

**ADJUSTMENT TO GLOBALISATION:
A STUDY OF THE FOOTWEAR INDUSTRY
IN EUROPE**

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Abstract

In this study of the footwear sector we seek to assess how producers in different EU countries have adjusted to increased competition from low-wage countries. There are a number of features of the performance of the sector in Europe that cast doubt over the applicability of the standard trade model, which has typically been used to assess the impact of globalisation. These characteristics also undermine a number of common perceptions regarding low-skilled labour intensive industries. Firstly, the trade data clearly demonstrate that as import penetration has increased so have export to output ratios. This suggests that adjustment to more intense import competition could entail the movement of resources into the production of higher quality differentiated fashion shoes and not just the movement of resources to other sectors. Secondly, the group of production or unskilled workers in footwear is far from homogeneous, as is often assumed in discussions of the impact of globalisation. Thirdly, for footwear it is apparent that technological change has not been pervasive. Information regarding two new technologies shows widely varying rates of application across countries. Finally, some EU countries have been able to maintain employment and output in footwear whilst in other countries production has declined dramatically. This suggests that a variety of responses to globalisation are available to firms in OECD countries, including outsourcing and overseas investment, quality upgrading and increased flexibility in the context of industrial districts.

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1. Introduction

Most of the economic literature on globalisation has concentrated upon the impact of trade upon relative wages and relative employment opportunities for unskilled relative to skilled workers in OECD countries.¹ This has been based upon the observed worsening of the fortunes of less-skilled workers in many industrial countries and the textbook Heckscher-Ohlin-Samuelson (HOS) model of international trade. This theory, including the Stolper-Samuelson link between changing product prices and changing relative wage rates, has been widely adopted despite rather shaky empirical support. In this framework globalisation leads to a reallocation of resources in OECD countries from import competing, low-skill intensive industries to the skill intensive sectors in which these countries have a comparative advantage. Most economists conclude that the role of policy in this context is to assist this reallocation by providing training and increasing the quantity of skilled labour.

However, a number of observed features suggest that this paradigm is inappropriate for a complete appraisal of the impact of globalisation in OECD countries. Firstly, for many of the unskilled intensive sectors, as the import penetration ratio has increased so has the ratio of exports to output. In the standard HOS model countries either import or export products, not both. Hence, even in low-skill intensive sectors product differentiation exists. This then provides another means of adjustment to globalisation not possible within the standard model, the within sector adjustment to produce different and higher quality products. Secondly, there appears to be a range of experience across countries in the evolution of low-skill intensive sectors. In some OECD countries certain sectors have maintained employment and output whilst in other countries production has declined dramatically. If the trade shock from globalisation is common across countries then this suggests that a variety of responses to globalisation are available to firms in OECD countries.

Industrial adjustment to globalisation is the focus of this paper. Here we concentrate upon one particular sector, footwear, which bears the characteristics of a typical low-skill intensive manufacturing sector where comparative advantage has decisively shifted to low-wage labour abundant countries. We do not provide a comprehensive overview of developments in the footwear sector but highlight a number of key issues which are apparent from an analysis of footwear but which do not often figure in general discussions of globalisation. We concentrate upon how adjustment to globalisation has taken place in

¹ See Wood (1998) and Slaughter (1998) for an overview.

those European countries which were major footwear producers at the start of the 1970s and discuss the diversity of experiences across Europe. We start with the standard trade model and analyse the changes in trade flows which have affected the footwear industry in Europe. We then proceed to discuss the main changes in the industry which are apparent over the last 20 years. We look first at developments in employment, distinguishing between skilled and unskilled workers, before looking at changes in wages and some data concerning the nature of unemployment of footwear workers in one EU country; Belgium. Finally, we look for evidence of strategies used by firms to successfully adjust to the increased international competition from low-wage countries, including discussion of productivity growth, technological adaptation, upgrading of product quality and finally the development of industrial districts and flexible organisation.

2.1 Globalisation and EU Trade in Footwear Products

Traditional trade theory, in the form of the Stolper-Samuelson theorem, suggests that changes in the relative price of unskilled labour intensive products, such as footwear, lie at the heart of traditional explanations of the link between trade, changes in relative wages and structural adjustment. Much of the empirical literature on this issue has failed to find convincing evidence that the price of products, such as footwear, has fallen relative to the price of products skilled-intensive products, such as machinery (Slaughter, 1998; Lawrence, 1996; Lucke, 1997; Anderton and Brenton, 1998).

One possible explanation for these results is the sectoral producer prices which are typically analysed are unable to capture the relevant trade shock faced by the industrialised economies because they are too aggregated. Wood (1997, 1998), for example, argues that heterogeneity of goods in standard statistical definitions of sectors and changes in quality over time (which maybe correlated with the skill intensity of production) could engender substantial errors into available producer price series. If sub-sectors within industries are different, in terms of requiring different amounts of skilled and unskilled labour, then more open trade may reduce the prices of some goods but raise the prices of others, leaving the industry aggregate price unchanged. This is likely to be the case for footwear when thinking of standardised mass-produced varieties and fashion sensitive high quality shoes, for example. Ideally, one would use highly disaggregated series on producer prices to address this issue, but unfortunately they are not available. Wood points instead to changes in the prices of imports and exports, which do suggest a rising relative price of skilled-intensive products in the 1980s (but not in the 1970s).

However, Brenton and Pinna (2000), who use highly disaggregated import data to separate out changes in quality (defined as movements to higher value products) from pure price movements within the bundle of imported footwear products, suggest there was no change or even a decrease in the import prices of the skilled intensive machinery industries relative to footwear. Thus, the traditional trade theory link from falling relative prices to falling relative wages is difficult to support in the case of footwear, but these authors do find support for falling relative import prices for textiles and for clothing.

Imports used in the above exercise were measured at the border and hence the calculated prices did not capture tariffs and the impact of non-tariff barriers. Thus, even if border prices did not change, producer and consumer prices may have fallen if trade barriers have been reduced. However, in the EU there has been little change in the degree of tariff

protection of footwear producers over the past 30 years. Footwear remains a relatively highly protected industry. The average tariff on EU imports of industrial products is now around 3 per cent whilst for leather footwear the tariff is 8 per cent and for footwear with non-leather uppers the tariff is currently equal to 17 per cent. In 1976 the tariff on finished leather footwear was 8 per cent whilst that on non-leather footwear was 20 per cent, the latter has only declined since 1994.

