

REVIEW ARTICLES AND REPORTS**Ray RILEY*****MANUFACTURING AND PRODUCER SERVICES IN THE ŁÓDŹ
REGION OF POLAND****1. INTRODUCTION**

Even during the nineteenth century when manufacturing was a relatively simple process, when a product might remain on the market unchanged for decades, when government regulations were minimal and advertising simplistic, there was nevertheless a small number of employees within firms and, for instance, specialist lawyers and accountants outside them, who were an essential element of the activities of manufacturing companies. In some industries such as the manufacture of cotton in Lancashire, the scale of operations was such that a whole range of specialist suppliers and merchants grew up, largely in the vicinity of Manchester. As the size of firm increased, typified by the Ford Motor Company, it became justifiable to incorporate these functions, termed producer services and simply defined as services satisfying business or intermediate rather than final demand (Marshall *et al.*, 1987), within companies. These workers became known as the 'third force' between capital and labour (Wood, 1991a). As more frequent introduction of new products became, important and the process of marketing more sophisticated, coupled with opportunity of reducing shop floor labour through mechanisation, so the proportion of producer service workers within firms rose. Crum *et al.* (1979) believe that in 1971 some 27% of employment in UK manufacturing comprised office and administrative jobs, while Daniels (1986) has calculated that producer services employ between 20% and 22% of the total UK workforce. Using different criteria Hepworth (1989) found that 10.6% of the UK workforce in 1981 were what he termed 'producers'. There has subsequently been a reduction in the size of firms and an

* Ray RILEY, Department of Geography, University of Portsmouth, Buckingham Building, Lion Terrace, Portsmouth PO1 2HE, United Kingdom.

increase in the externalisation of producer services (Keeble *et al.*, 1991), as one method of reducing costs, of managing uncertainty (O'Farrell *et al.*, 1993), and of improving the chances of being able to use new types of expertise (Britton, 1990; Illeris, 1989). If anything, producer services have increased in importance to manufacturing firms, both economically and spatially – there is considerable evidence that they concentrate in rapidly expanding regions such as South-East England (Daniels, 1978; Marshall *et al.*, 1987) – and any analysis of manufacturing production which ignores them must be, as Wood (1991b) remarks, 'damagingly incomplete'.

The trends outlined may derive largely from English language sources, but there is little doubt that they apply with equal validity to other highly developed economies, since they are after all in competition with each other. However, what of the situation in Poland, a former member of the Soviet bloc? The large enterprises established by the central planners to speed the process of industrialisation and to mop up rural unemployment were in one sense similar to the large Fordist companies emerging in the first three or four decades of the present century, for producer services were contained in-house. On the other hand, they were not especially comprehensive, not only because in the absence of competitive markets there was little call for them, but also because many producer service functions were provided by state-wide supply, marketing and research organisations. Needless to say private producer services did not exist. Since the location of manufacturing and producer services was determined centrally, it is arguable that producer services had no impact upon the location of production. Indeed, to take a specific example, judging from the number of state textile and clothing agencies based in Łódź, a long established centre of these industries, it is justifiable to suppose that it was manufacturing which determined the location of the producer service agencies rather than the reverse.

What has happened in Poland since 1989 bears a remarkable resemblance to the earlier situation in the West, for the large, inflexible enterprises have been reduced in size, and there has been a rapid upsurge in new small private producer service firms. Start-up costs are low, market niches have been quickly recognised, often by former employees of state organisations, and demand for specialist expertise by the many small new manufacturing firms which have appeared since 1989 is high. Additionally, the rudimentary nature of the large firm in-house producer services meant that they were ill-equipped to enter the new competitive arena, and were obliged to buy in expertise, as in the West. It is now very probable that producer services external to firms are more important than those in-house. In this situation it becomes a distinct possibility that the availability of producer services can determine the location of new manufacturing, as has already occurred in the case of high-tech manufacture in Cambridge, England (Urry, 1987). This paper addresses this issue of the impact

of producer services on the location of production in the Łódź region of Poland, a traditional area of textile and clothing production.

