK has no significant accompanying training measure, so has no upskilling effect and implies simply an extension of the NVQ system to a

wider workforce. In Britain 70-80% of the construction workforce are estimated to have no formal qualifications, having learnt on the job (*UCATT interview*). In spite of growing controversy surrounding assessors, the Qualifications and Curriculum Authority (QCA) regards on-site assessment of the existing workforce as a 'quick and cheap way' to recognise the skills of existing personnel, one that is more effective than focusing on new entrants (*QCA interview*). OSA is intended as a 'fast-track route' to obtaining an NVQ2, one to begin with concentrated on joiners, painters and pipe layers, for instance, under a BAA scheme. Thus the emphasis is on accrediting existing skills rather than expanding the provision of education and training, whether for new entrants or the existing workforce. This contrasts with the approaches in both the Netherlands and Denmark, where new training schemes have been introduced for workers previously classified as unskilled and semi-skilled.

The effect of the upskilling of the construction workforces in Denmark, Germany and the Netherlands is that labourers have become an increasingly marginal group. On one Dutch site, for instance, the only labourers employed were those cleaning the building after the process was complete. In Germany, such cleaning staff too will have significant training, for instance, in the use of chemicals. The decline in the use of labourers, for instance the hod carrier, in these countries is generally associated with greater mechanisation (e.g. the use of small cranes) and prefabrication. It is also attributable, in the Netherlands, to improvements in the possibility for progression from Level 1 through training, the aim being to keep people in the sector and to provide them with a career path to all levels. Due to state subsidies to professional and vocational training, the threshold to the labour market has in effect been raised and firms have adapted to this in their selection criteria and job definitions. The result is that it is more difficult for the unskilled or semi-skilled to find a job.

In contrast, the UK has remained in what is often described as a low-skill equilibrium, typified in construction in the large proportion of labourers outside many schemes of training (Gallie et al. 1998). In 1989, the last occasion when such statistics were collected, 35% of the construction workforce were classified as labourers and there is every indication that this is the same or even higher today. Indeed, it has hardly changed since the late 1960s, when 50% of the workforce were classified as labourers (CITB Annual Reports). One reason is the high proportion of so-called self-employment and casual employment in construction. A comparison of the training of a sample of directly employed, self-employed and casually employed construction workers, for instance, showed that the majority of those casually employed had picked up skills on the job and that the more direct and stably employed the higher the proportion of those with formal training (Clarke and Harvey 1996). In stark contrast, in Denmark, the Netherlands and Germany numbers are very much lower and fast declining (Table 2). In Germany, for instance, the proportion of labourers (not strictly, but rather semi-skilled '*Werker*' and '*Fachwerker*') in the construction workforce declined from 33% in 1974 to 17.5% in 1996, a decline occurring largely in the 1970s when the training framework was renewed. In the Netherlands an even smaller proportion of labourers are found, only 7% of the construction workforce in 1997, though this is partly explained by the exclusion of civil engineering workers from the SVB statistics. In Denmark the classification of industry workers differs and the category 'labourer' does not exist. Instead 'semi-skilled' refers to those workers, represented and organised through the General Workers Union (SID), who have been through short courses and been trained on the job; these constituted between 5-10% of the workforce in 1997 (internal document, S. Bonke, DTU, 1999).

Table 2 Proportion of labourers in the construction workforces of UK, Germany, Denmark and the Netherlands

	UK 1989	Denmark* 1997	Germany 1996	The Netherlands 1997
% of labourers in the construction workforce	35	C 5-10	17.5	7

Sources: ZDB, CITB, SVB and DTU.

* semi-skilled

2.4 The Centrality of the Master Craftsman Status in Germany

In October 2000 the European Court of Justice came to the conclusion that some parts of the German Craft Code violates one of the fundamental principle of the European Union, the freedom to provide services, '*Dienstleistungsfreiheit*'. The court argued that foreign firms are disadvantaged when offering their services in Germany. If they are not established in Germany they have to apply for each individual contract to be registered in the craft roll. This time consuming administrative and costly process disadvantages foreign firms.

The German craft code, called '*Handwerksordnung*', regulates the trades and crafts system originating from the guild system. Access into the trades and the terms and conditions for trading are controlled based on the concept of master craftsmanship (*Meister*). This is at the core of the craft regulatory system. The Master certificate is the precondition for establishing a business and also the entitlement to train apprentices. The successful completion of the Master course results in the entry into the craft roll, '*Handwerksrolle*'. Craft licences, '*Handwerksgenehmigung*' are issued by the crafts chamber. Firms operating in the craft trades have to employ a Master in this occupation, the issue of trading licences are tied to that. The arguments for such a regulation are mainly based on quality assurance for craft activities (consumer protection), the prevention of destructive competition (safeguarding of existing standards), and the setting of incentives and qualifying for apprenticeship training.

The Craft Code has turned into an economic disadvantage for German firms, argues the German monopoly commission and recommends a wide deregulation (www.monopolkommission.de). Foreign firms can offer their services in Germany and only have to show the regional craft chamber evidence of a formal qualification and trading experience to secure entry into the craft roll and award of a craft card. They are relieved from the '*Meisterzwang*', the master craftsman examination as a general precondition for operating in craft areas for all firms. They either have to be run by or employ a master and have to be registered in the craft roll, '*Handwerksrolle*', to be issued the craft card they need to possess for offering services. Foreign firms do not have to pay the administrative fees for the entry into the craft roll. Two recent revisions of the Craft Code resulted in some small changes, the simplification of the different craft profiles to 97 as full craft trades, yet any opening of the market was not achieved. The Monopoly Commission had repeatedly argued for a fundamental revision of the Craft Code, the last time in a major report in 1996/1997 refuting the special status of the craft trades in relation to other sectors of the economy. The rights of the individual are infringed by the Craft Codes, and significant economic distortions have resulted, such as high price levels, a restricted supply of services, of competition and thus an expansion of the black economy. The opportunity of new job creation and employment is hindered. The Commission recommended the abolition of the "Major Certificate of Qualification" (*Grosser Befähigungsnachweis*), the award after completion of the master

craftsman qualification. This is the requirement to exercise a trade. The master craft qualification should be put on a voluntary basis, yet should remain compulsory for apprenticeship training.

An example is an English firm that opened up a firm in Frankfurt to undertake work for the American Armed forces on the Frankfurt airport, installing highly complex security equipment. The firm was entered into the general register of trading firms, '*Handelsregister*'. Yet the judge commented that if any installations of security equipment – such as CCTV cameras – were to be included in the operations of the firm as well, the firm would need the craft licence '*Handwerksgenehmigung*' or to employ a master. The English firm decided to employ subcontract firms instead.

If the rules and regulations are not complied with, the licence is withdrawn with the immediate effect that all trading activities are suspended and the workshop closed down. Therefore objections against the withdrawal of licences are not uncommon. For instance, in the regional administration in Brunswick in Lower Saxony, the smaller of the three regional state administrations, people are employed full time just to deal with the objections raised by firms. This delays any immediate action and can take up to six months, depending on the efficiency of the administration.