In addition to customs duties, imports of footwear into EU countries have often been subjected to non-tariffs measures including quantitative restrictions and voluntary export restraints and anti-dumping measures. Prior to the creation of the Single Market in the EU there were a number of bilateral trade restrictions on imports of footwear. For example, the French and Italian footwear industries pleaded successfully with the Commission to be allowed to impose VERs in the mid-1980s on imports of non-leather footwear from Asian countries, specifically Taiwan and Korea. The Commission justified this action on the basis that different types of footwear are substitutable in demand and that the sharp rise in imports of synthetic and textile footwear contributed directly to the fall of more than 70 million pairs in Community production of leather footwear.² The removal of border and customs formalities that was necessitated by the Single Market implied that bilateral restrictions could no longer be maintained. Thus, the bilateral restrictions on imports into Italy and France were reformed into an EC-wide quota system, but which has subsequently been removed.

Evidence for the UK suggests that non-tariff trade barriers have not been successful in preserving total employment in the footwear sector and have been an extremely expensive means of protection. Brenton and Winters (1993) and Winters and Takacs (1991) model the effects of a number of quantitative restrictions imposed by the UK in the late 1970s and early 1980s on imports of non-leather footwear from the Far East and imports of leather footwear from Central and Eastern European countries. Their findings suggest that in 1979 (when all of these restrictions were in place) the total cost of a job saved in the UK footwear sector was nearly 12 times annual wages every year for each year that the protection was in place.

This all suggests that trade liberalisation in the form of reductions in tariffs or removal of NTBs cannot be at the heart of explanations of the decline in footwear employment in Europe. In addition the view that high tariffs and non-tariff barriers are a useful tool to protect domestic industries from low-cost foreign competition or to allow time for adjustment to the new competition receives little support from the experience of footwear. We now proceed to look in more detail at changes in the quantity of footwear imported.

2.2 Import Penetration and Export Intensity in the EU Footwear Sector

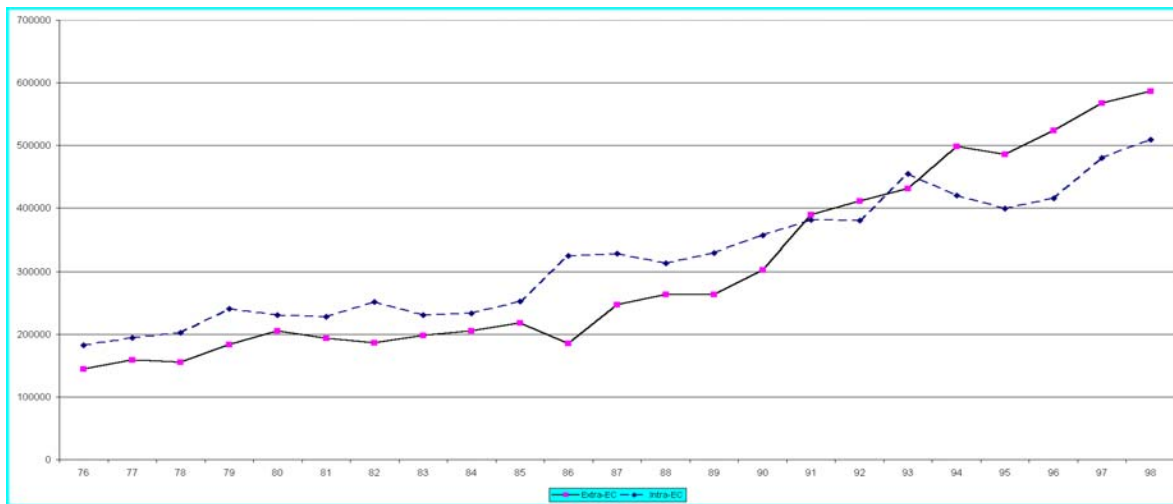
According to Wood (1995), developed countries have shifted from 'manufacturing autarky', in which they produced all the manufactures demanded domestically (skilled labour intensive and unskilled labour intensive products) to specialisation in the production of the skilled-intensive activities within all sectors and reliance upon imports from developing countries to supply their needs of labour intensive commodities. Thus, not all types of footwear that are imported compete with domestically produced shoes. In this framework, a fall in the world price of the imported unskilled intensive products would no longer affect

² Commission of the European Communities, Official Journal no. 161/16, 27

skilled and unskilled workers as factors of production in industrial countries. Relative wages are not tied to relative world prices and instead both benefit from a lower price of goods they consume. Relative wages are only determined by domestic factor demand and supply conditions. Hence, trade volumes and not relative product prices matter. The trade effect on wages and employment in the industrial countries has to be measured by calculating the quantities of skilled and unskilled labour embodied in imports and export flows. According to this view, wages in the footwear sector have been driven down because footwear activities (not only finished pairs of shoes, but especially components) formerly undertaken by unskilled workers in industrial countries are increasingly being purchased from low-wage developing countries.

Figure 1 shows the trend in the quantity (metric tons) of footwear traded within the EU12 market (Intra-EU) and imported by the EU12 from the Extra-EU region. It is clear that the trend rate of growth of imports from both external and EU countries increased after the mid-1980s but that the rate of growth of extra-EU imports was greater than that of internal EU trade.³ Hence import penetration of the EU footwear market from external sources increased considerably after the mid-1980s.

Figure 1. EU-12 Intra-EC and Extra-EC Imports of Footwear in Volume (1976-98)



