

**GLOBALISATION AND LABOUR MARKET SEGMENTATION:
THE IMPACT OF GLOBAL PRODUCTION NETWORKS
ON EMPLOYMENT PATTERNS OF GERMAN AND UK
CLOTHING FIRMS**

By

Christel Lane
Faculty of Social and Political Sciences
and Centre for Business Research
University of Cambridge
Cambridge CB2 3RQ
Tel: 01223 765340
Fax: 01223 334550
Email: col21@cam.ac.uk

and

Jocelyn Probert
Centre for Business Research
University of Cambridge
Cambridge CB2 1AG
Tel: 01223 765340
Email: j.probert@cam.ac.uk

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Abstract

Globalisation and Labour Market Segmentation: the impact of global production networks on employment patterns of German and UK clothing firms

Christel Lane and Jocelyn Probert

The clothing industry is considered to be highly globalised, and increased global competition has led to the migration of jobs from developed to developing countries. The literature has focused mainly on how the development of global production networks and supply chains has impacted on employment in developing countries. Much less interest has been directed towards the consequences of the relocation of production for patterns of domestic employment within firms, as well as labour market segmentation between firms.

Drawing on theories about competency-based competitive strategy, global production networks and resulting labour market segmentation, as well as the varieties of capitalism approach, this paper undertakes a study of the varying employment consequences of outsourcing to low-wage economies, depending on firms' skill structure, product and market strategy and configuration of the industry value chain. Our comparative analysis of the varying strategies and configurations found in British and German firms is predominantly concerned with the impact of outsourcing on the quantity and quality of remaining domestic employment. It makes clear how differing national institutional environments, including systems of education and training, industrial relation, as well as financial systems and resulting size and ownership structures of firms, have led to very different labour market outcomes in Britain and Germany.

The German pattern shows that development of global production networks need not have solely adverse domestic consequences, in as far as high-level functions and skill sets are retained in the home country. The analysis of British employment patterns, in contrast, reveals little or no upgrading of skill sets within firms, as well as labour market segmentation between co-ordinating firms in the formal sector and various tiers of supplier firms in the informal sector.

Last, we briefly note the consequences of differing supply chain organisation for employment in their supplier firms in newly industrialising countries. The paper draws on early evaluations of interview material from a comparative study of firms' responses to the pressures of globalisation and supplements these with statistical data on employment and training.

Keywords: clothing industry, supply chain, employment, labour market segmentation, United Kingdom, Germany

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I Introduction

The clothing industry of developed economies was among the first to take on a global dimension, and today it is geographically dispersed around the world (Dicken 2003). As the industry has not been amenable to technological rationalisation, its low capital and relatively high labour intensity¹ have made it an obvious candidate for development in newly industrialising countries. Due to the huge discrepancies in wage levels between developing and developed countries, shown in Figure I, firms in the latter have had to reorganise their value chain. The result has been the steadily increasing (and, in some European countries, now almost total) outsourcing of production operations to lower-wage developing countries. Large-scale outsourcing, in turn, has resulted in drastic employment cuts in developed countries, particularly of semi-skilled jobs like sewing. At the same time, the textiles and clothing industries remain significant employers.

*** insert Figure I around here ***

The literature on this industry in developed countries mainly has focused on how the organisation of the supply chain (conceptualised both as global commodity chain (GCC) and as global production network) has impacted on developing countries (e.g. Gereffi 1994 and 1999; Henderson et al 2002). Firms in developed countries that construct and co-ordinate global commodity chains have received far less academic attention, particularly the impact of their foreign sourcing on domestic employment. The established wisdom is that, even though developed countries may be losing lowly skilled manual jobs, this is compensated for by a general upgrading of the occupational structure towards more capital and/or more skill-intensive jobs, mainly in service activities (Dicken 2003: 542-3). Moreover, the UK generally is held to be at the forefront of these developments, having the most highly developed service sector. This paper will show that the effect of foreign sourcing is by no means homogenous across firms and countries, and an informed discussion of the impact of globalisation needs to examine employment effects in different developed and developing countries.

This paper argues that the role of clothing firms in global production networks and the impact of their outsourcing practices on employment and labour markets cannot be fully understood unless we first analyse firms' competitive strategy and the competencies they have developed to implement it. Hence we begin by considering clothing firms in their domestic context. We refer to them as 'co-ordinating firms', i.e. as firms which co-ordinate the whole value chain from design to distribution of final products but which no longer execute all the steps in-house. The paper will make evident how the competencies developed within firms shape their product strategy and market position and how both, in turn, affect the quantity and quality of employment in firms and in the industry as a whole. Although the prime interest is in employment consequences in two developed countries, a brief consideration of the impact of differing sourcing strategies on labour markets in developing countries is also undertaken.

Our study compares the competitive strategies of co-ordinating firms in the German and UK clothing industries, by viewing firms in their national institutional environment. It examines the contrasting sets of core competencies these firms command and the way these have structured their organisation of the value chain and the relationships they build with suppliers. A contextualised approach will show that embeddedness in different national institutional structures leads to divergent strategies, with markedly different consequences for the organisation of the industry's labour market and the quality of employment.

Last, the detailed analysis of clothing firms in their domestic context reveals that, contrary to the claims of both the GCC literature and the wider analyses of global production networks in the globalisation literature (e.g. Held et al 2001; Dicken 2003), we are not dealing with powerful multinational companies (MNCs). Instead, we find mostly medium-sized and even small domestic firms, struggling to reconcile their insertion into global supplier networks with their mainly national structures and modest organisational, financial and human resources. Our analysis identifies a sometimes incongruous mixture of national dependencies and global ambitions.

Our analysis of domestically anchored firms, inserted into a network of national, international and global relationships with customers and suppliers, is informed by and seeks to integrate, three sets of theoretical literature. (Here we gratefully acknowledge inspiration derived from the work of Palpacuer 2000, particularly her thoughts on the new labour market segmentation). We seek to link the strategic management literature on the development of capabilities within firms, in response to competition, with the political economy literature, which shifts the analytical focus to global chains/networks and points to their consequences in terms of a new labour market segmentation. Last, our emphasis on co-ordinating firms' embeddedness in contrasting national institutional environments is informed by the literature on Varieties of Capitalism (VoC), particularly the work of Hall and Soskice (2001), which takes firms' capability-based competitive strategies as its analytical point of departure.

The paper has the following structure. Section II outlines the theoretical framework adopted. Section III describes and analyses the German and UK clothing firms in their global and national context. Section III.1 considers how the changed global context during the 1990s has affected the development of the two national industries and charts their employment decline. In section III.2, we outline the current structure of the two national industries. We analyse the size, ownership and competencies of firms in each national clothing industry and show how they have shaped product and market strategies. Section III.3 examines the locational aspects of networks constructed and the differing sourcing strategies firms in the two countries have adopted. Section III.4 then draws out the consequences for labour market segmentation and for the quality of the remaining domestic employment. The section concludes by briefly drawing out the effects for labour market segmentation in global networks. The Conclusion highlights the findings and theoretical insights developed and emphasises their relevance to the literatures on competence-based competitiveness and employment effects, as well as on global production networks and their impact on labour market segmentation.

The data draw on early impressions from 50 in-depth interviews conducted by the authors with high-level managers/owners of British and German firms and associations in the textiles and clothing industries, as well as with retailers and a small number of supplier firms, located in China, during 2003-04. They are supplemented by official statistics and data from secondary sources from both countries.