A problem in the investigation of producer services is that there is no entirely satisfactory classification of their diverse elements. There is sometimes confusion between producer services and business services, which have a more restricted definition. Business services include management consultancy, market research, advertising, marketing, commercial law, real estate management, computer and data analysis, communications consultancy, personnel recruitment and financial management. To these categories have recently been added architects, surveyors, draughtspersons, town planners, numerical clerks and cashiers, and literary, artistic and sports professionals (Wood, 1996). However, business services exclude those producer services concerned with the transport and warehousing of materials, and the maintenance and repair of manufacturing equipment (Wood, 1991a). Despite these attempts at definition, the boundary between producer services and manufacturing is somewhat blurred, a problem well illustrated by research and development which overlaps with producer services, but which is regarded as belonging to manufacturing. Additionally, some producer services may also be used by members of the public, further complicating the definition (Allen, 1988). Nevertheless, there is sufficient agreement for these problems to be set on one side.

Most work on producer services either aggregates the component elements, or investigates particular sectors, such as accountancy (Morris, 1988), technical consultancy (Moulaert *et al.*, 1991) or computer services (Gentle and Howells, 1994). The fact remains that different manufacturing industries may be influenced to different degrees by producer service availability, and little or no work seems to have been conducted on these relationships. Therefore three industries exhibiting different performance and structure are selected for examination in the Łódź region of Poland. This region is defined as the *województwo*, or county, of Łódź, containing the city of Łódź which dominates the settlement system of the region, and the four surrounding counties of Piotrków Trybunalski, Płock, Sieradz and Skierniewice. At one end of the spectrum is the textile industry, typified by large plants, traditional technology, modest labour intensity, public ownership, and a shrinking demand for its products in the light of severe international competition. At the other end of the spectrum is the successful clothing industry, employing traditional and essentially simple technology in small to medium-sized, labour intensive plants, but exhibiting considerable dynamism within the framework of the market economy, drawing upon the experience of the substantial number of private firms in operation prior to 1989 (Zagorowski, 1990). Lying between these two are the various branches of the high-technology industries, with small to medium-size plants, some of which are privately owned, and a demand for some, but not all of their products. By means of a comprehensive commercial directory,

Kompass (*Informator...*, 1995), which is of outstanding merit since it identifies individual firms and plants by employment size and products, it is possible not only to examine these three industries in some detail, but also to consider producer services specific to these industries, together with those available to industry as a whole. It should be noted that commercial directories are not infallible since some firms may decide that it is not worth inclusion, but it is argued that Kompass nevertheless presents a reasonably accurate picture of present-day manufacturing and producer services in a form unavailable elsewhere.

2. THE TEXTILE INDUSTRY

The strength of the textile industry in the Łódź region is well known, as is the very large size of the mills established in the nineteenth century by German industrialists who used the area as a manufacturing base inside Russia to avoid tariffs. Large plants were also established at a few other locations in the region, that at Żyrardów manufacturing linen being perhaps the best example. Such large scale plants were well suited to the communist ethic of industrialisation, and as a consequence, some factories, particularly in the cotton branch, were very large indeed, the Uniontex and Poltex mills in Łódź employing 9,600 and 6,500 workers respectively in the late 1970s; in fact at that time no cotton mill employed less than 2,000. A survey of 47 Łódź textile mills in a variety of different branches showed that the average size of the workforce was 1,850 in 1988 (Riley and Pączka, 1992).

The economic and political principles on which the textile industry was based, and the collapse of captive markets within COMECON, left it with serious overcapacity after 1989, resulting in a fall in employment size in all branches, and a substantial reduction in the most unsophisticated sector – cotton manufacture. As table 1 illustrates, there are now only 12 mills in the entire region which may be classified as large, that is, having in excess of 1,000 workers, which was a modest size in the pre-1989 period. This downsizing is also seen in the existence of a large number of small and medium-sized firms, an entirely new situation. In fact 74% of all firms in the industry in the region employ less than 251 workers, and in turn no less than 52% of all firms may be classified as small, employing fewer than 51 workers. It is clear that despite the problems of capital formation and foreign competition people are being attracted to set up manufacturing production, at the same time selecting market niches and using flexible working practices the bigger firms are not able to enjoy. There is no shortage of suitable premises following the contraction of textile production, above all in the county of Łódź.