In October 2001, the Court of Justice of the European Communities decided in favour of the German regulatory system. The German social funds, '*Urlaubs- und Lohnausgleichskasse*', in short '*ULAK*', of the construction industry had taken eight Portuguese and one UK construction companies to a German labour court for refusing to provide information and to pay the obligatory contributions to the fund. The German labour court considered national law to contravene European law and transferred the case to the European court to test whether the principle of freedom to provide services has been violated. According to the collective framework agreement and the law on minimum holiday entitlements, German construction workers are entitled to holiday pay for the whole year to be paid by their current employer. The '*ULAK*', or paid leave fund, compensates the employer for the time the employee is not working with the firm. Employers in Germany pay contributions to the fund amounting to 15% of total gross wages. The law on the posting of workers of February 1996 applies the provisions of the collective agreements to workers employed by firms established outside Germany. The posted workers are entitled to receive holiday pay directly from the social fund or receive payment instead.

The court decided that a restriction of the freedom to provide services is justifiable only if it is necessary to pursue an objective in the public interest, for instance the protection of the worker. The court also left it up to the national legislation to define the extent of workers' protection, in this instance the length of the holiday, 30 days, extended to the posted workers. National legislation can define how to pursue the objective of public interest, in this instance the protection of workers. The confirmation of this principle is of far reaching importance. National markets will be able to protect themselves from social dumping. (www.europe.eu.int cases C-49/98, C-50/98, C-52/98, C-54/98, C-68/98, C-69/98, C-71/98)

In January 2002 the European court of justice again upheld the claim of a local German court for a Portuguese company to pay their Portuguese workers the minimum wage payable under the German collective agreement which has been legally extended to apply to the whole sector. The Portuguese firm had carried out construction work for five months in 1997 in Germany. The employment office twice inspected employment conditions on site and found

out that the wages were below the minimum wage according to the collective agreement. The company was ordered to pay the wage difference of DM 138,018. The court decided that it would be a violation of community law if the foreign firm did not have to pay the minimum wage all other firms in the sector have to pay (www.europe.eu.int case C-164/99).

2.5 Conclusion

Different modes of regulation have been examined in the vocational training system and for the firms in the craft sector in the construction industry. The underlying fundamental differences are apparent in the concept of skill, embedded in qualification and social recognition, the lynchpin of how the systems operate. The level, form and nature of controls exercised differ. The regulation of skill levels possessed by both firms and operatives is at the centre of the German system, whereas in the UK the output and result are controlled and the system is relatively uninterested in the provision of training and the quality of skills. This is best illustrated in the On-Site-Assessment and the CSCS schemes. The one is about giving recognition to informal and on-site-learning rather than being concerned with skill acquisition, the other is a 'licence to work', not a qualification.

3. Employment Conditions

In the centre of the analysis is the transnational comparison of employment conditions as one of the important quality indicators in the construction process. Employment conditions are defined as pay and terms of employment, such as working hours, overtime, paid leave, sick pay, bad weather pay, retirement benefit etc. Our assumption is that the employment condition has a direct effect on the quality of the process and the product. We compare how employment conditions are negotiated, whether through a process of sector-wide centralised bargaining or through individual, firm and site-level arrangements and how far collective rates reflect real pay levels in the industry, that is to what degree companies adhere to collective agreements. A second aspect of the examination is firm and site organisation and the extent of employee participation. To what degree are mechanisms of social partnership in place or are firm and site conditions determined through managing control?

3.1 Collective Agreement versus Individual Employment Relationship

A precondition for effective centralised bargaining is the high degree of organisation of employers' and employees' organisations. This is the case in Germany on the employers' as well as on the union side. The employers' umbrella organisation is the *Bundesvereinigung der Arbeitgeberverbände*, BDA, representing 75% of German employers, who employ about 80% of German workers and employees in the private sector. At sector level, for instance, *Gesammetall* represents 7,000 firms who employ over 3 million people, and although it has experienced a decrease in membership it still covered 63.3% of all employees in the sector in 1993 (Hassel). The unions are combined in the central umbrella organisation, *Deutscher Gewerkschafts Bund*, DGB, with 7.8 million members. Two-thirds of their members are organised in large unions, such as IG Metall, traditionally one of the hallmarks of German trade unionism, and the new public sector and new IT union *Verdi*. The construction industry also has a high degree of organisation, on the employers' side the *Hauptverband der Bauindustrie* and the *Zentralverband des Handwerks*, and on the union *IG Bau, Steine, Erden*.

Employment conditions in the construction industry in Germany are regulated by collective agreement between the social partners. There are many different types of collective

agreement, the framework agreement (*Bundesrahmentarifvertrag*), pay agreement (*Entgelttarifvertrag*, for three different occupational groups – operatives, site managers and salaried office personnel), the social fund scheme agreement (*Verfahrenstarifvertrag*), and other collective agreements on special subjects, such as dispute resolution, winter pay, and supplements for retired workers and for people with industrial injuries.

The framework agreement regulates working time, overtime, night work, leave, occupational hierarchies, bonus for hazardous work or work under hard conditions, work away from home and holiday pay. This agreement is generally valid for three to four years and sometimes is extended for another three years.

The pay agreement is structured according to occupational groups defined in the framework agreement, eight in total, five categories for skilled operatives and three for semiskilled to unskilled (Table 3). Pay levels range from DM 2,856 for the unskilled worker to DM 4,269 for the skilled worker with one year's experience to DM 4,906 for the assistant site manager, the highest category, a 1.7 multiple of the lowest.

Table 3 The hierarchical structure of site personnel according to the collective agreement

category		Occupation		Qualification	Pay in DM 169 hours per month
I	Skilled	<i>Werkpolier</i>	Assistant site manager, min. five years work experience	Certificate, examination after a course of 240 hours	4.906
II		<i>Vorarbeiter</i>	Foreperson, managing a small group	Apprenticeship and two years work experience	4.495
III		<i>Spezialbau- facharbeiter</i>	Skilled tradesperson	Apprenticeship and one year work experience	4.269
IV		<i>Gehobener Baufacharbeiter</i>	Skilled tradesperson	Apprenticeship or other not construction related apprenticeship and have certain skills	3.917
V		<i>Baufacharbeiter</i>	12 months work experience and working in specialist field	Completed the 1 st year of the training scheme	3.809
VI	Semi- skilled	<i>Baufachwerker</i>	over 18 and six months work experience		3.659
VII		<i>Bauwerker</i>	18 months work experience		3.529
VIII	Unskilled	<i>Hilfskraft</i>			2.856

Source: Elsner, *Tarifsammlung für die Bauwirtschaft*, 1997.