II. Theoretical Considerations

II.1 The Competence-Based Approach in Strategic Management

To gain competitive advantage, managers develop organisational competencies/capabilities² which facilitate not only technologically and organisationally innovative responses to market pressures, but also flexible adaptation to unstable and rapidly changing markets (Hamel and Prahalad 1994; Grant 1996; Teece et al 1997; Stalk et al 2000). Competencies/capabilities have been variously defined, but most authors emphasise the development and combination of various types of knowledge which, when embodied in products, are difficult to imitate by competitors and thus ensure a firm's competitive advantage. Such idiosyncratic, value-generating competencies vary between industries and may be connected with high-technology development, or be relatively mundane, such as the 'quick-response' capability of some clothing firms (Richardson 1996). More often than not they now take the form of 'services', such as technological improvements, styling features, product images and other attributes that only services can create (Quinn et al 1991: 302). Additionally, the effective co-ordination of internal and external competences may be considered a valuable managerial capability (Teece et al 1997: 515). Although the knowledge sedimented in competencies often is described as experiential it is clear that it cannot develop unless management and society have laid the foundations in the provision of relevant educational qualifications and skills (Quinn et al 1991: 301; Teece et al 1997). Thus, although capabilities are broader than skills and are embodied in organisational processes, they cannot be completely divorced from them. Furthermore, the recruitment and development of employees with high levels of qualifications and the ability to continue learning also requires longer-term financial investment in human resources (Stalk et al 1991: 59) and their adequate reward, which often is beyond the capability of small firms.

Managers' competitive strategy has to determine core and non-core capabilities. They have to distinguish between capabilities unique to the firm and fundamental to its competitive advantage, and those which may be externalised, acquired either through market links or in networks (Grant 1996). In the latter case, closer, trust-based and more durable strategic networks are said to result (Jarillo 1998), based on relational contracts (Grant 1996: 383).

II.2 Competences and the Organisation of the Value Chain

The following examination of steps in the value chain and the skills required to execute them efficiently and effectively will form the basis for a delineation of different types of clothing firm, depending both on what capabilities are considered core and non-core and on the degree to which internally retained functions are supported by requisite core capabilities.

The value chain in the clothing industry embraces several different sets of activity, roles and occupations, the characteristics of which shape the profile of the sector. (The following adapts and develops ideas from Dunford 2001:1-2.) A stylised analysis of the value chain identifies the following steps (Figure II).

*** insert Figure II around here ***

The first step in the chain, development and planning of the entire collection, involves a number of skilled activities. These include knowledge of market trends and of fabric availability, the integration of both into development of product lines, and the costing of the planned collection. The second step is the design and prototyping of new models. In addition to understanding market demand and cost structures, this requires both creativity and technical aptitude.

In a third step, the production design and sample-making function then concerns itself with devising the most cost-efficient means of producing the item, bearing in mind quality standards. Decisions on manufacturing location are also brought into consideration. Steps one to three thus rely on highly skilled occupations, involving technical, creative and financial capabilities, variously combined.

The fourth major step is the actual manufacture and assembly of garments, which is generally known as CMT (cut-make-trim). This involves mainly semi-skilled sewing and assembly operations, using simple machines and requiring elementary skills.

The fifth step, the marketing of garments, seeks to match retail outlets to the quality and character of the clothes and to achieve the broadest possible market access in a given segment. In practice, the marketing function operates in parallel with earlier steps since most clothing firms try to spread their risk by seeking expressions of interest from buyers before moving into full production. The sixth step, distribution, entails an increasingly sophisticated logistics operation based on computerised order tracking and inventory control systems. The seventh and final step is that of selling the garments to consumers through various retail channels.

These seven steps, involving, on the one side, different sets of capabilities and occupations, and on the other, clearly identified costs, can, in principle, be separated from each other and be performed in different locations. This process of fragmentation of the value chain and its distribution over different locations and functions can occur in a number of different ways. The way selected depends on available competencies, cost considerations and product strategy.

At least five different ways of organising the clothing value chain may be identified, resulting in five different types of clothing enterprise. These are shown in table 1. Each type, as we elaborate in section III.2.3, involves different decisions about which activities and capabilities are to be externalised through markets or within networks, as well as about their geographical location.

*** insert Table 1 around here ***

It is evident that these five types of clothing enterprise differ in the capabilities and capital invested and in the resulting products and hence the markets they can enter. Consequently, each type also has different consequences for the quantity and quality of employment created both within co-ordinating firms and in the network as a whole.

II.3. Labour Market Segmentation and Employment

This section adapts Palpacuer's (2000) work on the consequences of competence-based organizational strategies and global network forms of organization for labour market segmentation. Whereas Palpacuer (ibid: 385) traces complex segmentation patterns, simultaneously situated within and between firms, as well as between locations, we do not focus on segmentation processes within firms. Instead, we emphasise how different degrees of labour market segmentation between firms in developed countries, together with divergent product strategies and sourcing arrangements, influence the overall quality of employment that remains in the clothing industries of developed economies. In other words, rather than focusing predominantly on the quantitative reduction of employment as a consequence of outsourcing of production activities, we instead investigate what degree of upgrading has occurred in the status and conditions of the labour remaining in western European firms. Last, we briefly indicate how these firms' product and sourcing strategies impact on employment development in foreign supplier firms, located in production networks in newly industrialising and threshold economies.

Within co-ordinating firms in developed economies, the fragmentation of the value chain and the now widespread outsourcing of manufacturing tasks has shifted the demand for labour from predominantly semi-skilled operators to, on the one side, highly skilled and well paid staff in the functions of technical and creative design and product development, finance and marketing, and, on the other side, mainly less skilled employees in logistics and distribution functions. If the firm has integrated forward into retail operations, sales staff and associated retail skills are an additional requirement. The extent of the shift to higher-level employment depends, however, on the product strategy and the way this shapes and is shaped by relations between co-ordinating firms and retailers in both domestic and foreign markets. Branded merchandisers catering for both domestic and export markets retain a high level of competence in creative and technical design, as well as in supply chain management, marketing and complex logistics functions. In contrast, co-ordinating firms that sell mainly to large domestic retailers have a lower demand for highly qualified staff in both the high-level functions of design and marketing and in logistics, since the retailers themselves have increasingly developed their own internal design capabilities and have their own distribution structures. The different sourcing strategies of these two types of co-ordinating firms furthermore call for different levels of expertise, and different numbers, of supply chain managers.

At the inter-firm level, different sourcing strategies generate a segmented network structure between co-ordinating firms, first-tier and second-tier suppliers, with important implications for the quality and stability of jobs in sub-ordinate firms (Palpacuer 2000: 385). Second-tier suppliers or 'periphery' firms are usually small units with limited managerial and financial capabilities, which cannot rely on large-scale stable demand. They provide a buffer for co-ordinating firms by responding to demand for quick replenishment orders at low prices. Whereas first-tier suppliers offer relatively good conditions in terms of wages, employment stability and health and safety criteria, second-tier suppliers offer inferior conditions along these various dimensions and may descend to the level of sweatshops. While the existence of such segmentation is widely taken for granted in low-wage countries, it is less widely known that, in some industries, it also remains important in developed countries. Whether or not a segmented labour market strategy develops in advanced countries depends partly on the product and sourcing strategy of co-ordinating firms. But the latter is shaped in important

ways by societies' institutional framework, particularly by the degree and kind of regulation of employment conditions applied by both industrial relations actors and the state. These then determine whether or not an informal, little regulated and often geographically concentrated sector can develop within a national industry. Last, a drastic reduction in the industry's manual employment and the difficulty unions face in gaining access to firms in the unstable informal sector of the industry translates into severe problems for organised labour in terms of size of membership and ease of recruiting new members (Personal communication from a British unions, representing the clothing industry).