In respect of the location of small textile firms, table 1 illustrates once more the strength of the Łódź county. Of the 105 establishments some 93 are in the Łódź county, while 64 are actually located in the city itself, and 14 operate in Pabianice to the south of the city. In contrast, the Sieradz county has attracted only 7 small firms, Skierniewice 3, Płock 2 and Piotrków Trybunalski none at all. It is quite clear therefore that Łódź is regarded as the best location by new firm founders. Further evidence in support of this argument is provided by Piotrków in particular. Not only does the district possess three of the factories employing more than 1,000 workers, but in addition four factories in the two next smallest categories (cf. table 1) are also located there. It is therefore not unreasonable to expect that from such a workforce some new firm founders would have emerged. Yet entirely the opposite situation exists. It is unacceptable to argue that large textile plants do not spawn new firms, as has been found to be the case in metallurgical and mining districts in the UK (Watts, 1987), since the large textile mills of Łódź have not prevented large numbers of new firms from being set up there.

Table 1. Size of firm in the textile industry by employment class, 1995

County	1-10	11-20	21-50	51-100	101-250	251-500	501-1,000	>1,000	Total
Łódź	28	34	31	19	19	17	16	7	171
Piotrków Tryb.	-	-	-	-	1	1	3	3	8
Płock	-	-	2	-	-	1	-	-	3
Sieradz	3	3	1	1	2	-	-	1	11
Skierniewice	-	-	3	2	-	1	1	1	8
Total firms	31	37	37	22	22	20	20	12	201

Source: *Informator gospodarczy...* (1995).

Mention has been made above of the availability in Łódź of premises for new firms. However, a moment's reflection reveals that in a contracting industrial environment suitable premises are available everywhere, moreover, probably at lower rents than in Łódź. It is therefore necessary to look elsewhere for an explanation of the success of Łódź in attracting new textile firms. The role played by cities as an incubator for new firms has been appreciated for many years, yet producer services have seldom been advanced as a locational explanation in empirical research. Without these services, new, and in fact other firms, would not be able to carry out their operations, let alone grapple with the complexities of foreign trade regulations. It is known that producer services increase exponentially with the size of town (Daniels, 1978; Watts, 1987), so that large cities have more than their 'fair' share. Thus it is to be expected that the city of Łódź would dominate producer services in the region because of its

population size, but the extent of the domination in producer services specific to textiles is surprising. Of the 119 firms no less than 106, that is 87%, are to be found in the city of Łódź, while a further 6 are in the Łódź county, a total share of 94%. The Piotrków Trybunalski and Płock counties do not have a single textile producer service firm, while the Sieradz district has only 5. No more powerful reason for the development, or otherwise, of new textile firms can exist.

Just as small textile firms have emerged since 1989, so have the majority of the textile producer service firms. Since virtually all are new, they are also small, and represent a further hopeful aspect of the regional economy. No less than 75 (63%) of the total of 119 employ between 1 and 10 people – a sign of the relative immaturity of the sector while a further 35 employ between 11 and 50, that is, 92% of the total. Not all the textile producer service firms are new, for instance Surtex is a former state agency, as are Textilimpex and Polski Len, which still operate, but at a very much smaller size. The mutually reinforcing relationship between producer services and new textile firms may help Łódź, but it works against the other towns in the region; spatial inequality is after all an important result of market forces at work.