The sectoral bargaining system is on the retreat and company-level bargaining has more than doubled in the last 10 years, yet the proportion of all employees covered by the latter is still at a very low level. The coverage of the collective agreements was almost universal at the beginning of the 1990s, in 1995 it still reached a level of 72.2% of all employees in Western Germany, but five years later, in 2000, it had dropped by ten percentage points to 62.8%. Recent research by the German Ministry of Labour's labour market research institute analysed a sample of 1.7 million West German and 440,000 East German firms covering 34 million employees. This shows that an industry average of 45.4% of firms in the West and 23.2% in the East are part of sector agreements; company-wide agreements were signed only by 2.7% and 4.3% of firms. The percentage of employees covered, however, is much larger:

62.8% in the West and 45.4% in the East. The construction sector differs greatly from the industry average for West and East Germany. 70.1% of firms have signed the sector agreements in the West and 34.6% in the East, with only 1.9% and 4.6% of firms in the West and East having company agreements. More than four out five employees are covered by sector agreements, less than half in the East and only 3% of employees by company agreements in the West, 9.9% in the East (Table 4).

Table 4 Collective bargaining coverage of companies and employees in Germany in 2000

	Sectoral agreements, Construction and (industry average)		Company agreements, Construction and (industry average)	
	West	East	West	East
Company coverage	70.1 (45.4)	34.6 (23.2)	1.9 (2,7)	4.6 (4.3)
Employee coverage	81.4 (62.8)	43.5 (45.4)	2.9 (7.3)	7.0 (9.9)

EIIR February 2002, 337.

The system of centralised bargaining has clearly declined in Germany, dropping from 72.2% in 1995 to 69.2% in 1996, to 67.8% in 1998 and 62.8% in 2000 for all employees in West German industry. Though falling by 10%, it still covers almost two-thirds of the working population. In construction, the coverage rate is very high, indicating that the regulation of pay and conditions of employment is thus removed from the site or firm level and agreed on an industry-wide basis. This safeguards against competition in the industry taking place on the basis of labour costs, for construction a large proportion of the cost structure. The collective pay agreements are usually for one year.

The opening of the Eastern countries and borders in the 1990s has brought severe problems to the construction sector and the centralised bargaining system has been under pressure ever since. Wage agreements and social wage costs are high compared with wage levels paid to 'illegal labour'. The Minister of Labour, at the request of the collective bargaining commission, extended four collective agreements over the whole sector, the umbrella agreement regulating working time, hours, overtime, etc, the minimum wage agreement linked to the posting directive, training and social fund contributions agreements (Bosch and Zühlke-Robinet). Minimum pay rates have been mandatory for all operatives in construction, but with the present crisis in the construction industry four *Länder* in the summer of 2001 passed laws obliging the public sector to monitor that firms – including sub and sub-subcontractors – adhere to the pay and conditions stipulated in the universally declared collective agreements. A bill is presently before Parliament proposing to extend the obligation to adhere to the collective rate (*Tarifreue*) to all *Länder* (www.eiro.eurofound.ie).

Collective bargaining has to take account of the differences between East and West Germany. The collective pay levels for West and Eastern states are currently 13.98 Euro and 12.47 Euro respectively and minimum wages also differ – from September 2001 to August 2002 the Eastern minimum pay is set at 8.63 Euro, 12% lower than the West at 9.80 Euro (www.igbau.de). The average income of a building worker in the federal Eastern states in 2000 was 72% of the average income level of a building worker in the Western states, according to the collective rate. Yet, in reality the collective rate (*Tarif*) has not been paid in many cases, an indication of the scale of the present problems in the German construction industry. A recent report on the level of the black economy in the building industry for Berlin and Brandenburg estimated that every officially-employed worker in construction is matched

by one illegally working person, amounting in total to about 150,000 operatives working illegally (www.soka.de) (Schneider 2001).

The German regulatory system has been in crisis since reunification ten years ago, exacerbated by the deep recession in the construction sector over the last 6-7 years after the enormous artificial boom in construction in Eastern *Länder*. The present bill in Parliament, it was argued in the debate, threatens to erect boundaries between Eastern and Western firms. The clash between low and high wage economies and 'social dumping' is set to continue. Therefore, some of the regulatory mechanisms are in danger of being eroded, though the system also shows unprecedented resilience.

In the UK the Workplace Employee Relations Survey (WERS) shows how the individualisation of the employment relationship has grown. The proportion of employees in workplaces of 10 or more employees covered either by bargained or statutory collective arrangements has shrunk from 83% in 1980 to 35% in 1998 and multi-employer sector-wide bargaining even dropped to a low of 14% in 1998, from 43% in 1980. Collective bargaining still covers 61% of employees in the public and 24% in the private sector.

Employers have therefore unilaterally fixed pay for nearly half of all employees, and two-thirds in the private sector. Unions have often been derecognised or their influence over the terms of the employment contract has diminished, though they have retained some element of informal influence through being informed or consulted. The fixing of pay by formal collective agreement, however, is negotiated by unions for no more than one-third of the employed population. From 1980 to 1998 union influence also collapsed over recruitment, from 43% to 3%, and staffing levels, from 49% to 6%.

The employment contract, however, in pay and non-pay entitlements is still highly standardised and formalised even without union involvement, mainly due to the rise of statutory employment law. The Employment Rights Act 1996 specifies that the employer has to issue written information on some specified terms of the contract and certain rights. Employers have increasingly come to apply the law as a matter of routine; for instance 83% of firms covering 89% of all employees gave 20 days or more paid holidays even before the Working Time Directive became effective at the end of 1999. Legal governance of the employment relationship has thus increased in importance, yet compliance with legal requirements depends significantly on trade union presence at the workplace and in the firm.

Construction is an exception. On the basis of the 870 observations in the WERS survey 1998, it claims a high multi-employer bargaining rate of 26% compared with 5% in manufacturing, in the past the stronghold of collective bargaining (Brown et al. 2000). The construction industry annually negotiates pay agreements through its Construction Industry Joint Council (CIJT), a board formed by representatives of employers' and employees' organisations with the objective of negotiating the terms and conditions of the collective agreement for the industry, called the working rule agreement. The Joint Council is made up of: the Construction Confederation, the National Federation of Roofing Contractors and the National Association of Shopfitters – representing the employers; and the Union of Construction and Allied Technical Trades (UCATT), the Transport and General Workers' Union (T&GWU) and the GMB – representing the employees. A similar board exists in the electrical industry, comprising the Electrical Contractors' Association and the Amalgamated Engineering and Electrical Union.

The figure of 26% conceals, however, the degree of application of the working rule agreement in the industry. Negotiated pay levels are far below the industry averages; the hourly craft rate from June 1998 to June 1999 was £5.50, amounting to a weekly pay of £214.50, increasing from June 1999 onwards to £6.05, a weekly wage of £235.95. Comparable industry pay averages were considerably higher, up to 2 to 2½ times. We can conclude that the negotiated rate for the UK construction industry did not set realistic pay levels and that the multi-employer negotiations did not therefore have a significant effect on industrial relations in construction.