In newly industrialising countries, too, a more discriminating approach to employment conditions needs to be developed. As made clear by Gereffi (1999 and 2003) and Palpacuer (2000), in some semi-periphery or threshold industrialised countries industrial upgrading has been significant, with obvious consequences for wage levels and employment conditions. In some developing countries such as China, greatly intensified internal competition for labour in certain parts of the country no longer makes 'sweatshop' conditions viable.

II.4 Explaining Cross-National Differences

The Varieties of Capitalism approach (Hall and Soskice 2001: 6ff.) suggests that the comparative advantage of firms in differing industries has its origin in the institutional foundations of their home nations. Teece et al (1997) view firms as actors seeking to develop and exploit core competencies or dynamic capabilities. In contrast to most management theories, they view firms in their institutional environment, thus facilitating cross-national comparison. Hall and Soskice conceive of firms as developing competencies in interaction with other actors, compelling them to solve a number of co-ordination problems central to the development of their core competencies. Of the five areas of such interaction they outline, national systems of vocational training and education and institutions of industrial relations are of particular importance for this paper. Reference will be made also to the impact of financial systems on industry composition in terms of size and ownership structure of constituent firms. Last, differing ways of organising inter-firm relations, particularly the use of market mechanisms or of relational contracting, receive some emphasis.

Hall and Soskice (2001) further suggest that different national political economies resolve these co-ordination problems in contrasting ways, due to the divergent manner in which their institutional frameworks provide support for resolving particular problems. Firms in different national political economies, they argue, will gravitate towards the mode of co-ordination for which there exists institutional support. Institutions are defined as a set of rules, formal or informal, that actors generally follow, whether for normative, cognitive or material reasons. Hall and Soskice develop two basic types of political economy, based on the way in which co-ordination problems are resolved: in liberal market economies, markets and hierarchies are the most prevalent co-ordinating mechanisms, whereas in co-ordinated market economies, firms depend more heavily on non-market mechanisms, entailing more extensive relational contracting. Whereas the first type describes the UK variety of capitalism, Germany is typically seen as representing co-ordinated market capitalism.

This theory is particularly useful for analysing the behaviour of firms from different national origins and will inform the analysis in sections III.1-III.3. When we turn to outsourcing and the building of global production networks, however, the mainly national focus of the Hall and Soskice (2001) approach needs to be amended. On the one side, the impact of

international institutions and rules systems, particularly those relating to trade, needs to be incorporated into the theory. On the other, it has to be recognised that, in the clothing industry, firms create global production networks to escape constraints exerted by national institutions.

III. The National Industries and Firms in their Changing Global and Domestic Contexts.

III.1 The Development of the German and UK Clothing Industries.

To stave off the total loss of viability of the textiles and clothing industries in developed economies, governments for several decades have limited trade between developing and developed nations via quotas under the so-called Multifibre Arrangement (MFA). After the Uruguay round of trade negotiations in the early 1990s, the MFA – renamed the Agreement on Textiles and Clothing (ATC) – was to be phased out in four stages over a ten-year period (1995-2005), and tariffs were to be reduced. In parallel, many regional agreements have granted selected countries privileged access to EU markets by removing quota restraints and reducing or eliminating tariffs. Trade with Central and Eastern European (CEE) countries was almost totally liberalised in 1998. Particularly important for EU countries since 1982 has been the Outward Processing Traffic (OPT) arrangement. OPT is a preferential trade arrangement that permits the temporary export of fabrics by EU15 countries to another customs area for further processing and the preferential treatment of re-imports of the processed fabric (Greco and Dunford, forthcoming, chapter 6).

The UK and German clothing industries have been important, both in terms of national employment and in their contribution to GNP, throughout most of the post-war decades. The MFA/ATC has shielded the British and German industries to a significant extent well into the 1990s and will continue to do so until January 2005, albeit to a steadily decreasing degree. The phasing out of the ATC, together with the introduction of regional agreements and the lowering of tariffs, have sharply increased global competition. It is clear from available statistics and from our interviews that, in the last five years or so, the position of textile and clothing firms in both Britain and Germany has significantly worsened. The competitive pressures from newly industrialising countries began to be felt from the 1970s onwards, but decline in both national industries at first was gradual, to become precipitous only in the 1990s.

In the UK, a first period of marked decline in employment, but not output, occurred between 1978 and 1988. Employment reduction then resumed from 1995 onwards and strongly accelerated after 1998 (Warren 2003: 231). Between 1995 and 2000, employment declined from 216,000 to 127,000, a decline of 58.8 percent (ONS Labour Market Trends 2002: BATC estimates). By 2001, a further ten thousand jobs had gone. In terms of companies, some 1,600 firms (-19.2%) disappeared in 1996-2000 (Euratex, 2002). The decline in value of production, from £8.0 billion to £4.8 billion between 1996 and 2002, was, at 40 percent, even more precipitous although the time period is not exactly comparable (BATC estimates, based on ONS data).

In Germany, despite an earlier onset of employment decline due to a much earlier start to the relocation of production, the strongest overall decline also occurred in the 1990s. The

shrinkage in the number of firms (including mergers) between 1990 and 2000 was from 4,844 to 1,606 (Groemling and Matthes 2003: figure 7, p.7). Decline in employment in the same period was 65 percent (Groemling and Matthes 2003: 65). Between 1995 and 2002, employment declined by 49.1 percent among the firms with over 20 people, but the decline in turnover was much lower at only 19 percent (Manufacturing in Germany data, supplied by IHK Bielefeld). As figures for the two countries are from different sources and do not always cover the same periods, no straightforward comparison is possible, beyond diagnosing a very strong decline in number of firms and employment in both countries but a lesser decline in output/turnover in German firms in recent years.

III. 2 The Current Structure of the Clothing Industries

A comparison of the contemporary British and German clothing industry shows their fundamentally different structure and organisation, due to divergent institutional environments. Comparisons are made along the following dimensions: 1. Composition in terms of firm size and turnover, as well as ownership structure. 2. Skill structures and firm capabilities; 3. product and market strategy; 4. sourcing practices; 5. employment and industrial relations.

III.2.1. Composition in Terms of Firm Size, Turnover and Ownership

Table 2 provides some figures facilitating a comparison of the current structure of the two national industries. The German industry achieves a higher turnover with a significantly lower number of employees, demonstrating a productivity deficit by the UK industry that is widely acknowledged (e.g. Euratex 1998, cited by Stengg 2001: figure 7, p. 16). This appears to be linked to the fact that the two industries differ significantly in their structure, in terms of firm size.