3. THE CLOTHING INDUSTRY

At a global scale the clothing industry is attracted to two types of location: large cities such as London, New York and Paris where there is an ample labour force and an important market, and towns in textile regions. In socialist countries the industry was also established in rural and semi-rural areas to provide local industrial employment to reduce dependence on agriculture. Because of the need to produce a wide variety of products, there are fewer advantages in large establishments than in the case of the textile industry, and even in the socialist period factories employing more than 1,000 workers were relatively unusual; a survey of Łódź clothing factories found the average employment size in 1988 to be 799 (Paćzka and Riley, 1991). A further reason for the smaller size of clothing factories was that during the 1980s, when the political situation was more conducive to private initiative and central controls were relaxed, the industry witnessed the growth of co-operative and private firms, which, because they were new, were small in size. By the end of the 1980s it was estimated that approximately half Polish clothing output derived from private and co-operative firms (Zagorowski, 1990). The industry is a very suitable activity in which to establish production for those with skill and entrepreneurial flair but little capital, because start-up costs are very low, especially since second-hand equipment is available. The outstandingly low wage costs, in comparison with

those in the West, coupled with the skilled labour and quality of the garments made, encouraged Western firms to place orders with Polish firms during the 1980s. Private sector firms were able to improve productivity by introducing piece rates and bonus arrangements, and motivated by profit incentive, management was involved in day-to-day production on a Western basis. The upshot was that compared with textile production, clothing manufacture was well prepared to operate within market conditions after 1989, since a substantial part of the industry had already been trading in this environment. Indeed, in 1985 44% of Polish clothing exports went to Western nations, indicative of the extent of business contacts with the market economy, even if a substantial amount of the fabric used was supplied by Western firms (Niznik, 1991).

Table 2 illustrates the points made above concerning the smaller number of large factories in clothing manufacture compared with textiles, only 7 firms having more than 1,000 workers. Also it is apparent that compared with textiles, the clothing industry is more widely distributed throughout the region. Some 85% of textile mills are located in the Łódź county, compared with 70% in the case of clothing factories. Indeed, comparing establishments with more than 250 workers, some 77% of textile mills are located in Łódź, but only 46% in the case of the clothing industry. Given the healthy state of the clothing industry, this locational characteristic to some extent offsets the strength of the centre and enhances that of the periphery.

Table 2. Size of firm in the clothing industry by employment class, 1995

County	1-10	11-20	21-50	51-100	101-250	251-500	501-1,000	>1,000	Total
Łódź	45	52	68	27	29	7	9	2	239
Piotrków Tryb.	1	2	4	4	3	1	2	1	18
Płock	1	2	2	2	3	2	-	1	13
Sieradz	5	1	3	4	3	-	2	2	20
Skiermiewice	5	11	13	5	5	7	2	1	49
Total firms	57	68	90	42	43	17	15	7	339

Source: *Informator gospodarczy...* (1995).

Small firms employing less than 51 workers account for almost two-thirds (64%) of the total number of clothing firms. Whatever the success of the larger clothing firms, it is the number of these small firms, many of which are new, which gives a more clear idea of potential spatial trends. In respect of enterprises employing less than 51 people, the Łódź county accounts for 77% of the total, the city of Łódź itself having 59% of the total. These percentages are lower than for small textile firms, but they are nevertheless indicative of the power of Łódź as the centre of the region.

Since the clothing industry is characterised by less diversity of production processes than textiles, it is to be expected that the producer services specific to it will be less comprehensive. It is therefore not surprising that although there are 339 clothing firms in the region, there are only 100 clothing producer service firms, while the larger firms also service the textile industry. It will be remembered that the 119 textile producer service firms support 201 textile establishments. For the reasons discussed above in the case of textiles, Łódź predictably dominates clothing producer services. Some 87 of the 100 firms are located in Łódź itself, a further 4 being outside the city in the county, taking the share to 91% (figure 1).