Evidence of the individualisation of the employment relationship is the rise of industrial tribunal cases. In 2000/2001 more than 130,000 applications were made to ACAS, the Arbitration Conciliation and Advisory Service, and the DTI estimates that up to 900,000 grievances could lead to applications. ACAS receives 750,000 enquiries each year and of the 130,000 applications in 2000/2001 29% were withdrawn, 37% were successfully resolved through the intervention of ACAS conciliation officers, 27%, or about 35,000, came to a hearing and more than half, approximately 19,500, were successful. What grievances do these applications address? The majority are for unfair dismissals, 46%, and for unlawful deduction and the Wages Act 20%, followed by 10% for breach of contract, 6% for sex discrimination/equal pay, 5% for redundancy, 4% for race discrimination, 2% for disability discrimination and 1% for working time (Shackleton 2001).

The UK construction industry has long experienced a dramatic shift in its labour market, through the change from contract of employment to contract of service (Harvey 2000, 2001). This has now been accentuated as construction companies have further reduced their costs through excessive 'outsourcing'. Many have closed down their own production departments and transformed any remaining directly employed workforce into self-employed and subcontractors. This relieved them of the higher social cost of direct employment, the employers' social security contributions, precisely 12.2% of gross wages, and sick pay. Paid leave has become obligatory since implementation of the Working Time Directive, and the self-employed are also now entitled to holiday pay, a contentious issue in the sector as many employers avoid payment. Contractors have changed the nature of their business by becoming management contractors and employing mainly professional staff. Many workers continue to carry out the same work yet under different employment conditions as their employment status has changed. The contract of services specifies the end result (the product) and not how it is to be carried out, as specified in the contract of employment through the conditions. The extended use of subcontracting, in particular of labour-only subcontracting based on the individual contracts for services for self-employed, has led to a deterioration of employees' rights. At the same time the supply of skills for the sector has dropped sharply and the training and education system has suffered. Formal training on site has become rare, as the main contractor as a management contractor does not employ productive personnel and the small self-employed subcontractors deployed lack the resources and incentive to undertake training themselves.

3.2 Social Partnership versus Management Control

The system of social partnership in the German industry is manifest in the institution of the works council, the democratic representation of all employees in the firm through co-determination, '*Mitbestimmung*'. Based on the original legislation in 1952 and revised in 1972 and recently in September 2001, employees' participation in the workplace is provided with far-reaching rights of information, consultation and co-determination. The new act stipulates

that in every establishment with at least five workers a works council can be constituted through elections taking place every four years. A simplified election procedure in two stages has been put in place for small firms of between five and 50 employees. The nomination of candidates by an electoral board is followed one week later by the secret and direct election of candidates and there is only one candidate for operative and professional staff. This is one of the core changes in the revision of the legislation, taking into account the change in the size of firm. The composition of works councils is enlarged and the employee representative structure ranges from one person in companies of between five and 20 people, to 35 people in companies of between 7,001 and 9,000 people (Table 5).

Table 5 The size of the works councils

No of council seats	Number of employees
1	5 – 20
3	21 – 50
5	51 – 100
7	101 – 200
9	201 – 400
11	401 – 700
13	701 – 1,000
15	1,001 – 1,500
It is regulated that two extra council seats are to be provided for every 500 employees in companies employing between 1,000 and 3,000 for every 1,000 employees in companies from 5,000 to 7,000, and for every 3,000 employees in companies employing more than 9,000.	

Bundesministerium für Arbeit und Sozialordnung, Mitbestimmung, Unternehmensmitbestimmung und Betriebsverfassung, November 2001

One of the most debated changes is the reduction of the threshold at which one person is to be released full time to carry out works councillor duties from a workforce size of 300 to 200. Two councillors are to be released in companies employing between 501 and 900, three for 901 to 1,500, four for 1,501 to 2,000 and then one extra councillor for every 1,000 employees, and from 10,000 one extra councillor for every 2,000 employees (Table 6).

Table 6 The release of employees to carry out works council duties

Number of released councillors	Number of employees Former law	Number of employees New law
1	300 – 600	200 – 500
2	601 – 1,000	501 – 900
3	1,001 – 2,000	901 – 1,500
4	2,001 – 3,000	1,501 – 2,000
5	3,001 – 4,001	2,001 – 3,000
one extra councillor for every 1,000 employees up to 10,000 employees, then one extra councillor for every 2,000 employees		

Bundesministerium für Arbeit und Sozialordnung, Mitbestimmung, Unternehmensmitbestimmung und Betriebsverfassung, November 2001

The institution of the works council has thus been significantly strengthened and a much larger number of works councils and councillors are expected as a result of the current elections taking place in spring 2002. Table 7 shows the number of elections, the total number of works council seats and the proportion of union membership of works councillors in the private sector. The results validate a highly stable system in all the three categories analysed. Three-quarter of all works councillors belong to the main German trade union, the

DGB, and the number of firms varies between 35,000 and 38,000, decreasing up to 1990 and due to the unification increasing again in 1994 to its highest level so far, just as with the number of works councillors. In the face of this evidence, claims that the German system of employee participation is in erosion are exaggerated. One of the main reasons for the slight decrease in the number of firms and works council seats is the long-term change in the size of firms to smaller units of production. The revision of the legislation in 2001 has taken this development into account.

Table 7 Works Council Elections in the private sector

Year	No of firms	Works council seats	DGB member
1981	37,650	202,086	77.5%
1984	36,492	192,277	77.4%
1987	35,687	190,201	76.6%
1990	35,198	190,138	76.3%
1994	38,425	203,041	75.2%

Source: Hassel

Works councils have extensive rights to be informed and consulted and to co-determine. Some of these rights have been strengthened and extended. In social matters, works councillors traditionally have co-determination rights, which implies at least a provisional right of veto, concerning overtime, working time and rest breaks, questions in connection with the operation and administration of the remuneration and benefit system, health and safety, and behaviour and performance monitoring, with the provision of vocational training included in the last revision. A democratic principle has also been added, obliging the council to examine a specific issue if 5% of the workforce request this. A further clause states that gender has to be represented proportionally in the council, thus improving women's representation.

A recent review of 1,390 works councils gave good insight into the activities of the councils. Their workload was evenly spread between dealing with redundancies (58%), health and safety (52%), work intensification and overtime (51%), and education and training (45%) (EIRR February 2001, 325 pp 19-22). To conclude, the system of works councils is a pre-eminent instrument protecting the conditions of employment at firm level.