*** insert Table 2 around here ***

In 2002, in the German industry, 560 firms with 20 or more employees achieved a turnover of Euros 9.7 billion and employed 53,901 people (VR2003: 1). If micro firms are included, the overall number of firms rises to 6,159 and turnover to 14.4 billion (VR 2003: 1, figures for 2001). This industrial sector is structured on the *Mittelstand* pattern. There are many very small and a few very large firms in the German clothing industry, but the bulk of employment and turnover is generated by medium-sized firms with between 100 and 999 employees. The 100 largest firms, which are internationally competitive and each achieve more than Euro 25 million in sales per annum, generate nearly two thirds of the sector's annual turnover (VR 2003: 2). Euratex (2002) confirms the above-average concentration of turnover – 85 percent – in German medium and large firms, as compared with the rest of Europe. The relatively large group of small firms includes mainly artisanal establishments, as well alteration tailoring shops, i.e. not industrial firms (VR 2003: 1).

Until the late 1990s, the UK clothing industry had a polarized structure, characterised by a very small number of giant manufacturers and a very large number of very small firms. The equivalent of the medium-sized *Mittelstand* firms was absent (TCSG: 11; Owen and Cannon Jones 2003: 61). With the break-up of the two giant public companies, Coats Viyella and Courtauld, at the end of the 1990s, the industry became divided between a very small number of medium-sized to large firms and a large number of very small firms (CAPITB 2001: 8). A

particularly large tail of micro firms constitute an informal sector. Around 74 percent of clothing manufacturers are said to have an average turnover of less than £ 250,000 per annum (Warren 2003: 233). In 2002, 5,820 firms achieved a total value of production of £4.8 billion and employed 127,000 people (BATC estimates, based on the ONS Index of Production). Thus, although statistics for both countries show the existence of a large number of micro firms, their nature differs and their overall weight in the industry is much more pronounced in the UK than in Germany.

A more straightforward comparison of the two national industries is achieved when looking at rates of industry concentration. These data pre-date the break-up of Coats Viyella and Courtauld – hence the difference in degree of concentration would subsequently have become more marked.

*** insert Table 3 around here ***

These different size structures are indicative of the fact that firms possess divergent financial resources, affecting their ability to invest in capability-building. They are accompanied by divergent ownership profiles, which tend to further amplify the differential availability of investment capital. In Germany, total or substantial family ownership is widespread, extending even to the large firms such as Triumph, Escada, Betty Barclay and Steilmann. During interviews, several owners emphasised the fact that, beyond paying themselves a salary, all profits are reinvested. In the UK, inherited family firms are more rare than in Germany. Nevertheless, a few large British firms remain in family ownership (Desmond, Dewhirst and Paul Smith), and a very small number is listed on the stock exchange, e.g. Burberry, Martin International and Wensum. But a very prevalent trend since the 1990s has been a process of de-listing, sometimes accompanied by a break-up of formerly sizeable companies. These firms either have been taken into private ownership by individual large investors or investment funds, or managers have led buy-outs. Reinvestment of profits under this ownership arrangement has to be lower as investors have to receive their cut. The prevalence of low capital investment is confirmed by a recent industry report (TCSG 2000: 7).

Ownership of the many smaller UK clothing firms is less well documented but, according to industry insiders (Interview Notes 2004), ethnic minority owners in Britain are prominent in the industry. They have given one section of this industry, concentrated in big cities like Leicester and in the east of London, its special character (EMDA 2001). Germany does not seem to have such a regionally concentrated, largely informal sector, despite the presence of large ethnic minority regional concentrations (P. Donath, IG Metall Executive, personal communication, 7 January 2004). The consequences of this differential development for both outsourcing and employment are discussed in sections III.2.4 and III.2.5 respectively.

III.2.2 Capabilities and Skill Profiles

A mapping of available skills and capabilities in the two national industries will explain which production and market strategies are viable in each national industry. There exist no sectoral statistics on managerial education and capabilities, and the following draws largely on interview material. Two industry insiders spontaneously described to us British managers in the clothing industry as ‘generally of very low calibre’. Levels of education and specialist expertise, with a few exceptions, appear to be significantly lower than those of their German

counterparts. Some senior managers had left school with few or no qualifications and had worked their way up in the industry. Graduate recruitment is problematic for the UK clothing industry as a whole (PSS 2000). According to CAPITB Trust (2001: 19), of new employees recruited each year by the industry, around 0.23 percent were graduates. The German managers we interviewed, in contrast, were mainly graduates with relevant tertiary education.

British clothing firms are said to attach a relatively low importance to design (Owen and Cannon Jones 2000), because they are generally competing on price, and their large retail customers usually employ their own design teams (Interview Notes 2003). Additionally, available designers are not rated well on technical and commercial understanding, although they sometimes score highly on creativity (TCSG 2000: 12; EMDA 2001: 29; Interview Notes 2003). Integrated tertiary level courses offering design, technology, manufacturing and commercial aspects are said to be very rare (EMDA 2001: 35). German designers, in contrast, appear to be better at integrating creative with technical design (Interview Notes 2003).

More systematic information is available about general skill structures in the two national clothing industries. Differences in skill levels between UK and German employees in the clothing industry mirror, in somewhat exaggerated form, the difference in UK and German training systems for intermediate level occupations (Gospel 1998). A detailed sector comparison by Steedman and Wagner (1989: 47-49) found that, at higher levels of training, more than ten times as many German as British employees had passed vocational examinations. According to CAPITB (2001: 16), technical specialists constituted a mere 4 percent of British employees. Our own impressions, too, were that there seemed to be more – and more technically qualified – designers and technical staff in German than British firms.

Further down the hierarchy, among British supervisory staff and operatives, levels of qualification are low to non-existent, and training budgets constrained. Thus, only 20 percent of operatives have NVQ level 1 and 2 qualifications (TCSG 2000: 27). In 2001/02, only 977 NVQ certificates were awarded at this level, while in clothing supervisory studies there were none at all (Owen and Cannon Jones 2003: 60). The German training effort is in a different league. In 2001, the ratio of trainees to total employees was 7.5 percent, and the total number of trainees in 2000 was 2,726, of whom most were fashion sewers and fashion tailors (BBI 2001/02).

To sum up, these striking differences in qualifications and skills in the two national clothing industries indicate that capability-building by UK managers meets much greater constraints, and that some capabilities, like the combination of creative and technical competencies to develop brands, have been achieved only in exceptional cases. Finegold and Soskice's (1988) characterisation of the general British situation in terms of a low-skill equilibrium where, given low quality and technology specification, the demand for skilled labour remains low, is pertinent also to the situation in this industry. This interdependence between different institutional complexes will be further explored in the following section.

III.2.3 Product and Market Strategy

The above structures of capabilities crucially determine both product and market strategy. According to Steedman and Wagner (1989: 41), whose work pre-dates the full-scale shift of manufacturing work overseas and the break-up of the UK's Coats Viyella and Coutauld, the German industry engages in production of small batches of high-quality goods in great

variety (production runs of 150-300 garments). British firms, in contrast, depended to a great extent on long runs of standard items – in the majority of plants they visited, 15,000 garments. They pinpoint differences in technical design (greater complexity in Germany), as well as in fabrics and trim used (higher quality in Germany). This picture is partly confirmed by more recent sources. Thus, Euratex figures cited by EMDA (2001: 7) show that the value of UK clothing, indicated by export prices, is less than half that of German clothing. The competitive advantage of German producers in international business rests on specialisation in niche products (Groemling and Matthes (2003: 69). They cater mainly for the upper middle market, with an emphasis on quality and, in most cases, brand. BBI (2001/02: 11) speaks about the existence of between 20 and 30 globally traded brands in the German industry. Both sets of authors point out that this market strategy – and the capabilities on which it builds – depends on the presence of high skill levels at the upper end of the value chain and on a high level of control over suppliers.