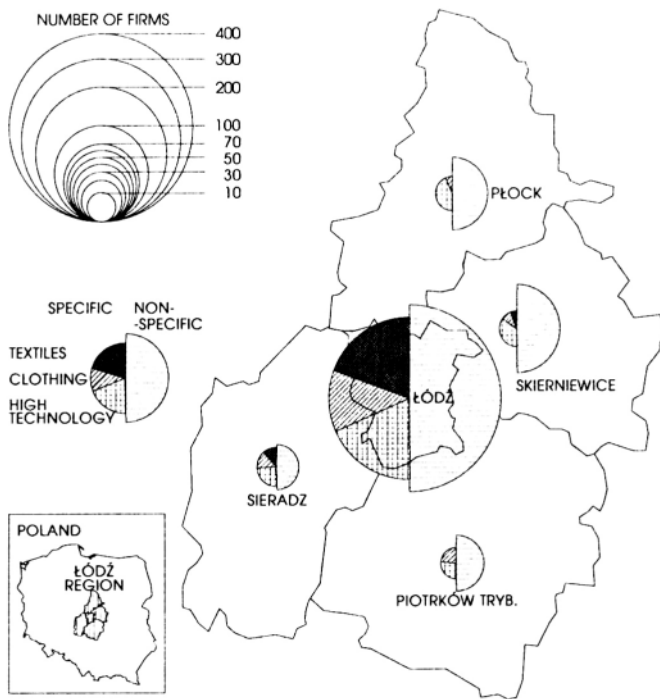


Fig. 1. Producer services specific to selected industries and non-specific producer services in the Łódź region, 1995

Although Łódź is clearly in a dominant position, the extent of the domination is slightly less than in the case of textiles; this reflects the greater geographical spread of clothing throughout the region. Having said that, it is surprising that the Skierniewice county, where clothing manufacture is relatively strong, has only three clothing producer service firms, all of them with less than 11 workers. The conclusion to be drawn here is that despite their concentration

in Łódź, producer services may not be so powerful a locational determinant as in the case of textiles.

As with textile manufacture, the clothing producer service sector is largely made up of small firms, some 55 of the total of 100 employing between 1 and 10 people, while 90 have less than 51 employees. Of great benefit to the clothing industry marketing network has been the appearance at Rzgów to the south of the city of Łódź of the 20 ha covered market run by Ptak brothers, which has very quickly become of international significance. Here clothing firms can display their goods without going through a specialist agent, and reasonably expect to effect sales to local buyers and, more importantly, to bulk buyers from other countries in Central and Eastern Europe (Musiał and Pączka, 1995). However temporary it may be, the Ptak market is nevertheless a valuable producer service.

4. THE HIGH TECHNOLOGY INDUSTRIES

In contrast with the textile and clothing industries, which are simple to define, the definition of the high technology industries is notoriously difficult. Indeed Thompson (1988) has found that according to one set of criteria 2.2% of US manufacturing employment could be classified as high technology, but according to another the share rises to 15.3%. Thus while it is accepted that the electronics industry qualifies to be regarded as high technology, there are branches of the electrical industry – for example the mass production of electric light bulbs – which are old established, whose labour skills are only modest, and which arguably might be excluded from the classification. Notwithstanding these definitional problems, the electrical, electronic, optical, photographic, medical and dental equipment industries were selected as being surrogates for, or representative of high technology production.

Similarly with the textile industry, the high technology industries exhibit a strong tendency to have large plants. As table 3 indicates, the industry has 7 plants out of a total of 98 employing more than 1,000 workers, that is 7.1%, the textile industry recording a figure of 6%. The clothing industry is quite different, having only a small number of large plants (2.1%). In contrast with textiles, there are more large plants outside Łódź than within it, probably representing the inheritance of the socialist policy of semi-rural industrialisation. Despite the severity of foreign competition, there has been substantial growth of new firms in the industry. No less than 59% of firms employ less than 51 workers, a figure which is similar to that (64%) in the successful clothing industry, indicating that there is a local and national market for certain kinds of high technology products.

Table 3. Size of firm in selected high technology industries by employment class, 1995

County	1-10	11-20	21-50	51-100	101-250	251-500	501-1,000	>1,000	Total
Łódź	23	17	10	6	8	6	1	2	73
Piotrków Tryb.	-	-	-	1	1	-	-	1	3
Płock	1	2	-	2	1	1	-	3	10
Sieradz	-	1	1	-	1	-	-	1	4
Skierniewice	-	3	-	1	2	1	1	-	8
Total firms	24	23	11	10	13	8	2	7	98

Source: *Informator gospodarczy...* (1995).