Source: Comext Database

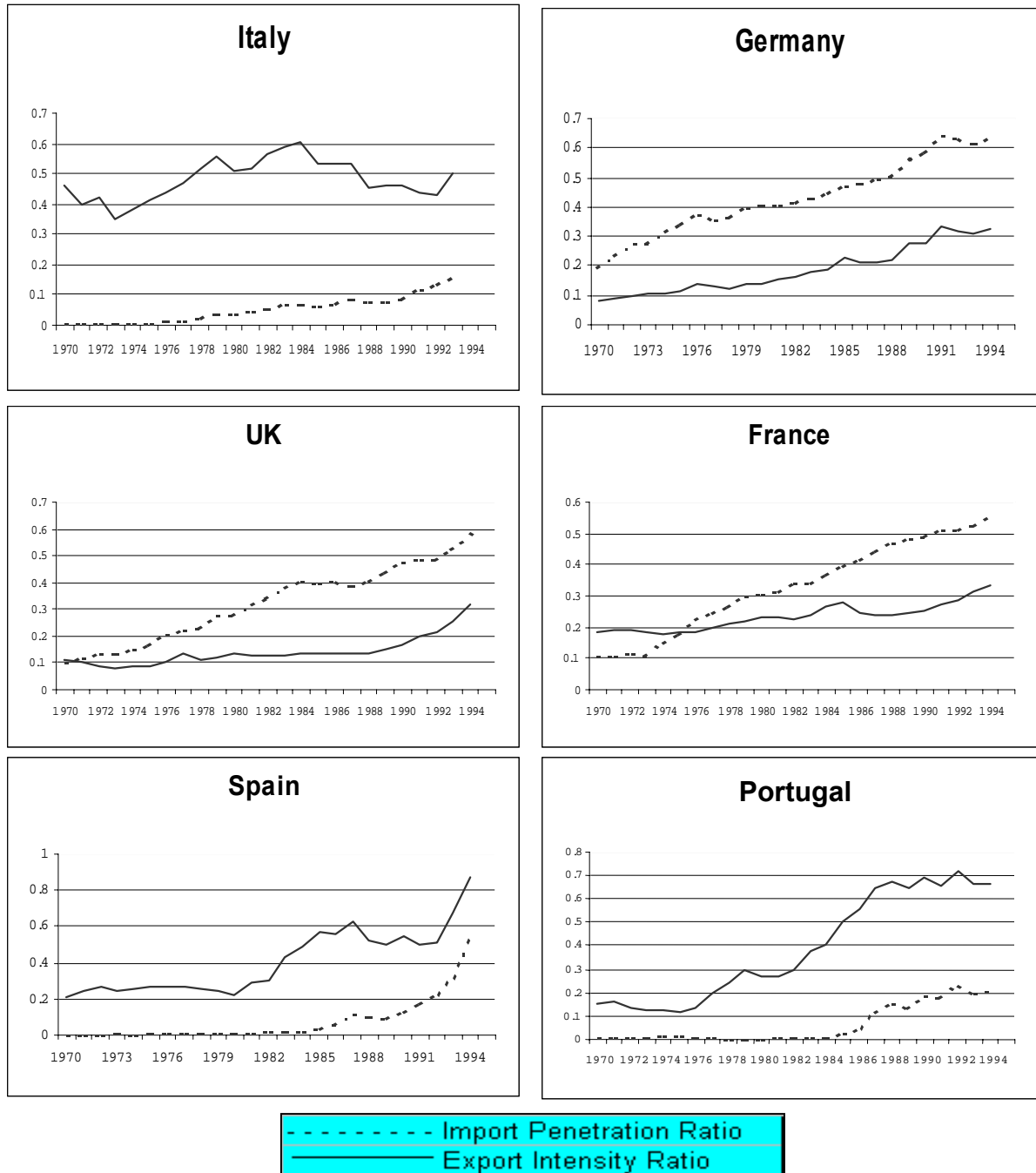
In the 1990s, for the first time, the volume of footwear imported from outside of the EU has exceeded internal trade in footwear. Imports from non-EU countries increased by 41 per cent between 1976 and 1981. Between 1986 and 1994 extra-EU imports rose by 168 per cent whilst the volume of EU production increased by 25 per cent and domestic consumption was 43 per cent higher.

Figure 2 illustrates import penetration as well as the export intensity ratio for each of the main EU producing countries, Italy, Germany, France and the UK, along with Spain and Portugal whose shares of European production have increased since the 1980s. The Italian,

³ The dip in intra-EU trade after 1993 may reflect the change in the measurement of trade after the creation of the Single Market.

UK, German and French markets have been increasingly penetrated by imports since the mid-1970s whilst in Spain and Portugal import penetration increased considerably only after 1986.

Figure 2: Import Penetration and Export Intensity in the European Footwear Industry



Source: OECD STAN Database.

Clearly, this rise in the export propensity reflects in part the decline in the amount of production of footwear in Europe. However, it is clear that EU producers are now

exporting more footwear than 20 years ago: the volume of footwear exported has increased. This is difficult to reconcile with standard trade theory. Loss of comparative advantage should affect sales in all countries not just those in the domestic market. The trade data also show that the volume of footwear exported outside of the EU has grown faster than exports to other EU countries. Hence the explanation for rising exports cannot be increased trade between members behind a protective external wall.

This growth in the amount of EU footwear that is exported entails that EU producers are selling shoes that are differentiated from those of the low wage producers who have increasingly penetrated to EU domestic market and/or that the amount of outsourcing of footwear has increased. Some information on this issue can be gleaned from comparing the volume of exports of footwear measured in tonnes and the volume of exports measured in pairs. In the EU trade statistics finished shoes are recorded in both pairs and tonnes, whilst parts of footwear tend to be measured only by weight. Over the past 20 years exports of footwear measured in tonnes and measured in pairs have both increased but the amount of tonnes of exports has grown at a much faster rate than exports of footwear measured in pairs. Thus, unless there has been a substantial increase in the weight per pair of shoes exported (unlikely unless exports have been concentrated upon boots with an ever increasing size of steel toe cap), then not only has there been an increase in exports of finished differentiated footwear from Europe but there has been a more significant increase in outsourcing, where parts are exported from the EU for further processing abroad. We return to the issue of outsourcing below.

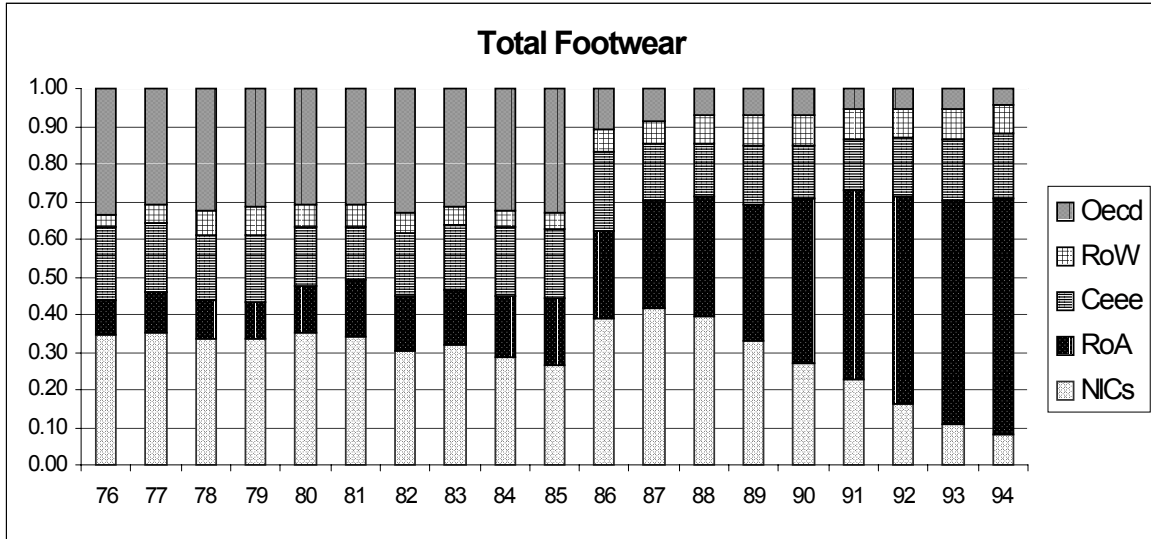
To consider more carefully how the increase in import penetration may have affected the nature of production of EU footwear we proceed to consider the geographical composition of EU imports, and in particular, how the share of low-wage countries has changed. Figure 3 illustrates the trend in the share of EU12 imports of total footwear from the NICs (4 Asian tigers), RoA (rest of Asian countries), CEEE (Central Eastern European Economies) and RoW (rest of the world trade). The data show a clear increase in the penetration of imports from less-developed, low-wage regions in the period after the mid-1980s, which coincides with the rapid increase in the volume of EU imports of footwear identified in the figure above. This occurred firstly at the expense of the OECD countries and has subsequently been associated with a decline in the share of the NICs themselves. This reflects in part the relocation of activity in Asia away from the NICs towards countries such as the Philippines and Thailand but, in particular, China.