3.3 Management Control and Employee Participation in the UK

The German model of industrial unionism and the powerful large unions are in stark contrast to the British model of craft unionism. Social partnership is in the UK not a very well understood concept and the fragmented character of the union movement does not allow for a German-style centralised bargaining system. Several unions, UCATT, GMB, T&GWU and the AEU, have membership in construction. UCATT, as the construction craft union, has a membership of 110,000, T&GWU of about 36,000 based in some larger companies, and GMB about 20,000 – out of which fewer than half are in building materials companies. In 2000 industry employment was 953,500 operatives and APTCs (administrative, professional, technical and clerical staff), directly employed by private contractors and public authorities and 15% for employees not on the register. Self-employment in 2000 was given as 498,000, 34.3% of total employment in the sector (Construction Statistics Annual 2001 edition). The

three unions are thus organising in total 156,000, 10.7 % of total employment. Relations between the unions are strained, there is very little co-operation between them (interviews) and the conflicts are to some extent based on personality clashes. The British unions in construction are generally fragmented and weak and have difficulty in making an impact as social partners in the sector. Instruments and mechanisms of employee participation are not provided through legislation and depend on the goodwill of management.

3.4 Conclusion

The system of works councils is a pre-eminent instrument in the organisation of the production process. Rights and duties encompass a wide span, from purely information rights in strategic and economic business affairs to co-determination, in effect veto rights in many personnel and work organisation matters. The German government has just substantially strengthened the works council system, a sign of how strongly the works council system is embedded in the German economy, although this is in its deepest recession since WW2. The works council system also plays an important role in instigating an innovatory push and higher productivity as the only ways out of the recession.

4. Health and Safety

In Germany, the system of social insurance was set up in the 1880s and comprised five different insurances, for accident, health, pension, unemployment and social care. Health and Safety in the English definition is mostly encompassed by accident and health insurance. This is regulated through a complex web of statutory provision through the Federal Government and autonomous legislation through the Insurance Associations in the accident prevention regulations. A framework law does not exist unifying the multitude of regulations (about 40,000) for Health and Safety, as since 1974 in the UK. The German institutions at the national level are the Statutory Labour Inspectorate, *Gewerbeaufsicht*, and the Federal Institute for Occupational Health and Safety, *Bundesanstalt für Arbeitsschutz*, and the 35 sector-specific Occupational Safety and Health Agencies or Insurance associations (*Berufsgenossenschaften*). For the construction industry, there are seven regional agencies, the *Bauberufsgenossenschaften*, run on a non-profit basis, on the insurance principle of mutuality, and managed through social partner representatives. Compulsory membership is the rule for all firms working in the sector and they have to report the number of employees and total hours worked. The workforce is insured for accidents and occupational illness through the employers' contributions. The premium is calculated according to a system of danger tariffs depending on what trade area the firm operates in the size of the workforce and the accident record of the firm. If the accident record falls below the industry average, the firm obtains a discounted premium. This incentive system is considered an effective steering mechanism, although critics claim that the sums of money involved are only significant for smaller companies (Koch and Salter 1999). The agencies are administered by bipartite committees comprising representatives of employers and employees who are elected every four years. Their main function is similar to the supervisory board in companies. They have the right to appoint the management board and the managing director. In annual meetings they elect their own board and approve the annual report and accounts. The management is accountable to the assembly.

Unions have an important role in the administration of the Insurance Associations. A large number of the employees' representatives are union members. The three regional construction insurance associations had in total 56 members from both parties in the assemblies and 22 on

the boards (Table 8). For the metal sector alone, several hundred members of the union are either on the assemblies or the board and thus can greatly influence health and safety regulations (Koch and Salter 1999).

Table 8 Social constitution of the management board of construction accident insurances

Selected regional health and safety insurance agencies	Board		Assembly	
	employers	Employees	Employers	employees
Bavaria and Saxony	7	7	18	18
Rhineland and Westphalia	7	7	21	21
Lower Saxony and Berlin	8	8	17	17
	22	22	56	56

Source: websites of the regional construction insurance agencies

The Health and Safety inspection system is made up of the labour inspectors employed by the *Länder* and the technical inspectors of the Insurance Associations. The Works Safety Law, *Arbeitssicherheitsgesetz*, passed in 1973, stipulated that safety experts and medical personnel have to be appointed amongst employees in firms and plants with more than 30 employees and a safety committee has to be set up if there are more than three safety inspectors in the firm. The training requirement of the safety experts was revised in 1997. Safety experts have to have a qualification, either as an engineer, a technician or master, at least two years of practical experience and must have completed the six-week training course for safety experts. Compliance at firm level with the statutory law and accident prevention regulations, however, depends greatly on the works council. It has co-determination rights regarding measures designed to prevent accidents and to protect occupational health. Both labour inspectors and insurance inspectors rely on the expertise and knowledge of the works councillors. The issue of the training of works councillors in the complex field of health and safety laws and regulations is, therefore, crucial. Unions, insurance agencies, and state institutions offer training courses for works councillors. For the significant number of smaller companies without works councils, however, regional insurance agencies in construction have set up large Health and Safety advice services offering these small companies in particular advice on Health and Safety.

It would be inaccurate to say that the works council is the most important health and safety actor at the micro level. The works council is powerless without the support of the workforce, and the advice, information and training of the union, the inspectors and the insurance associations, respectively. In addition, it relies upon the co-operation and expertise of both the health and safety experts and medical personnel within the plants. There is no doubt, however, that given the presence of these structures and rights enjoyed in the Works Constitution Act 1972, the works council has the opportunity to pro-actively improve the health and safety of the workplace. (Koch and Salter 1999).

The Health and Safety system in Germany thus relies strongly on the social partnership model, through the bipartite accident insurances, their technical advice and inspection, through implementation at firm level via the works council and through the extensive training and education programmes of many institutions prominent amongst them, the social partner organisations and unions.

Table 9 summarises the importance and the role of the sector insurance associations. Insurance cover was provided for a large number of people working in the industry, from 3.4

to 3.2 million between 1998 and 2000, and the number of members paying was about 450,000, a larger number than firms operating in the construction as it includes other building work. Over 300,000 visits to firms and sites have been carried out by about 670 inspectors of the seven agencies and every paying member has a 66% probability of a visit, albeit some very short, as the average number of visits per inspector is around 440 per year.

Table 9 Summary of the construction insurance associations

	1990	1995	1998	1999	2000
Number of insured			3.450,335	3.342,251	3.234,160
Number of contribution-paying members			459,964	448,346	455,241
Site visits			302,683	302,200	301,084
Accident investigations			7,354	7,691	7,402
Number of technical inspectors			667	680	689
Total number of reportable work-related accidents and road accidents			269,737	258,744	231,371
Work-related accidents		317,694		c241,000	216,828
Index of work-related accidents per 1000 fully employed worker	120	110,07	97	97.44	90.39
Fatal accidents during work and road accidents			287	268	238
Work-related fatal accidents		264		187	149

Source: <http://www.bau-bg.de/home.html>
<http://www.bma.de/download/broschueren/a730.pdf>

4.1 Health and Safety Systems in the UK

Health and safety regulations are devised by the state to protect the health and safety of both professionals and operatives at work and those of the public affected by construction activities. The regulations are also concerned with the way construction work affects the environment. They are enforced by health and safety inspectors whose visits to sites are either unannounced or invited following an accident. Health and safety regulations are intended to give rise to a cleaner, healthier and safer work environment and building process.