Typical of these small firms are producers of rather specialised control, lighting, telecommunication and medical equipment. A few firms are involved in electronics and television assemblies, but here international competition is strong. It seems, then, that the small firms have identified specific domestic market niches and are succeeding in exploiting them; unlike textiles and clothing, exports are unimportant.

Notwithstanding the relative weakness of Łódź in respect of large plants, the familiar centre-periphery relationship is illustrated in table 4, the Łódź county accounting for 74% of all plants, slightly higher than clothing, although much lower than textiles. A further indicator of the dominating role of Łódź is provided by the county's share of small plants, no less than 86% of firms employing less than 51 people being found in the district. If the future lies with present-day small plants, then it is beginning to look as though the market economy will leave the four counties in the periphery very short of high technology manufacturing.

Table 4. Size of non-specific producer service firms by employment class, 1995

County	1-10	11-20	21-50	51-100	101-250	251-500	501-1,000	>1,000	Total
Łódź	166	59	58	56	32	12	2	2	387
Piotrków Tryb.	9	10	11	6	1	-	-	-	37
Płock	20	13	18	7	7	1	1	1	68
Sieradz	7	5	5	4	3	1	-	1	26
Skierniewice	41	5	13	15	8	1	-	-	83
Total firms	243	92	105	88	51	51	3	4	601

Source: *Informator gospodarczy...* (1995).

In the case of textiles and clothing, it is reasonable to suppose that linked producer services are wholly, or at least almost wholly, employed by the industries in question. However, in the high technology industries this is less so, for wholesalers stock equipment which may be used by all industries, and in fact by all sectors.

Electrical equipment is needed just as much in hospitals and public buildings as it is in factories. Thus high technology producer services contribute to the wider business service environment, influencing the general attractiveness of regions for manufacturing. This is the reason why there are more high technology producer service firms – there are 151 – than high technology firms, of which there are 98 (table 3). It will be recalled that in the clothing sector the number of producer service firms was less than one-third of the total number of manufacturing firms. Thus the number of high technology service firms is a good indication of potential growth. From what has been said about the importance of Łódź, it is no surprise to find that the county has 70.2% of all high technology producer service firms, the remainder being spread among the other districts fairly evenly. Even though the high-tech producer service firms also provide back-up for a wide range of activities, their concentration in Łódź once more illustrates the advantage of the metropolitan area for new high-tech manufacturing growth.

5. NON-SPECIFIC PRODUCER SERVICES

It was pointed out above that some producer services are not specific to particular industries but are available for the use of all manufacturing, and indeed all economic activities. Moreover, some of these services, such as banking and legal services, are available to the public at large, making it difficult to establish, for instance, the extent to which a particular bank is offering a producer service or a final market/customer service (Allen, 1988). However, since all manufacturing firms need the use of non-industry specific producer services, it is important to establish how these services have developed since 1989, prior to which they were either internalised, provided by state-wide agencies or only weakly developed. Daniels (1986) argues that insurance, banking, finance, transport and communications may be used as surrogates for producer service analysis. Here the last two sectors are not used and services more obviously related to business are employed instead. The categories included are: insurance firms, insurance brokers, underwriters, commercial banks, industrial consultants, commercial solicitors, accountants, property managers, market research and advertising. In other words non-industry specific producer services equate with business services as earlier defined. It is believed

that this cross-section represents a good surrogate for non-specific producer services and will provide a useful indication of potential growth in the macro-region.

The general position is set out in table 4 and figure 1, both of which illustrate the familiar centre-periphery relationship between Łódź and the other counties, Łódź accounting for 64% of non-specific producer service firms. This is a substantial share, but since firms in this sector cluster in towns, especially large towns, and given the size of the city of Łódź in relation to the other settlements in the region, it is reasonable to expect Łódź to be in an even more dominant position. What seems to have happened is that two of the peripheral counties have performed better than expected, Skierniewice claiming 13.8% and Płock 11.3% of firms in this sector. It would be simplistic to view the region under discussion as a closed system, and it is therefore likely that both Skierniewice and Płock are as much influenced by Warsaw as they are by Łódź, causing them to benefit from the very strong producer service sector in the capital. Support for this view is provided by the performance of the other counties in the region: Piotrków Trybunalski has only 6.1% of producer service firms, but Sieradz, more distant from Warsaw than any other district, has only 4.3% of such firms in the region. Supportive evidence of the attraction of primate cities is derived from the decision of a Polish-French firm to establish their clothing factory in Sieradz through agents, solicitors and bankers in Warsaw rather than in Sieradz or even Łódź (Panzer, 1995). The relatively poor performance of cities, especially industrial cities like Łódź, in the vicinity of capital cities has been noted in many West European countries, and it would not be surprising if this were now happening in Poland.