Until 1985, trade with OECD countries accounted for around 30 to 35 per cent of total extra-EU12 imports. This share has subsequently been reduced considerably to less than 10 per cent. Such changes in the composition of imports may reflect, at least partially, another aspect of the globalisation process whereby firms in OECD countries have relocated their production to low-wage regions. Sales by OECD firms of finished products in the EU market that are produced in low-wage locations overseas will be recorded as imports from the developing country where production took place.

Thus the past 15 years have seen important changes in the magnitude of import penetration on the EU footwear market and that of each member country. This has been accompanied by substantial adjustments in the source of extra-EU imports. At the more detailed product level the data confirm a substantial increase in the penetration of imports

of final footwear products by low-wage countries and the re-sourcing of parts and components away from OECD countries to the Central and Eastern European countries and to countries in Asia (excluding the NICs).

Figure 3. Shares of Extra-EC12 Imports by Region of Origin



We now address how exports of the different categories of footwear have developed, and in particular, finished products relative to parts and components. Much of the discussion on the how globalisation has affected labour market outcomes in OECD countries has concentrated upon the impact of the increased availability of cheaper products imported from low-wage economies. However, a world of more integrated economies implies not only the possibility to export the national variety of a product but also the option to partially or completely relocate domestic production to low-wage locations. The two developments are linked if relocation occurs as a defensive strategy to the availability of cheaper imports.

Finished footwear products exported from the EU are mainly sold in other OECD countries, although the importance of the OECD has been declining and the Central and Eastern European countries have risen in prominence as a market for finished EU footwear. Changes in the geographical composition of exports of parts and components segments follow the same pattern but their magnitude has been much greater. For example, uppers of leather and other parts made of leather were mainly exported to OECD countries during the 1970s and the first part of the 1980s, but by 1994 less than 20 per cent of EU12 exports were directed to the OECD region. In 1994 the majority, over 70 per cent, of such parts and components were exported to Central and Eastern European countries. These changes in the geographical structure of exports of parts and components may be linked to the relocation of production out of the EU12 in response to increasing import competition from low-wage regions, which brings us to the issue of outsourcing.

Outsourcing occurs when firms take advantage of low-wage costs in labour abundant countries by moving the low-skill intensive parts of the production process abroad, but continue to carry out the high-skill activities themselves in the domestic economy. Trade with low-wage countries via this route shifts employment away from less-skilled workers in

industrial countries and puts downward pressure on the relative wages and employment of less-skilled workers within industries. The phenomenon has been investigated by Feenstra and Hanson (1996) using data on imports of intermediate inputs by domestic firms. The underlying intuition is that intermediate inputs are associated with unskilled labour activities which domestic firms choose to move abroad to cheap labour locations as a response to more intense import competition from low-wage countries.

One feature that is apparent for the EU is that the value per unit of imports of parts and components is greater than the unit value of exports of parts and components, both in total and for various sub-categories. Such a difference, moreover, has increased over time. This is consistent with the view that an important feature of manufacturing trade over the last two decades has been the increasing division of the value chain (Krugman, 1995) and the relocation of certain activities (the most unskilled intensive) to low-wage economies. Here the evidence suggests that the value-added embodied in European exports of parts and components of footwear is less than that embodied in European imports of footwear parts and components, suggesting that additional value to parts and components is added outside of Europe. We now proceed to look at how the domestic nature of the footwear industry in Europe has changed over the past 30 years in the light of these developments in trade.

3. Changes in Employment and Wages in the Footwear Sector

3.1 Employment in Footwear

Table 1 shows the tremendous changes in the use of labour in the footwear sector that have occurred since 1970. However, it is clear that the pattern of changes in labour input vary substantially across countries. In the UK, the US and Germany the amount of persons employed in footwear has been declining continuously since 1970. For these countries between one tenth and one third of the jobs in footwear in 1970 had been lost by 1980. Employment loss continued throughout the 1980s and by 1997 the number of footwear jobs in the US was only 32 per cent of the level in 1970. In Germany in the same year employment in footwear was less than one fifth of the level of 1970, whilst in the UK only 43 per cent of the number of jobs at the start of the period remained.⁴

For Italy, employment in footwear remained roughly constant throughout the 1970s and early 1980s. Between 1985 and 1992 there was a 10 per cent reduction in the level of employment in the Italian footwear sector. However, there has subsequently been an increase in employment with a return to the numbers employed in the early 1970s. For Spain the level of employment in the footwear sector increased during the 1970s and then declined from 1980 to 1988 with some subsequent stabilisation. Between 1985 and 1988 one third of footwear jobs in Spain were lost. The period of employment loss in Spain coincides with accession to the EU and there is some evidence of a period of relocation by Spanish footwear manufactures to Portugal during this period. Footwear employment in

⁴ The data for Germany incorporate the eastern part of the country after 1990, hence there was an even greater decline in employment in the western part of the country in the 1990s than is shown in these data.