In the UK, a very small number of firms concentrate on brands with high margins. They are counterposed to a majority that make fairly standard clothes in the middle to low market segment. Abandonment of branding capability has occurred in favour of achieving the apparently greater security, but lower margins, of contract clothing production sold under the retailer's label. The close relationship to powerful domestic retailers relieves these firms of problems of design and marketing, 'but at the cost of leaving them invisible to the consumer and with a limited capacity to innovate' (Owen and Cannon Jones 2003: 56). Large firms that had owned both branded and contract clothing businesses, such as Coats Vyella and William Baird, seemed unable to manage the different investment and marketing strategies required. The TCSG (2000: 9) also comments: 'because a large part of the industry has relied on supplying goods for High Street retailers' own labels, many UK textile and clothing manufacturers have not developed high levels of marketing expertise'. Under-investment also plays a part. Compared to their main competitors, British firms tend to be reluctant or unable to make the up-front marketing investments required to build a branded presence (e.g. EMDA 2001, speaking of the mainly small East Midlands clothing firms).

These divergent production paradigms and market strategies, in turn, are reflected in the export performance of clothing enterprises in the two economies. German firms achieve the relatively high export ratio of 32 percent (VR 2003). They have increased their efforts and, since 1995, have achieved an export growth rate of 6 percent per annum which, in international comparative terms, exceeds that of the UK, the US and even Italy (Groemling and Matthes 2003: 77). Destinations are mainly other western European countries, but exports to CEE and particularly to Russia (VR 2003) have seen a steep increase from a low base. An analysis by Euratex (2002: 86) suggests that Germany's share of EU sales to non-EU countries rose from 12.4 percent in 1996 to 19.1 percent in 2000, making it one of the EU's most successful exporters.

British exports, with a ratio of 17 percent in 2000 (Trends Business Research, cited by EMDA 2001: 21), stood at only half the German level. Euratex (2002: 105-6) notes that UK trade with non-EU countries remains below the EU average, while the share of sales directed to other EU countries, at 25.7 percent, was approximately 10 percentage points below the EU average. This is consistent with the orientation of most large firms to focus on domestic retailers. The majority of large firms we interviewed did no exporting at all and were not aiming to achieve any. Even at the higher-quality end, export activity was low or non-

existent. Exceptions are brands such as Paul Smith and Burberry, and firms making medium- to highly-priced men's suits, such as BMB and Berwin and Berwin.

This overview of the two national clothing industries makes it clear that they contain very different populations of firms, possessing divergent capabilities and seeking competitive advantage at different geographical levels. In terms of the firm types introduced in section II.2, type 1 predominates in the German industry, whereas type 2 and (in the informal sector) type 3 are most frequently found in the UK. Type 5, the backward-integrating retailer is growing in both countries. The gradual emergence in Germany of type 4 is still a relatively new trend.

In both national industries, apart from their sourcing activity, firms hardly correspond to the image of global firms, either in terms of size and turnover or in their degree of activity abroad. The larger German firms may be characterised as European players in terms of their sales activity, but most British firms seem to be entirely confined to the national market. Furthermore, in neither country are there many multinational companies. In both countries, a few have one or a small number of foreign manufacturing subsidiaries, and several German firms have sales offices in the countries that are their main markets.

III.2.4 Development of Global Production Networks

The clothing industry is a highly labour-intensive industry in which wages for relatively lowly skilled workers account for a significant share of the production costs. With intensification of competitive pressures from low-wage countries, there has occurred the relocation of the manufacturing function to such countries in Asia-Pacific, North Africa and Central and East Europe (see figure III). This section explores German and UK firms' sourcing strategies, as well as recent changes in them and points to some interdependencies with aspects of firms' capabilities, industrial relations system and product strategy. In addition to these factors shaped by national institutional frameworks, the building of global production networks is also influenced by external factors. Among these, the European and global regulation of the industry and the constraints and opportunities thus created for German and UK firms, are of particular importance.

*** insert Figure III around here ***

In both countries, decisions on relocation have been influenced not only by considerations of labour cost, but also by the costs entailed by quotas and tariffs. More recently, with the acceleration in fashion cycles, outsourcing additionally has enhanced buyer firms' flexibility. It was recognised by many of our interviewees that the highly successful 'quick response' strategy of companies such as Zara rested on vertical integration of the manufacturing function. At the same time, this model was firmly ruled out, in both countries, on cost reasons. The search for external knowledge, common in other global networks, has not been a factor in this industry. The competencies externalised may be described as standard, facilitating easy substitution of one supplier firm by another. But suppliers in most types of sourcing relationships nevertheless must be considered as having complementary capabilities. The quantitative co-ordination of output volume and the qualitative co-ordination of product features, all under intense time pressure, could not take place through purely market links.

Four different possibilities are open to co-ordinating firms when considering the location of their production:

1. Retaining production in the home country, either in self-owned production facilities or by engaging in local outsourcing.
2. Retaining the production function in fully or partially owned production facilities through FDI in lower-wage countries.
3. Manufacturing to order by third-party contractors, which may take the form of outward processing or 'full package' supply.
4. Direct importing ('buying in') from lower-wage countries, sometimes through an agent.

Combined strategies are, of course, adopted in many cases.

German co-ordinating firms, due to high domestic wage costs and more stringent employment regulation, already began to abandon strategy 1, retention of production in the home country, from the 1970s onwards (Froebel, Heinrichs and Kreye 1980). Our interviewing revealed that, at the present time, with one notable exceptions, complete domestic manufacturing in self-owned facilities no longer exists in Germany's larger firms. There were a few cases of partial retention of the manufacturing function in-house, as well as maintaining a minor facility for making samples. Strategy 3, third party manufacturing in the form of outward processing has been by far their most prevalent strategy, and one that has gained in importance since the end of the 1980s. In 1998, Germany had by far the largest share – in terms of value – of outward processed clothing among major European countries (Greco and Dunford, forthcoming). As this involves co-ordinating firms in the buying of fabric and trim, and in many cases also in the cutting of garment parts, it gives them more control over the appearance and quality of the garment – a course of action congruent with an emphasis on high quality and branding. In distant second place, for German firms, have come both direct importing and full package manufacturing; and in third place, manufacturing in lower-wage countries through direct investment in their own manufacturing subsidiaries (Adler 2002, quoted by G&M 2003: 80). Domestic sourcing for short runs and re-orders in Germany, presumably due to the absence of an informal sector, also is infrequent and instead occurs in neighbouring CEE countries (P. Donath, IG Metall Executive, personal communication, 7 January 2004).

For the UK, in contrast, outsourcing of manufacturing to low-wage countries started very late, from the mid-1990s onwards (BATC 2003), due both to lower wage levels and to dependence on Marks and Spencer, which maintained a 'Buy British' policy well into the 1990s. Systematic studies of the mode of outsourcing are not available, and we rely on our interviews to present an account. At the present time, continuation of domestic manufacturing in self-owned plants has become very rare for the bigger firms, following numerous plant closures in recent years (Interview Notes 2003). A few of the larger firms retain ownership of production facilities in low-wage countries, both in CEE and in Asia although, as in Germany, this is a less favoured strategy. Outsourcing to independent third-party suppliers is by far the dominant strategy and appears to be mainly of the 'full package' variety. The volume of outward processing of clothing in 1998, to the value of 444 million Euros, was small when compared with Germany's 3,196 million Euros (Greco and Dunford, forthcoming). The 'full-package' strategy shifts costs and risks onto the supplier (Richardson 1996) but also permits the latter to upgrade their capabilities. At the same time, 'full package' sourcing results in loss of expertise and control over the final product for co-ordinating firms. Some UK co-ordinating firms will not consider dealing with a supplier unless it is financially

strong enough to bear the cost of fabric purchase (Interview Notes 2003). However, where clothing firms are supplying to a dominant retailer, the latter now more frequently specifies the fabric source, depriving clothing firms of another area of expertise (Baden and Velia 2002).