Since a large proportion of firms in this sector is new, it is predictable that they will be in the majority. Some 73.2% of firms employ less than 51 staff, and 40.4% of all firms employ less than 11. Skierniewice in particular seems to have attracted small firms, very nearly half (49.3%) the number of firms in the county employing less than 11 workers. Arguably this is further evidence of the encouraging performance of this district; by comparison the respective figure for Łódź is 42.8%.

A surprising feature of table 4 is the existence, by the standards of the producer service sector, of some very large firms. No less than 22 enterprises employ more than 250 workers, while four of these have more than 1,000 employees. The explanation is to be found in the strategy adopted by some Treasury controlled manufacturing firms of establishing a consultancy division allowing their expertise to generate additional income. Needless to say, the employment figures quoted are those for the firm as a whole rather than for those involved in consultancy work, and in this sense the data must be treated with caution. Thus the classification of the entire workforce at the very large Zugil engineering factory at Wieluń as a consultancy is not a true indication of the

strength of producer services within the enterprise. Even when more realistic employment figures are quoted, as in the case of the electrical engineering construction section at the Bełchatów power station, where between 101 and 250 are involved in consultancy, it is more than likely that not all are engaged full-time in this work. The same problem is encountered in other sectors, in particular finance and insurance. In such firms the majority of employees are involved in the final market, that is the public, not the intermediate market as producer service consumers. It is therefore misleading to suggest that there are 193 producer service firms with between 21 and 100 employees in the region, when 40 are in fact banks largely concerned with final markets. The classificatory problems weaken the validity of the data, but it should be said that such difficulties are by no means restricted to Poland. Moreover the shortcomings do not detract from the general picture being advanced.

Large firms offering consultancy work may sometimes bring producer service employment to small towns – Wieluń and Bełchatów have been mentioned above – but the fact remains that such employment is concentrated into a few favoured locations. Because the county of Łódź is effectively the city of Łódź, it is to be expected that most producer service firms in the district will be in the city, indeed 93.8% are so located. But in the case of the other administrative districts, all of which are not only much larger in area and have relatively small towns, there is still evidence of clustering. This is especially notable in Płock where the town of Płock has 83.8% of producer service firms in the county. It seems clear that at the county scale the chief towns are especially attractive to the producer service sector, as at the national scale is the capital city of Warsaw. But it is also clear that there are substantial differences between the peripheral districts, so that on the basis of the 1995 data Sieradz must be seen to be facing problems in post-industrial society as much as Skierniewice, bordering on the county of Warsaw, appears to be overcoming them.

6. CONCLUSION

A number of trends may be identified from the foregoing discussion. There has been a dramatic growth of new manufacturing, with the consequence that small firms employing fewer than 51 workers are dominant, an entirely new situation. At the same time the great bulk of these new firms have located in the city of Łódź in the centre of the region. Producer services supporting specific industries have emerged, but differentially as between the industries examined: textiles and high-tech production appear to be more reliant upon producer services than clothing. Irrespective of this relationship, producer services, both industry-specific and otherwise, exhibit a strong concentration in the city and county of

Łódź, arguably a powerful cause of the establishment there of new manufacturing. This concentration will strengthen the centre-periphery relationship as further new manufacturing firms are attracted by the increasingly wide range of specialised producer services available in the central county, to the disadvantage of the periphery. The spatially uneven development typical of a market economy has emerged with remarkable rapidity.

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