Portugal itself has increased continuously since 1970. In 1989 the number of footwear jobs in Portugal was double the number which existed in 1970.⁵

Table 1. Change in Total Labour Input in Footwear in Selected Countries (1970=100)

	US	Italy	Spain	Portugal	UK	Germany
1970	100	100	100	100	100	100
1980	78.92	97.52	121.36	108.21	91.49	62.54
1985	51.96	96.18	104.40	124.02	68.81	54.07
1990	37.74	91.53	61.92	n.a.	52.27	36.50
1995	29.65	101.14	53.15	n,a,	42.32	20.8
1997	31.85	101.78	57.16	n,a,	42.98	19.56

Source: ISIS.

In addition to looking at changes in total employment it is also important, as trade theory suggests, to consider changes in the relative employment of skilled and unskilled workers in the footwear sector. Unfortunately, the available data do not clearly define skilled and unskilled workers and so, in common with other studies of globalisation, we have to use definitions based upon manual and non-manual workers (Table 2).

In all countries except Portugal and Italy, there has been a substantial loss of manual employment in the footwear industry. This loss of manual employment has occurred consistently since the 1970s although it has generally been more pronounced in the period since 1985, when import penetration has increased most strongly.

Table 2: The Composition of Employment in Footwear: Manual and Non-Manual Workers (in numbers)

	Germany		Spain		Portugal		Italy		UK		France	
	Manual	non-man	manual	non-man	manual	non-man	manual	non-man	manual	non-man	manual	non-man
1970	78450	11250	45510	7125	14050	2120	88531	7300	76000	12900	65210	8972
1975	61025	9425	55320	8560	15242	2255	79251	7200	70727	11150	58464	8845
1980	47850	8250	48700	6250	17604	2450	79250	7100	70285	11050	50337	7412
1985	41250	7250	36250	4985	25045	2564	78250	6920	54287	6885	40524	6432
1990	26147	6596	26786	4659			68412	8812	40343	6125	33414	7994
1995	14152	4521	24202	5802			77121	15213	31250	6372	25847	5451
1997	13252	4293	23654	5594			72221	11421	30145	8064	24510	4854
Percentage Changes												
1970-85	-47,42	-35,56	-20,35	-30,04	78,26	20,09	-11,61	-5,21	-28,57	-46,63	-37,86	-28,31
1985-97	-67,87	-40,79	-34,75	12,22			-7,70	65,04	-44,47	17,12	-39,52	-24,53
Ratio of manual to non-manual												
1970	6.97		6.39		6.63		12.13		5.89		7.27	
1997	3.08		4.23				6.32		3.74		5.05	

Sources: Eurostat, ILO, ISIS

The final rows of the table show a substantial decline in the ratio of unskilled to skilled footwear workers in all countries, including Italy where the fall in the employment of unskilled workers has been less significant, even though there was a much higher ratio of

⁵ Due to an apparent change in the recording of footwear employment in Portugal after 1989 we cannot continue the employment series into the 1990s. Recorded employment in 1990 was double that recorded in 1989 yet output remained at roughly the same level.

unskilled to skilled workers in Italy at the start of the period relative to other countries. In Spain, Italy and the UK there has been an absolute increase in the employment of non-manual workers since 1985, whilst manual employment has continued to plummet. This is difficult to reconcile with standard trade theory, where given the fall in the price of unskilled labour, the unskilled/skilled labour ratio is expected to increase. It may reflect a somewhat different response to international competition since the mid-1980s. The observed increase in the relative use of skilled labour could reflect an attempt by European footwear producers to upgrade their production and to concentrate upon the production of high quality footwear and/or upon design intensive activities. We return to this issue below when we discuss evidence of upgrading from data on exports by EU footwear producers. It may also reflect the impact of outsourcing, which we suggest above has been an important feature of the adjustment to globalisation, as low-skill intensive activities are moved overseas whilst the skill-intensive parts of the production process are retained in Europe.

3.2 Developments in Wages

Globalisation may lead to social exclusion even for workers who remain employed if there is a significant deterioration in their relative and more importantly their real wage. Here, in Table 3 below, we present the available data on percentage changes in wages for the unskilled and changes in salaries for the skilled workers employed in the footwear sector in various countries during the 1980s and early 1990s. In most cases the average wage of the unskilled footwear worker has increased proportionately less than the average salary of skilled workers. This is as one would expect. Intense competition from low-wage sources of supply would be expected to put downward pressure on the relative wage of the unskilled footwear workers in Europe. However, in Germany the returns to skilled and unskilled workers have risen at similar rates whilst in Portugal the unskilled footwear worker has fared much better than the average skilled footwear worker.

It is also important to compare the wage performance of footwear workers relative to that of other workers employed in manufacturing. Table 3 also shows changes in wages and salaries in manufacturing as a whole. These data demonstrate that in Germany, the UK, Italy and Spain unskilled footwear workers have done less well in terms of wage increases than other workers in manufacturing. In Portugal, France and the US unskilled footwear workers have received larger increases in wages than unskilled workers in general. Similarly, in all countries for which data are available, with the exception of France and the US, skilled workers in footwear have obtained lower increases in salaries than skilled workers on average in manufacturing.

The final rows of the table also show that, with the exception of Spain over the short 5-year period for which data is available, wages of unskilled workers employed in the footwear industry in Europe have increased at a faster rate than the general price index since 1980. In this sense we find no evidence from these data that unskilled footwear workers in Europe or the US have suffered from the compression of real wages experienced by unskilled workers in general in the US. More surprisingly the data do suggest a decline in the real wage of skilled footwear workers in Portugal. So, although unskilled footwear workers in Europe have not suffered a real wage reduction, in general, their wage relative to that of other unskilled workers in Europe has fallen.

Table 3. Changes in Wages and Salaries in Footwear and in Manufacturing, 1980-1994

United States		Germany		Portugal		UK		Spain		Italy		France	
Percentage change in wages and salaries in footwear 1980-1994													
Unskill	Skill	Unskill	Skill	Unskill	Skill	Unskill	Skill	Unskill	Skill	Unskill	Skill	Unskill	Skill
100.4 ¹	110.3 ¹	64.13	64.66	659.18	542.6	146.51	165.53	24.69 ²	39.06 ²	101.02 ⁴	122.84 ⁴	132.27	146.7
Percentage change in wages and salaries in manufacturing:1980-1994													
73.6 ³	93.2 ³	76.96	75.48	512.5	796.09	168.33	195.30	92.59 ²	91.59 ²	127.1 ⁴	141.1 ⁴	120.80	121.0
Percentage change in consumer price index: 1980-1994													
75.27 ³		51.28		560.19		115.66		31.16. ²		93.62 ⁴		94.31	

¹1980-1993 All footwear, leather-related products except rubber footwear ²1989-1994 ³1980-1993
⁴1983-1994.