Tables 4a and 4b show details of the most common foreign locations of suppliers of clothing to German and UK firms (co-ordinating firms and retailers).

*** insert Tables 4a and 4b around here ***

What remains more widespread in the UK than in Germany is outsourcing to domestic suppliers for replenishment and experimental short runs. This work is still being carried out by smaller firms, which themselves often have several tiers of their own suppliers and use home work (Warren 2003). This explains the large and continually shifting population of micro firms in a largely informal sector (KFAT 2001; Warren 2003).

The data in these tables record both the direct imports of retailers and the supplies to co-ordinating firms and thus are difficult to relate to the sourcing practices of our co-ordinating firms. Nevertheless, they show that supplies from CEE countries and Turkey are far more important for German than British firms, whereas Hong Kong, the main source for British firms, is relatively unimportant for German firms. Both our interview notes and secondary sources indicate that, if only co-ordinating firms are considered, a much more polarized picture of German reliance on Eastern European firms and of British reliance on Asian firms is evident.

For German co-ordinating firms, four fifths of outward processed clothes came from central and east European states, plus Turkey (Groemling and Matthes 2003: 80). Poland and Romania were by far the two most important sources. According to BBI (2002/03: 24), in 2001, only eight countries among the 23 largest German suppliers were not from CEE, namely Tunisia, Turkey, Morocco, Portugal, Greece, Vietnam, Malaysia and China. Turkey and China are said to be the most favoured countries for 'full package' production to order, working with prescribed patterns and quality standards (VR 2003: 4).

Information about UK firms' sourcing strategies is drawn only from preliminary evaluation of our interview data. It is nevertheless clear that firms maintain a strong focus on countries in Asia Pacific, together with some Mediterranean rim countries. The choice of such more distant suppliers is consonant with the predominant use of either full-package or direct import, rather than outward processing. However, long historical association with some of these countries also is among the reasons for this geographic focus. Industry observers and firms themselves explain the high proportion of activity with Hong Kong/China and the Indian subcontinent in this way. For example, exporters and agents based in Hong Kong invested in China (and later elsewhere in Asia), and those in India invested in Bangladesh and Sri Lanka, once quota in their home countries had become difficult. The choice of Morocco and Turkey, however, is more likely to have been inspired by the introduction in 1996 of a tariff-free trade agreement between these countries and the EU.

According to the testimony of managers, the popularity of the foreign sourcing option for clothing firms in both countries, as against production in their own foreign subsidiaries, rests on the following reasons. It offers a high degree of flexibility; sufficient, even if not

complete, control; and a low tie-up of capital. Flexibility here often refers to the possibility of moving on from one supplier to another. This occurs either for reasons of efficiency or, more often in recent years, because new, even lower-wage countries offer viable facilities. Although such footloose behaviour is not rampant, it is nevertheless a strategy that firms in both countries adhered to – even firms whose managers strongly subscribe to the notion of close and long-term relations with suppliers (Interview Notes 2003). This is consistent with network theory which posits long-term relations, supplemented by constant renewal of the firm pool, to sustain innovativeness, although in this industry cost reduction is the main motivating factor. A glance at historical shifts in sourcing locations confirms this interpretation.

Thus, German firms in the 1970s started sourcing from southern European firms, as well as Turkey and some Asian firms (Groemling and Matthes 2003: 80) and only later moved into CEE. More recently, due to price rises in CEE countries ahead of accession to the EU, there has been a strong trend to move further east to Romania, and a weaker trend towards Bulgaria, Lithuania and Ukraine. Among Asian countries, China is the most popular, with about 4.1 percent of clothing imports having come from Chinese firms during the decade 1990-2000 (Groemling and Matthes 2003: 49, figure 13b; Interview Notes 2003). British firms are also moving eastward in Central and Eastern Europe and have become more focused on China, but Turkey and Morocco have also gained greatly in popularity (Interview Notes 2003; BATC 2003).

To what degree and how do German and UK co-ordinating firms exert control over their nominally independent suppliers and thus over the quality of the finished product? Although co-ordination of the relationship by German firms occurs through contractual agreements, production in reality remains under the influence of the German co-ordinating firm. The degree of vertical integration is only minimally affected (Wrona 1999: 161). The presence of strategies to retain control, such as placing their own technical staff with the supplier, was confirmed by our interviews. The British firms employed mixed methods to exert control, ranging from the use of agents to having roving inspectors who conduct quality controls. Since British firms have less geographical proximity to their suppliers and employ fewer trained technical staff compared with German clothing firms, one may conjecture that ‘virtual’ vertical integration is rare, and control is less fully maintained than in the German case.

Firms from both countries demand from their suppliers a combination of high quality, low price and timely delivery. It might be conjectured that these are now global standards from which suppliers cannot depart, or that quality means very different things to firms from these two countries. Our knowledge of the different quality standards in final products, as well as of the preferred mode of sourcing – OPT versus full package – leads us to think that the latter interpretation is more probable.

III.2.5 Implications for Labour Market Segmentation and the Nature of Employment

The almost wholesale outsourcing of the manufacturing process to independent supplier countries by both German and UK co-ordinating firms has led to an inter-firm labour market segmentation both within developed countries and between developed and developing countries. This process has had very different consequences for the composition of the

labour force in the German and UK domestic clothing industry and for quantity and quality of remaining employment, as well as for industrial representation.

Interviews with industry insiders and the literature on the UK industry suggest that outsourcing of manufacturing operations to domestic lower-tier suppliers remains prevalent, sustaining an informal sector and a segmented labour market. German industry insiders, in contrast, claim that neither an informal sector nor the ensuing labour market segmentation are found in the German industry. An informal sector in the UK clothing industry historically has evolved in geographical areas with a high concentration of immigrants, such as East London and parts of the East Midlands. Despite the introduction of a compulsory minimum wage in the late 1990s and the much increased global sourcing, this informal sector and the accompanying labour market segmentation continue to thrive. This development has been favoured by relatively lax employment regulation and the inability of unions to enforce the adoption of adequate, industry-wide wage rates. Absence of legal support for ‘extension rules’, whereby the terms and conditions of a collective agreement can be made legally binding over non-unionised employees in the industry or bargaining unit (Brown et al 1997: 75), partly explains this impotence.

Ethnic minority ownership (constituting around 35 percent of owners, according to CAPITB 2001: 5) of predominantly small and often unstable firms has been combined with employment of ethnic minority, usually female, labour, frequently as home workers (Heyes and Gray 2001; Warren 2003). Conditions in such firms have been labelled as ‘sweat shop’, with low wages, poor and often unsafe working conditions and numerically flexible hours (ibid; Interview Notes 2004). KFAT et al (2000) comment as follows: ‘Some employers in the industry run what can only be called sweatshops. They break many of the UK laws on the minimum wage, health and safety and employment protection’. By its very nature, assessment of the size of this sector can only be approximate, and it cannot be established whether it has suffered a significant decline in recent years. Its continued existence is confirmed by industry insiders, as well as being indicated by the survival and continual renewal of a large ‘tail’ of small and unstable clothing firms. Large co-ordinating firms, strongly concerned with their reputation, do not seem to buy directly from firms in the informal sector. But, according to one industry insider, some of their first-tier suppliers surreptitiously source their top-up and quick-response supplies from such cheap-labour firms.