There are presently 120 Health and Safety inspectors for the UK construction industry. This number will be increased to 170 inspectors as a result of impending reorganisation. The London region, with up to 40 % of construction turnover, has a potential capacity of 30 inspectors, though at the moment there are fewer than 25. The industry has set itself ambitious targets, such as a 10% reduction in accidents year on year as a result of the Prescott summit in the spring of 2001. The significant problem of Health and Safety in the industry is attributable to the industry culture, which is described as “adversarial, risk tolerant, having high levels of

subcontracting, an ageing workforce profile and skill shortages due to the entry of unskilled and untrained labour” (interview).

Cross linkage to the Labour Force Survey shows that only 40% of injuries are reported to the HSE, only 4.2% of injuries from the self-employed. The HSE defines its role as advisor and enforcer, and places more emphasis on prevention than prosecution and on proactive rather than reactive intervention. The field inspectors argue that more than 50% of their work is taken up by reactive work investigating accidents. The ceiling for fines in the magistrates’ court is £25,000 for breaches of the Health and Safety Act, whilst breach of regulation has a ceiling of £5,000.

4.2 Comparison

When comparing the Health and Safety systems of the UK and Germany, results are difficult to come by as the systems differ greatly. As far as the efficiency of the systems are concerned, any argument is undermined by the fragility of the measures and criteria chosen. A recent research report for the HSE and ICE (Institution of Civil Engineers) states that ‘health and safety in the UK’s construction industry is of a higher standard than most other countries’, a claim backed up by HSE figures showing that the record of fatal accidents in Great Britain was 5.1 and for over three day injuries 3,400 per 100,000 workers compared with the EU average of 14.7 fatal accidents and 9,000 over three day injuries in 1994 (Table 10).

Table 10 EU average and Great Britain 1994 rates of fatal and over three day injuries per 100,000 workers

	EU average		Great Britain	
	Fatal	Over 3 day	Fatal	Over 3 day
Construction	14.7	9,000	5.1	3,400

The HSE, however, openly acknowledges that 40% of accidents are not reported (Brabazon et al. 2000: 63). In 1998-99 from a sample of 46,000 in the Labour Force Survey (LFS), it could be calculated that 2,590 reportable non-fatal injuries occurred in construction, yet the rate of injures reported by employers and under RIDDOR reporting procedures was 1,266, a difference of 49%. If the figures for self-employment are taken into account as well, the level of underreporting becomes even more dramatic. 1,599 non-fatal injuries were reported in that period although according to the LFS 35,000 occurred, resulting in a reporting rate of 4.2 % (<http://www.hse.gov.uk/hsestats/lfsfact1.pdf>).

Insurance-based reporting systems are considered to cover 100% of accidents and injuries in the industry, including a significant share of the black economy, as the reporting procedure is more stringent. Every employer, including on private works, has to report to the insurance agency within a week of the start of the works (www.baubg.de/htm/body_mitglieder.htm). In the UK the rule is that contractors have to notify the HSE (F10 form) on any construction work of over six weeks or 300 hours on-site duration.

5. The Client and the Product

Laws and regulations governing the building product and its production also vary from country to country, as illustrated by post-construction liability systems in Britain and

Germany drawing on work by Visscher (1993), Sheridan et al. (1999), Knocke (1993) and Jansen (1998). (these are not quoted in the refs.)

5.1 Contractor's versus client's liability

Post-construction liability laws and insurance are used to govern the rights and responsibilities of participants in the construction process. They make provisions for remedies and compensation to the client in case of building failure. According to Knocke (1993), the overall process of construction liability and features of it are, in the main, common to most western countries. The systems of liability reflect each country's approach to the building process. For instance, in some countries the system dictates that the client can expect exactly what was specified – referred to as the duty of results – whilst in others the system is less exacting. Furthermore, there are the issues of division of liability. Some countries, such as the UK, load all the responsibility on architects and engineers, others, like Italy, weight the responsibility firmly on the contractor, whilst others divide the responsibility more equally. This division of liability is reflected in the building design.

There are some common features of post-construction liability in different countries, as well as sharp differences. The actors responsible for the production of a building are legally referred to as “producers” (Knocke 1993). They are the parties liable to ‘purchasers’, ‘clients’ or ‘consumers’ (three different terms used for the same party). The main producers comprise the architect, engineer, contractor and developer, that is those who have entered into a contractual relationship with the client. There are also those producers who have no formal contract with the client but have a tacit duty of care towards the client. They include public authorities, testing laboratories or normative bodies, sub-consultants and subcontractors, suppliers and inspectors who issue certificates of final completion.

One principle of liability is termed the ‘duty of result’, originating in the Napoleonic Civic Code of 1804. It implies that the client is entitled to expect a building without any damage and the simple fact of damage suffices to establish producer liability. France, Germany, Italy and Spain operate this system, while countries like the Netherlands tend towards this doctrine. Another principle, the ‘duty of care’, implies that the client is entitled to receive a building that is within the bounds of reasonable competence and skill. Based on this doctrine, the onus is on the client to demonstrate fault, error or omission, to identify the negligent person and the nature of negligence. Non-Napoleonic code countries such as the UK use this system, with exceptions relating to design-and-build contracts and housing warranty schemes. A CIB (1996) study contended that duty of result is the best liability principle and argued that, with the complexity of construction technology, it is unreasonable to include the client in liability for the quality of construction. It also concluded that it is in the interests of all producers to share responsibility for construction quality.

The post-construction period commences after the ‘Certificate of Practical Completion’ has been signed. The process of handing over the building to the client is referred to as ‘delivery’. Three possible outcomes may arise from this process: the client is satisfied and the post-construction insurance period starts; the client is dissatisfied and, due to the number or extent of defects, the original contract is modified and a reduction in price is agreed; and the client is very dissatisfied and refuses to accept delivery.

5.2 Liability and Insurance in the UK

There are also distinct features of the UK system of liability and insurance. Liability is generally not statutory, except for the obligations that the Defective Premises Act and the Health and Safety at Work Act impose on different categories of producers including local authorities. 'Liability arises from common law, i.e. by the general and unwritten law of the community' (Knocke 1993: 158). Producers can have post-construction liability to tenants by 'duty of care' letter or collateral warranties.

Occupational health insurance in the UK is covered in the remit of National Insurance and is not provided by a distinct institution. The National Insurance pays for claims against occupational health risks. Due to the high proportion of self-employment in the industry, many self-employed have no work-related insurance cover. This scenario contrasts with the state of play in the other three countries where there are separate industrial injuries insurance systems.

Employers' liability insurance is compulsory by law and is intended to provide compensation for injuries or illnesses caused on or off site. The Health and Safety Executive enforces the regulations on employers' liability insurance. An employer's failure to obtain adequate insurance cover or to display the insurance certificate is reportable by employees and can lead to fines of £2,500 and £1,000 respectively.