Sources: EUROSTAT, US Bureau of Labour Statistics and IMF *International Financial Statistics*.

For footwear it is clear that the group of production or unskilled workers is far from homogeneous, as is often assumed in discussions of the impact of globalisation. The process of making footwear can be broken down into distinct stages of production. Accordingly, this division of production stages has brought about a division of labour, which requires a variety of skills from within the unskilled labour force. For example, the cutting of the leather, in which the varying texture of the material must be taken into consideration, is the most highly skilled and best paid job within the group of production workers in the factory. This is further illustrated by Table 4, which shows the range of wage costs for manual workers according to skill types in both Belgium and Italy.

Table 4: Hourly wages for Italian and Belgian Labourers according to level of skills in the leather footwear industry in 1999 (in euro)

Level	Classifications	Italy	Belgium
1	Cutting parts of the upper and the sole, stitching of the inside sole, Goodyear stitchers	8,55	8,78
2	Stretching the completed upper over a wooden form (the last)	7,97	8,56
3	Attaching the sole to the upper, tying up out-soles	7,21	8,56
4	Includes all tasks of level 1,2,3 at the experience level between 3 and 6 months	6,89	8,26
5	Includes all tasks of level 1,2,3 at the experience level of 0 to 2 months	6,6	8,06
6	Completely perforating, stitching of front-feet', inspecting the shoe, tempering heel stock, pulling out tacks	6,33	7,99
7	Not-completely perforating and stitching, polishing and packing	6,05	7,89
8	Includes all tasks of level 6,7 at the experience level of 0 to 2 months	5,43	7,59

Source: Committee of Social Affairs (Belgium 1997), FILTA (1999).

It would appear that wage levels reflect the skill intensity of manual workers in the leather footwear industry. Cutters, vampers, Goodyear stitchers, and so on, are of the highest order of skill and receive the highest hourly wages. This reflects not only that the nature of the job is quite complex, but also that it takes years of experience to work up to full efficiency (Blim (1983)). In Italy those at the highest levels within the group of production workers receive almost 60 per cent more in hourly wages than those at the bottom of the skill spectrum. In Belgium the ratio is smaller at around 16 per cent. Table 5 looks at the picture over time and presents the ratio of the wages of the most skilled manual workers

(level 1) to those classified as less skilled. The lack of significant change in these ratios over time reflects the institutional structure of wage setting in both of these countries. If there has been a change in the relative demand for these different types of manual workers it is likely to have been reflected in changes in employment since wage adjustment appears constrained. In addition, if outsourcing reduces the employment of the least skilled within the group of production workers at a greater rate than employment of the more skilled cutters then the average recorded wage for production workers could rise.

It is also apparent that footwear produced within the key categories of leather, plastic, rubber and textile shoes is far from homogeneous. Thus, the extent to which production workers employed in the footwear industry in Europe compete with unskilled labour elsewhere in the world depends on the quality of the shoes produced. Higher quality shoes and more elaborate footwear styles require better workmanship and so the need for firms to retain those with the highest degree of skills among the production workers. In general, most EU countries producing leather footwear have oriented their production towards skilled labour, while EU firms producing synthetic shoes have sought to exploit the large endowment of low skilled, low wage labour in developing countries such as China, South Korea (CEC (1997)). In other words, where the quality of the footwear is important and it reflects the quality of the labour input then the forces pushing towards localisation of production can outweigh those of globalisation. At the same time these considerations also suggest that where quality is important the scope for mechanisation of the tasks of the production workers is likely to be limited.

Table 5. Ratio of Hourly wages for Italian and Belgian Labourers according to level of skills in the leather footwear industry between 1981-1999 (Skill level 1 = 1)

Italy	Skill Level							
	1	2	3	4	5	6	7	8
1999	1	0,93	0,84	0,81	0,77	0,74	0,71	0,64
1995	1	0,94	0,85	0,83	0,80	0,77	0,74	0,69
1989	1	0,98	0,90	0,85	0,82	0,80	0,76	n/a
1985	1	0,92	0,86	0,84	0,81	0,78	n/a	n/a
1981	1	0,90	0,83	0,81	0,78	0,76	n/a	n/a
Belgium	Skill Level							
	1	2	3	4	5	6	7	8
1999	1	0,97	0,97	0,94	0,92	0,91	0,90	0,86
1995	1	0,97	0,96	0,94	0,92	0,91	0,90	0,88
1989	1	0,97	0,96	0,94	0,92	0,91	0,89	0,88
1985	1	0,97	0,96	0,94	0,91	0,90	0,89	0,87
1981	1	0,97	0,95	0,93	0,91	0,90	0,88	0,86

Source: Committee of Social Affairs (Belgium 1997), FILTA (1999).

3.3 Unemployment of Footwear Workers

The ‘trade and labour’ debate, both in the US and Europe, has firmly focused on the issue of how much inequality, either in terms of wages or unemployment, can be attributed to increased competition from low-wage countries. None of the other dynamics of labour markets linked to social exclusion, such as the length of unemployment for those which are made redundant, or the mobility of different types of workers between wage classes, has

been directly considered in relation to the emergence of less-developed countries in international markets.

An important element in the extent to which the decline in employment opportunities for manual workers in the footwear sector translates into social exclusion is the adjustment costs that such workers face in obtaining employment elsewhere in the economy. If workers released by the footwear sector are quickly re-employed in other sectors then the decline in employment in the footwear sector is unlikely to be a significant factor creating social exclusion.⁶ On the other hand if footwear workers spend long periods without work, due perhaps to the sector specificity of the skills that they possess or locational factors, then the social costs of the decline in the footwear industry will rise.

Table 6 illustrates the duration of unemployment of two groups of manual footwear workers in Belgium and compares these with a group of manual workers in the textiles industry and then with all manual and all non-manual workers in Belgium. As shown in the table above differing wage levels reflect the skill intensity of manual workers in the footwear industry, which suggests a degree of heterogeneity within the manual labour force employed within the footwear sector. We have selected the two groups of manual workers with the highest and lowest levels of skill according the wage rate; respectively, those involved with (1) cutting, stitching and pinning and (2) those manuals who are partially involved in the stitching, and undertake perforating and polishing.

The table shows the proportion of total unemployment in each category of worker by duration. We distinguish primarily between short-term unemployment, defined as those unemployed for twelve months or less, and the long-term unemployed, those without a job for more than one year. Thus, for footwear workers previously employed in cutting, weaving and pinning 75 per cent of the total number of unemployed had been without a job for more than one year in 1988.