In Germany, despite the existence of regional concentrations of ethnic minority populations, such an informal sector has not been created. Stricter legal regulation of wage determination and employment conditions, including the extension of sectorally negotiated wage rates and conditions to non-unionised employees in the same bargaining unit (Brown et al 1997: 75), has precluded the development of labour market segmentation and has consequently ‘squeezed out’ small, inefficient firms. (See discussion of industry composition in terms of firm size in Section III.2.1.) Although the rate of unionisation now is only a little higher in the German than the British industry, legal regulation of collective bargaining agreements continues to secure industry-wide diffusion of wage rates.³

Presence or absence of labour market segmentation, in interaction with skill structure and product and market strategy of firms, in turn, have determined what kind of labour remains in these two developed countries, given the almost total relocation of the production function by the larger co-ordinating firms. Government policy decisions as to whether to support the maintenance of a clothing industry in these two countries must closely examine the quality of

remaining employment – whether there has occurred an upgrading and a shift from manual to higher-level non-manual jobs and whether jobs are well-paid and relatively stable.

Given the disappearance of a very large share of manufacturing employment in both countries, one would expect the remaining jobs to be concentrated disproportionately at a higher level, i.e. in human capital intensive jobs in management, finance, marketing, technical work and design. But this development is marked only in the German and not in the UK industry. Thus, whereas in the UK clothing industry, according to CAPITB Trust (2001: 16), white-collar staff in the managerial, technical and supervisory categories amounted to a mere 20 percent of all employees, in German clothing firms white-collar workers amount to a massive 45 percent. The remaining 55 percent of employees are mainly in logistics and in finishing processes (P. Donath, IG Metall Executive, personal communication, 7 January 2004). These differing employment profiles in part are due to the predominance in Germany of type 1 firms, branded merchandisers, and in the UK of type 2 firms, suppliers to domestic retailers, without their own brand (see table 1). The large proportion of manual workers in the UK industry additionally is a consequence of labour market segmentation.

Last, what have been the implications of the development of global production networks for labour market segmentation between developed countries, on the one side, and threshold and developing countries, on the other? As this question has not informed our research design we can provide only a brief and general answer. The clothing industries of developing countries are widely portrayed in a very static manner as representing the very worst of sweatshop conditions, and the underlying labour market segmentation between developed and developing countries is seen to be at the base of this. While this undoubtedly is correct for many of the poorest developing countries, it nevertheless is a one-sided picture which misses out the dynamic aspects of this globally integrated industry. Both Gereffi (1999 and 2003) and Palpacuer (2000) have shown that significant upgrading of clothing firms has occurred in threshold countries. The example of Hong Kong is particularly striking, but similar developments may be expected in the most advanced CEE countries (Wrona 1999). In Hong Kong, many firms have exploited their former status of ‘full package’ supplier to advance to the status of branded merchandisers who even export to western markets. This enables them to charge higher prices and pay higher wages (Gereffi 2003).

Transformations also have occurred in China, the foremost clothing producer among newly industrialising countries. As figures on international trade show, its volume of clothing exports has more than quadrupled between 1980 and 2000 (WTO 2001, quoted by Dicken 2003: 325). As clothing supplier firms are highly concentrated in a few geographical regions, mainly close to Hong Kong, competition for labour has become intense. Female sewing workers, usually recruited in the poorer agricultural provinces and living in dormitories, are no longer dependent on any particular firm, but benefit from a very active regional labour market. They move frequently between firms, depending on what benefits and working conditions are offered, creating a ‘labour problem’ even for the larger Hong Kong owned firms (Interview Notes 2004). In this situation, sweatshop wages and conditions cannot be sustained. But, at the same time, with the changing political world map, new and even lower-wage countries, both in Asia and Eastern Europe and Russia, have entered the world market. With the phasing out of the Agreement on Textiles and Clothing in 2005, further movement in this global kaleidoscope may be expected.

IV. Conclusions

The paper has advanced a number of theoretical claims and has substantiated them in the light of data on the organisation of the German and UK clothing firms.

It has been suggested that, to understand the impact of global production networks on labour market segmentation and employment, one first needs to study firms in their domestic contexts, focusing on their competitive strategies and the different sets of capabilities they have developed to pursue them. Capabilities, we have argued, are not developed in the voluntaristic manner which the management literature suggests but, according to VoC theory, are crucially shaped by available institutional support structures. We have demonstrated that capabilities shape product and market strategy which, in turn, influences the kind of employment that remains in developed countries after the building of global production networks has eliminated a huge number of mainly semi-skilled manual jobs. Contrary to received wisdom which views the UK as an advanced service economy, a movement to higher service jobs is not evident in the UK clothing industry. In the German industry, in contrast, such a trend to more skill- and knowledge-intensive jobs has occurred, providing some compensation for the vast number of lowly skilled jobs lost.

Our contextualisation of firm strategy has lent some support to the VoC framework. We have confirmed the claim that British firms are more atomistic in their development of resources and capabilities. The resulting product and market strategy, together with the industrial relations system and degree of state employment regulation, give scope to the continuation an informal sector and the segmentation of the labour market between firms. This development has prevented the upgrading of employment. The British clothing industry thus has not only lost a huge number of jobs during the last six or so years but has also failed to achieve the upgrading of employment which the new international division of labour is held to favour in developed countries. Labour in the German clothing industry, in contrast, has benefited more from institutional support structures, particularly in the area of skill development and employment regulation. Consequently, a similarly high job loss in Germany at least can be counterposed to a significant upgrading of the employment structure. This preserves a significantly higher proportion of domestic jobs in professional, technical and managerial occupations.

But we also suggest that the VoC approach may not offer sufficient explanation for the analysis of cross-border networks. Our still preliminary analysis of sourcing strategies of UK and German firms indicates that, although national influences remain important, they cannot remain the only explanatory factors. Global production networks have been established specifically to escape national institutional constraints, such as industrial relations systems, employment regulation and pay structures.

Last, in neither country are co-ordinating firms powerful multinational companies. They are mainly medium-sized firms which, with a few notable exceptions, lack the resources and managerial capabilities to become multinationals, let alone truly global players. Employment remains mainly national, and the only development of globally mobile labour is in the area of supply chain management and control. German firms, we showed, have developed at least international sales relationships and relevant support structures, as well as having more technical staff placed in foreign supplier companies. In the UK, in contrast, most firms maintain an incongruous mixture of purely national relationships together with insertion into

global networks. Management of global networks tends to be more arm's length than in Germany. The description in the literature of the clothing industry as one of the most globalised needs some correction, as does the adoption, e.g. by Held et al 1999, of global production networks as one of the main indicators that globalisation has occurred.

Notes

¹ This discussion ignores the high-end knitwear sector, where the capital intensity of the machinery utilised can be high and the labour intensity low.

² Some writers distinguish between the two concepts (e.g Teece et al 1997) but most use them interchangeably as we do in this paper.