Professional indemnity insurance is mandatory for registered professionals and is intended to provide financial protection for both consumers and professional advisers. The professional bodies request evidence of indemnity insurance from their members. Failure to maintain adequate and appropriate insurance by a registered professional amounts to 'a breach of the Code of Conduct' and may lead, 'in appropriate circumstances, to a charge of unacceptable professional conduct being brought against the registered person', as suggested by the Architects Registration Board (<http://www.arb.org.uk/regs/pii.html>).

Employers' liability and professional indemnity insurance is provided by commercial insurance companies through insurance brokering businesses. The insurers and intermediaries may be members of the General Insurance Standards Council (GISC) and therefore bound by the council's commercial code. GISC is an independent, non-statutory organisation launched on 3 July 2000 to regulate the sales, advice and service standards of its members. The regulation of general insurance is, however, going to pass to the Financial Services Authority in due course. The main purpose of GISC is to ensure that insurance customers are treated fairly (<http://www.gisc.co.uk>).

Building insurance is mandatory for homeowners who purchase with a mortgage and voluntary for cash purchasers. It is intended to protect homeowners against the costs and consequences of both structural and non-structural building defects. The insurance companies' representatives inspect buildings prior to assigning cover to them.

In the social housing sector, the Housing Association Property Mutual (HAPM) provides 35-year warranties to housing association members. The National House Building Council also offers warranties in this sector in competition with HAPM. These schemes are intended to safeguard consumers by providing approved guarantees as well as being required by mortgage lenders for new houses and flats (Knocke 1993: 152). The HAPM scheme is unpopular with builders, however, due to its thoroughness and requirement for every specification to be

inspected. HAPM members are all insured on a 'mutual' basis and the schemes must all achieve similar quality standards, for both structural and non-structural cover, expert assessments being carried out for HAPM by the Building Performance Group. Membership includes small and medium-sized housing associations in the British Isles; the large housing associations, such as Peabody and Guinness, arrange their own building insurance. HAPM competes directly with private insurers, such as Zurich Building Guarantees and NHBC, and buys reinsurance from the German financial group Allianz.

Zurich produces guidance literature entitled 'Solid Foundation', which is available to virtually everybody. Manuals are issued to all Site Managers working on housing association and large speculative developments when Zurich inspectors visit. The official guidance to the Building Regulations is quite technical and builders have difficulties to understand the approved documents. The council of mortgage lenders obliges Zurich to have a technical manual. There is a gap between the requirements of the Building Regulations and the occurrence of building defects. Based on the claims made against building defects, Zurich produces guidance on details in an effort to reduce future claims. Zurich's constructional requirements exceed the building regulations in some areas. Zurich is open to innovative construction and is approached by manufacturers involved in innovative housing construction to comment on and issue warranties for their products. Representatives of Zurich sit on committees concerned with training; for example, they have recently been invited to be part of the CITB committee on timber frame erection. Zurich has presently about 20% of market share in the provision of building guarantees compared with 7.5% six years ago, making a total of 28,000 new policies yearly. Its influence over the building process can be considered as increasingly important. Zurich has a vetting procedure for registering contractors that is based on the history of claims and the technical qualification and financial situation of the contractor. Zurich operates a variable premium from D1 to A1, depending on how contractors perform in terms of homeowners' claims and construction defects. The difference in premiums varies from 1.5 to 2.5 times. Zurich shares the claims' history with NHBC. There are around 40 inspectors nationally including regional inspectors who are all home-based workers. Between 4-7 inspections are assigned to each plot. Zurich only carries out warranty inspections, not building control as NHBC does. Zurich issues latent defect warranties for a period of 10 years. The builder carries the responsibility for the first two years. After the ninth year, and based on the assessment of building and homeowner, the latter may be given the choice of extending the warranty to 15 years. This, however, is only in preparation. The site inspectors are audited. All surveyors have Psion computers using data file software that registers defects on the property. Based on the outcome of the survey, and if defects are not rectified within the required time, the final certificate will not be issued. The quality record of the contractors is very varied. The bulk of defects occur on the external walls (on cavities, missing wall ties, galvanized not stainless steel wall ties in exposed areas) and the party walls (poor detailing, holes are left in the wall and not made good).

5.3 Liability and insurance in Germany

The nature and role of insurance in Germany is very different. For instance, it is inconceivable that the insurance company inspects sites as in the UK. Insurance bodies called *Berufsgenossenschaften* pay and compensate workers when an industrial accident occurs. This imposes a strict liability for personal injuries and death on the employers – in the form of contributions towards the insurance scheme – whilst placing the risk of compensation on the insurer. *Berufsgenossenschaften* are formed along production sectors and possess sectoral knowledge and trained personnel. They are managed by equal numbers of employer and

employee representatives and have the ultimate goal of avoiding industrial accidents and diseases and consequential costs. The bodies co-operate with each other under the auspices of a central organisation called *Hauptverband der gewerblichen Berufsgenossenschaften* (Fuchs 1996).

The liability of consultants and contractors is governed by law, '*Bürgerliches Gesetzbuch*' (BGB), on work contracts if no other provisions have been made. But it is most common, and compulsory for contracts with public sector clients, that liability will be regulated by individual agreement between the contractor and the client according to standard contract regulations, '*Verdingungsordnung für Bauleistungen*' (VOB). These regulations are issued by '*Deutscher Normenausschuss*'.

The producer is liable for the delivery of a product without defects. Defective execution will, as a rule, be considered non-compliance with the legal and contractual standards as established in section C of the VOB. If the execution is due to special instructions by the client, the producer ceases to be liable. The producer's liability starts with the formal acceptance or hand-over, '*Abnahme*', of the work by the client and lasts 2 years for most parts of construction, unless the period has been extended to five years. The producer has the obligation to check the clients' specifications according to compliance with legal and technical regulations as well as commonly accepted good practice and to notify reservations to the client in written form. The producer is liable to remedy defects at own cost and to pay for damages resulting from defects. The client may oblige the producer in the contract to provide insurance for costs of making good defects and compensate for damages.

The consultant is liable for damages resulting from negligence, as defined by the regulations for fees of Architects and engineers, '*Honorarordnung für Architekten und Ingenieure*' (HOAI). This liability extends over 5 years.

The liability for building materials remains with the suppliers according to '*Handelsrecht*' and special warranty agreements between the buyer and the seller.

5.4 Comparison of the Liability Systems in the UK and Germany

Although the unifying directives of Brussels do not appear to have impacted on building contract law, there are commonalities observed in the legal principles of the countries studied as well as differences attributed to their national characteristics (Jansen, 1998). Amongst the former are: "selecting a person for the actual carrying out of construction activities" and "the observation of legal principles of public law". Amongst the latter, Jansen names: "acquiring land for the purpose of carrying out construction activities"; "removing private law and public law hindrances which obstruct the carrying out of construction activities"; "the relationship between the client and the contractor" and "the relationships between the participants to the construction process and persons not involved with the construction process". The commonalities are important in setting comparable criteria against which the differences in terms of varying processes that determine the quality of the building product are examined.