*Table 6. Duration of Unemployment in footwear and total manufacturing * in Belgium*

	Less than 1 month	1-3 months	3-6 months	6-12 months	STU/TOTU* *	LTU/TU***
1. Cutting, stitching and pinning-footwear						
1988	0.02	0.04	0.03	0.17	0.25	0.75
1998	0.04	0.03	0.04	0.05	0.16	0.84
2. Not completely perforating and stitching and polishing-footwear						
1988	0.07	0.06	0.14	0.12	0.40	0.60
1998	0.03	0.04	0.08	0.14	0.28	0.72
3. Spinning, weaving and knitting-textiles						
1988	0.03	0.04	0.05	0.10	0.22	0.78
1998	0.02	0.05	0.06	0.09	0.22	0.78
4. manuals-total industry						
1988	0.04	0.06	0.07	0.13	0.30	0.70
1998	0.04	0.06	0.07	0.14	0.31	0.69
5. non-manuals-total industry						
1988	0.05	0.07	0.09	0.22	0.43	0.57
1998	0.06	0.07	0.08	0.18	0.39	0.61

⁶ Unless the quality of these new jobs, in terms of wages and other conditions, are considerably inferior to those in the footwear sector and this contributes to the problem of social exclusion.

* based on number of job searchers registered
** ratio short term unemployed/total unemployed
*** ratio of long term unemployed/total unemployed
<i>Source:</i> Belgian Federal Ministry of Labour.

The principal conclusions which emerge from these data for Belgium are:

- Since 1988 the proportion of unemployed manual footwear workers who have been unemployed for more than one year has increased whereas the proportion of total unemployed manual workers in Belgium who are long term unemployed has remained constant.
- A higher proportion of the more skilled manual footwear workers become long-term unemployed than do the least skilled manual workers. Those footwear workers who have the lowest level of skill find alternative employment more quickly than those manual workers with higher skills and higher wages. What is not apparent is whether this reflects skill specificity or wage inflexibility of this group of manual workers.
- The duration of unemployment of the least skilled footwear workers is, on average, less than that of the group of manual textile workers.

The duration of unemployment of non-manual workers in Belgium is considerably less than that of manual workers. It is also interesting to note that there may be considerable differences in the unemployment propensities of different skill categories of manual workers. For example, in Belgium in 1991 for every cutter and pinner, the most skilled manual worker, employed in the footwear sector there were more than two unemployed persons who previously worked as cutters and pinners in footwear. On the other hand, for every 8 finishers, the least skilled of the manual workers, employed in the footwear sector there was one unemployed former footwear finisher. Further, the ratio of employed to unemployed increased between 1981 and 1991 for finishers but declined for cutters and pinners. A similar feature is apparent for the textiles industry in Belgium: the ratio of employed to unemployed is higher for the least skilled manual workers and the propensity for the more skilled production workers to be unemployed has increased during the 1990s whilst that of the least skilled production workers has declined.⁷

So, for the footwear sector we find a degree of heterogeneity within the group of workers classified as manual both in terms of wage rates and unemployment duration. In Belgium, those manual footwear workers who receive the highest wage rates are also likely to experience longer terms of unemployment. This finding, which needs to be supported by data for other countries and other industries, is suggestive that training programmes which seek to upgrade the skills of manual workers to aid their re-entry into employment, could be more efficient if targeted at particular groups of manual workers, those which have a higher degree of skill but which may be highly sector specific.

4. Responses to Increased International Competition

We now proceed to look at certain key factors that have affected the performance of the footwear industry in Europe in the light of globalisation and how European footwear producers have reacted to increasing foreign competition. We concentrate upon technological change, the upgrading of product quality and reorganisation of the industry

⁷ These data come from: NIS, Belgium: "Volkstelling" (Census), 1981-1991. (Ten-yearly survey, data available for 1961-1971-1981-1991) and Ministry of Labour.

to adopt flexible production methods and the development of industrial districts. In the section above, we showed that, in general, adjustment of the labour input in Europe has taken the form of reductions in the quantity employed and that large changes to the relative price of labour employed in footwear are not apparent.

We start by looking at technological change. In much of the debate over the causes of increasing inequality between skilled and unskilled workers the focus is upon identifying the relative impact of trade relative to technological change. However, improvements in technology may be both a cause of increased trade flows, by allowing the outsourcing of low-skill activities, for example, as well as a defensive response by producers in industrial countries to increasing competition from low-wage countries. Here we simply seek to identify the extent of technological change in the footwear sector.

4.1 Technological Change

Measuring technological change is obviously very difficult. One simple approach is to look at the share of equipment in total investment and to check, as one might suspect, that the share of equipment increases substantially during periods in which technological change transforms the production process. Table 8 shows that, in general, the share of investment devoted to machinery has not changed substantially when the 1990s are compared with the early 1970s. Although the data for certain countries show quite high volatility from year to year.

Table 8. Index of the Share of Investment in Machinery in Total Investment in Footwear (1970=100)

	Germany	Portugal	Spain	UK	Italy
1970	100,00	100,00	n.d.	100,00	100,00
1975	127,12	109,04	n.d.	104,17	104,40
1980	112,10	88,27	n.d.	104,17	109,24
1985	126,38	100,00	n.d.	100,96	84,36
1990	91,47	98,83	95,81	142,66	98,28
1994	112,99	28,68	96,93	90,00	118,20

Source: ISIS (1998).

Further indicators of technological development are provided in Table 9 which shows the responses of 250 firms to a survey carried out in 1999 concerning the application of two new technologies, computer-aided design (CAD) and computer-aided stitching (CAS). The responses suggest that the use of CAD, which is related to the design of the product, is far more widespread than the more production related technology, CAS. The data also suggest important differences across countries in the application of these technologies.

In general, CAD and CAS are applied more widely in France, Germany and the UK than in Italy and Portugal. In Germany, 85 per cent of respondents report that they are applying computer-aided design techniques whilst 46 per cent of respondents are using computer-aided stitching. In the UK, nearly two-thirds of respondents confirm that they are using computer-aided stitching. In Italy and Portugal these technologies appear to be much less widely applied, perhaps reflecting the nature of the sector in these locations; a large number of small firms and the preponderance of fashion-oriented leather-uppered footwear. Only 10 per cent of respondents in Italy and 4 per cent of respondents in Portugal report that they are using computer-aided stitching techniques.