³ In the German clothing industry, now organised by a section under IG Metall, the degree of industrial organisation is 22 percent, compared with an overall union density of 28 percent (Figures supplied by P. Donath, IG Metall), whereas for the UK unions with membership from the clothing industry – KFAT, T&G and GMB – a density of under 20 percent has been estimated, which is well below the general level of organisation (Personal communication from W. Brown, Professor of Industrial Relations, University of Cambridge).

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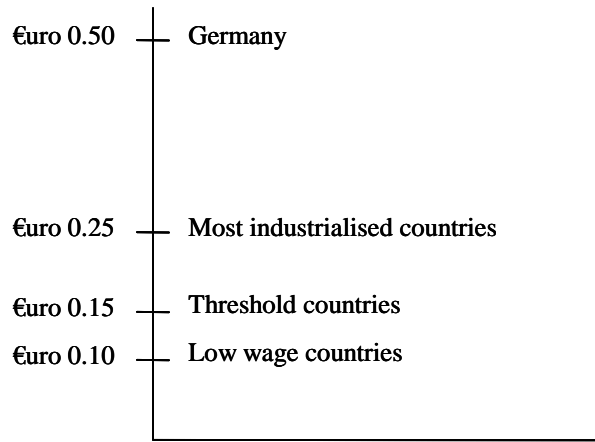
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Figure I. *Clothing Industry Costs per Working Minute in Different Countries (in Euros)*



Source: Volksbanken / Raffeisenbanken 2003

Figure II. *Steps in the Clothing Value Chain*

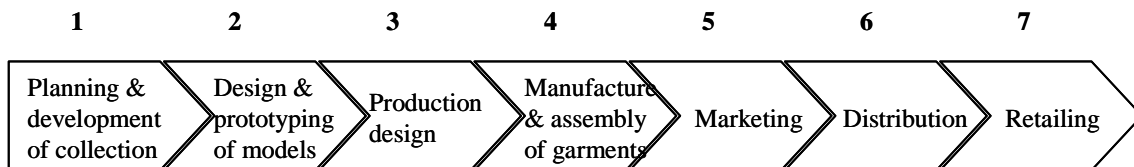


Table 1. *Five Types of Clothing Firms⁺, Based on Different Combinations of Steps in the Value Chain**

	Type of Firm	Steps combined	Type of Product and Market	Competencies Utilised	Costs incurred
<i>Type 1</i>	Branded merchandisers	High emphasis on steps 1-3 and 5-7	High quality brands, co-ordinated collections	Creative and technical design; technical preparation of production; marketing	High
<i>Type 2</i>	Domestic suppliers to large retailers	Same steps as type 1, but steps 1,2 and 5 receive low emphasis	Standardised, made to order for retailers	Lower design, technical and marketing capability than type 1	Low
<i>Type 3</i>	'Cut, Make and Trim' firms ***	Step 4**	All types	Managerial co-ordination of semi-skilled operators	Medium
<i>Type 4</i>	Branded/high fashion merchandisers	A. Steps 1-3, 5-7 B. Steps 1-7	As in type 1	A. Combines competencies of type 1 with retailing capability. B. As A, plus manufacturing	Very high
<i>Type 5</i>	Retailers, with backward integration into design and supply chain organisation	Steps 1, 2 and 6	Standard clothing, full package or imported	Mainly retailing competencies, combined with some design	Medium

⁺Includes retailers

***Steps in value chain:** 1. Development of collection; 2. Design; 3. Prototyping of models; 4. Manufacturing; 5. Marketing; 6. Distribution/logistics; 7. Retailing.

** If 'full package' suppliers, also buy fabric and trim.

*** Located in developing countries or in informal sector of developed ones.

Table 2. *Structure of the German and UK Clothing Industries, 2001/2*

	No. of firms	Turnover (€ billion)	No. of employees
German industry (firms with >20 employees)*	560	9.65	53,901
German industry (all firms)**	6,159	14.4	-
UK industry (all firms)*	5,820	8.92	127,000

* Data for 2002; ** Data for 2001

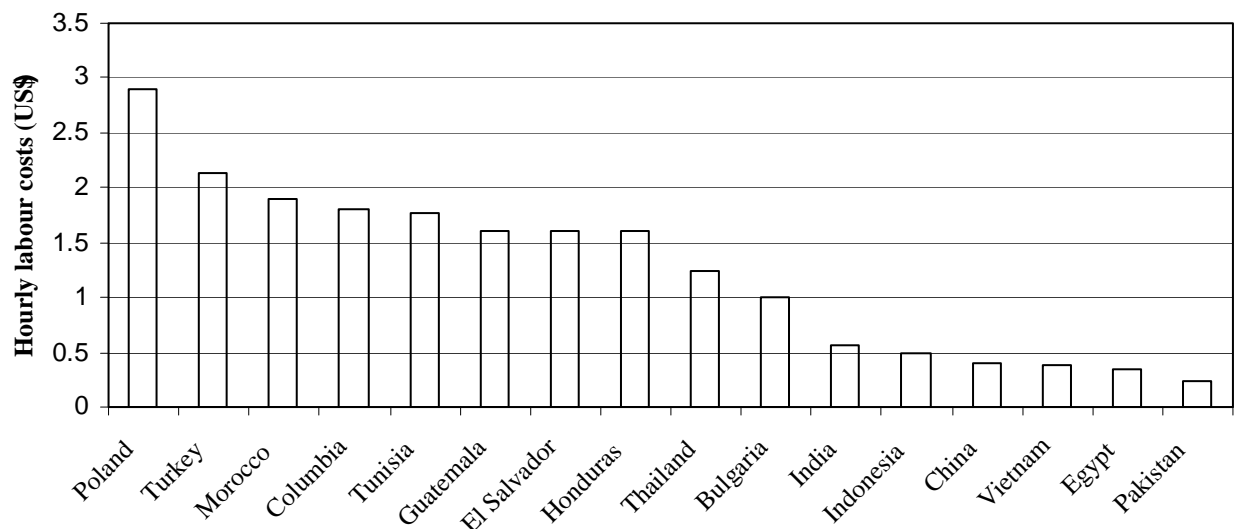
Sources: VR2003; IHK Bielefeld data, 2002; ONS Annual Business Inquiry 2001 and BATC estimates

Table 3. *Share of Turnover of Companies in the UK and German Clothing Industries, in 1999, in %*

	Top 3	Top 5	Top10
Germany	32.9	45.2	62.2
UK	19.4	27.7	37.0

Source: Euratex 2001, cited by Dunford 2001.

Figure III. *Hourly Labour Costs in the Clothing Industry, 2002*



Source: Werner International Inc., Hourly Labor Cost in the Apparel Industry

Table 4. *Sourcing Locations*

a) Top ten suppliers of outerwear to Germany in 2001 (in millions of Euros)

Turkey	2,378
China	1,359
Italy	1,350
Netherlands	836
Bangladesh	747
Poland	646
Hong Kong	634
Romania	510
India	417
Greece	403

Source: Eurostat, cited in Sippo 2002.

b) Top ten suppliers of apparel to Britain in 2001 (in millions of Pounds)

Hong Kong	1,584
Turkey	756
China	657
Italy	473
Bangladesh	350
India	349
Belgium/Luxembourg	332
Germany	321
Romania	285
Morocco	109

Source: HM Customs and Excise, supplied by BATC.