5.5 Common Aspects of Building Law in the Countries

Jansen proposes that there are common legal principles of public law underlying contractual relationships between clients and contractors, defining their obligations and ascribing their liabilities. The client's obligation is to enable the contractor to carry out the contract (1998:

Chapter 4). This is done by the client or his/her managing intermediary, through: specifying and communicating the client's expectations to the contractor by means of documents and directions; procuring the requisite permits; providing the contractor with access to the building site; providing the contractor with the requisite goods; co-ordinating the activities of various contractors participating in the construction process; evaluating the contractor's choices; expressing opinions on the choices made by the contractor and taking delivery of the building work. In return, the contractor has two obligations towards the client: first, to direct his/her choices and decisions concerning the materialisation of the building work in accordance with the client's expectations regarding the quality of the building work; second, to inform the client of the inadequacy of the latter's specification prior to their execution. The contractor's failure to do so will, allegedly, compromise the common goal of the contract, lead to quality problems and give rise to legal consequences.

The client's expectations or requirements are contained in the contract documents, the directions, the general trade standards and statute laws and bylaws. They are, therefore, both expressed and implied. The contract documents comprise the specification, the drawings, the priced bill of quantities, the general conditions of building contracts, the offer of the builder to carry out the building works and the client's acceptance of this offer. The contractor's offer and the client's acceptance are regarded as the predominant contract documents or 'the contract'. In the case of conflicts between requirements, specific contract documents prepared for the building works in question take priority over the general conditions. Amongst the contract documents, the particular administrative conditions take precedence over the particular technical conditions, which in turn take primacy over general technical conditions and general administrative conditions, respectively. Moreover, descriptions in words have priority over drawings. As a general legal rule, the client is obliged to direct the contractor with regard to the correct course of action to take.

The liability of the builder regarding the quality of goods and materials incorporated in the building is dependent on the extent to which the nature of the latter is expressed in the contract documents or by the client's intermediary, and the degree of freedom granted to the contractor to make his/her choices (Jansen 1998: 247; Knocke 1993). The greater the level of prescription of the quality, the greater is the client's liability; the greater the freedom of the contractor to make decisions, the greater is his/her liability to supply 'defect free' goods and materials. The contractor is also liable to process goods and materials in accordance with the quality requirements stipulated in the contract documents and by the managing intermediary. He/she is required to do so competently and in line with the trade standards ensuring that the process will result in a building fit for its intended purpose. The fitness for purpose condition of the building implies conformance to "generally accepted quality standards" (Jansen 1998: 257).

The contractor's obligation to inform the client of the inadequacy of the latter's choices or decisions, i.e., their 'duty to warn', is regarded as part of their obligation to execute the building works in accordance with the client's express and implied expectations. The contractor's failure to detect inadequacy that they should have detected will constitute a violation of their obligation under the building contract. The contractor is also obliged to provide the client with the necessary information to enable the latter to evaluate the construction process (Jansen 1998).

5.7 Differences in Building Law in the Countries

The order of priorities of contract documents discussed above does not apply to the JCT 1980, GC/Works/1 and FIDIC 1987. The standardised administrative conditions of these contracts prevail over the documentation specifically drawn up for the building works in question. This divergence of priorities between the UK and the Continental general conditions of building contracts is contrary to English law of building contracts as well and, according to Jansen, “is heavily criticised in English legal doctrine” (1998: 243).

There are differences between the UK and the continent in terms of the contractor’s liability for the quality of the goods and materials supplied. In the UK a contractor is expected to provide a ‘warranty to supply materials of good quality’, a practice that is uncommon on the Continent (Jansen 1998: 248). Furthermore, to the extent that the contractor is left free to select goods and materials required for the works, the latter are expected to be fit for their intended purpose. This is because the client is relying on the contractor. On the other hand, if the client restricts the contractor’s freedom to choose goods and materials, the contractor’s liability is limited. On the Continent, the contractors are bound by the “duty of result” (Knocke 1993). This means that they are liable for the fitness of goods and materials for their intended purpose “in principle” despite the descriptions of quality by the client or the managing intermediary (Jansen 1998: 251-252). The influences of such descriptions are taken into account, however, in establishing the responsibilities of the contractor in court cases. It follows that on the Continent the contractor is obliged to materialise a perfect final building whilst in the UK he/she is obliged to only strive to achieve a perfect building within the framework of limitations imposed by the client’s express requirements having due regard for general requirements (Ibid: 258). This is because the ‘Supply of Goods and Services Act 1982’ merely imposes on the contractor the obligation of supplying goods fit for their purpose not whole buildings.

There are differences in the contractor’s liability under differing building contracts in the UK. The contractor’s liability includes fitness for purpose under the design and build contract because he/she is responsible for the design of the building, that is, for making choices and decisions (Jansen 1998; Knocke 1993).

6. Conclusion

One fundamental difference between the two countries is found in the nature, concept and understanding of skills. In the UK, skills are regarded and treated as competencies rather than related to training and qualifications, resulting in a deep division of labour in the work organisation, one that is indifferent to skill potential and to the actual form and means of skill acquisition. Another difference is found in the nature of the hierarchies, which in the continental countries generally are determined from outside, through the collective agreement rather than internally by the firm. Finally, a key difference is in the way in which the labour process is regulated and controlled, with the continental countries relying on regulated control internally by firms through the works council. These have wide co-determination rights regarding working time, group work or performance monitoring devices, and have to be consulted concerning recruitment. In contrast to this extensive employee involvement in continental firms, in the UK control over the labour process exercised internally in firms relies on managerial prerogative.

Control of the building labour process is also regulated from outside the firm by state institutions and various independent and commercial organisations, covering a wide area. In the UK, for instance, this system of external control comprises functions such as the Health and Safety Commission, the Local Authority building control and factory inspectorate, Employment Tribunals, the Industrial Training Boards, commercial insurers etc. This system contrasts with the system in the Continental countries where the equivalent institutions are far less involved in the work process. In these countries, an important part of the external regulatory control function is also, as with the internal system, exerted on the basis of social partnership, manifest in local networks comprising a wide range of institutions such as the occupational accident insurance agencies, local health insurance, training centres and vocational schools, examinations boards, labour courts etc. The Continental systems pursue a social partner-based and integrative model of external regulated control, one that is intricately linked with firms' internal systems. The interrelationship between both systems is apparent through the collective bargaining arrangement and the training and qualification structure.

In the UK there is much greater emphasis on control per se, on the ability of the external control system to control the quality of the work process through controlling the output of firms. There is much less imperative placed on firms themselves regulating to maintain this quality and hence their own output, that is a process of self-regulation. This is manifest in the increasingly large number of individual employment tribunal cases, in the degree of involvement of insurance companies, in the emphasis on skill accreditation and certification as opposed to training, and in the onus placed on the factory inspectorate. Control of the outputs of the labour process rather than the process itself has therefore become the preoccupation in the UK case.

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