Table 9: The Use and Impact of Computer-Aided Technologies in the Footwear Industry (Percentage of Respondents)

	France		Germany		Italy		UK		Portugal	
	CAD*	CAS**	CAD	CAS	CAD	CAS	CAD	CAS	CAD	CAS
In use	67	73	85	46	23	10	41	64	9	4
Negative impact on employment	20	33	38	38	12	20	9	55	9	13
Requires new abilities	67	40	85	31	40	30	59	45	48	43
Positive Impact on quality	60	80	85	69	29	28	50	77	43	43

Source: DG V-EU data ‘Social Study on the European Footwear Industry’ (questionnaire)

* Computer-aided design ** Computer-aided stitching

The questionnaire also asked respondents if the application of these technologies had had a negative impact upon employment. About 40 per cent of German firms, just over half of UK firms and one third of French firms responded that the use of CAS had reduced employment. Responses in France and the UK suggest that the use CAS has a more significant negative impact upon employment than application of CAD; only 9 per cent of UK respondents reported that CAD reduced employment levels. For Germany the same proportion of firms report a negative impact of CAD on employment as reported a negative employment impact of applying CAS.

Thus, we observe that loss of employment in footwear has not been evenly distributed amongst European countries. On the basis of the available data we find that those countries which had the lowest levels of labour productivity in footwear at the start of the period in 1970 experienced the sharpest falls in employment in footwear. In addition, there is some indication that these countries have more widely adopted the most recent technological advances that are relevant to the sector. We can, however, say nothing about the direction of causality concerning these developments or the extent to which the application of these technologies represents a response to more intense international competition.

4.2 Quality Upgrading

We noted above that at the same time as import penetration ratios have increased so have export to output ratios. This is not possible to reconcile with traditional trade theory where products are assumed to be homogeneous wherever they are produced. Clearly, with the magnitude of the wage differentials between the EU countries and the developing countries, it is unlikely that EU producers could compete in the same market segments. Thus, one response from EU producers to intense international competition from low-wage countries would be to differentiate their product in terms of higher quality and in terms of design and fashion. It is interesting to note that the success of this response is likely to depend in part upon access conditions in other industrial countries. The principal markets for high quality footwear will be the OECD countries. Thus, in principal constraints upon exports of footwear to other OECD countries may constrain adjustment to more intense competition from low-wage countries. Here the role of regional integration may be important in the face of high barriers in other rich country markets.

A recent survey of global buyers of footwear products (Schmitz and Knorringa (1999)) highlights the importance of innovative design in the ability of Italy to compete with other

countries who exhibit superiority in terms of price, such as China, India and Brazil. This study also shows the importance of flexibility in meeting orders in influencing buyers decisions. Italy's leading position in the industry is maintained by 'first, its innovative design capability, and second, its strong component industry' ((Schmitz and Knorringa (1999) p13) this is enhanced by fast response and high quality in supplying relatively small orders. China on the other hand is considered as a place of cheap shoes of reliable quality. China is also seen to be strong in responding to massive standardised orders.

Assessing the extent of quality upgrading is difficult. Data on production is collected at too aggregate a level to be useful. Given this, Brenton and Pinna (2000) look at upgrading of the exports of European countries as reflecting possible strategies by domestic footwear producers to increase the quality of their output. Using detailed (8-digit) trade data these authors take quality upgrading to be a shift within the bundle of commodities exported towards higher value products. This analysis provides little evidence of a marked upgrading of the bundle of footwear products exported by EU countries in the 1980s and 1990s when import competition has become more intense. In fact exports of most of the EU countries, including Italy, to other OECD markets were downgraded after 1988.

Brenton and Pinna (2000) find no evidence of more intense import competition from low-wage countries in the footwear sector being statistically associated with export upgrading. The only significant correlation that they find suggests a positive relation between movements in the pure price of imports (after correcting for quality upgrading) and changes in pure price of exports. Thus, where import competition has been strongest in terms of pure prices there appear to have been smaller pure price increases of exports.

Thus, to date, despite much survey and anecdotal support, there is no comprehensive evidence from industry or trade data of quality upgrading being used as a response to globalisation in the footwear sector in Europe. However, the approach above will not pick up increases in quality which occur for all of the most detailed product categories. Hence, the Italian advantage in innovation in design could result in a higher quality of all the footwear produced in Italy. This will not appear as quality upgrading in the export bundle unless there is a shift to products which have a higher value at the start of the period under investigation.

4.3 Industrial districts and flexible organisation

Clearly the response to globalisation, and to greater competition generally, in the footwear sector, has not been uniform across EU countries. In some countries, such as Germany, investment abroad has played a very important role and domestic employment has declined sharply. Elsewhere, in Italy, for example, domestic output and employment have been maintained. An important aspect of the apparent success of the footwear industry in Italy is the way that the industry has become organised and in particular the adoption of flexible production methods and the emergence of locational concentration of firms in industrial districts. It is to this issue that we finally turn.

Storper and Scott (1990) define flexible production as the '*variety of ways in which producers shift promptly from one process and/or product to another, or adjust their output upward and downward in the short run without strongly deleterious effects on productivity*'. This flexibility can be achieved within the firm and between firms. The former can be derived from the use of general-purpose equipment and machinery and through the more effective adjustment of labour

inputs. Flexibility between firms is achieved from the fragmentation of the production process into many units in different firms. This provides for rapid change in the combinations of vertical and horizontal linkages between the various units and allows for quick adjustment of output levels and of product specifications. It is clear that the footwear industry in Italy has benefited from a high degree of specialisation based upon the division of the production cycle with several firms specialised in different phases of production (Rabellotti (1995)). Crucial in this structure is a well-developed network of backward-linked firms producing components and raw materials. This organisation of the sector has led to a high degree of flexibility and ability to adjust to changing market conditions.

Flexibility in production is often closely linked with labour flexibility. Storper and Scott (1990) identify three main areas where employers seek flexibility from the labour input: (1) to make wage rates adjustable downwards and to determine wages on a worker-by-worker basis rather than with occupational groups (2) redeployment of the workforce (internal flexibility) across the shop-floor and (3) develop strategies that allow for rapid adjustments in the quantity of labour input (external flexibility). The latter can typically be achieved through labour turnover, including temporary lay-off and recall, through the use of more temporary workers, more part-time workers and via subcontracting. Internal flexibility of labour can be associated with a higher level of job security if firms seek to retain the high level of firm specific human capital that is involved. External flexibility will in general have an adverse effect upon employment security, although again cases can be found where, for example, high levels of subcontracting stabilise the level of production.

In such an industry, skilled workers will typically be required to move frequently from task to task and from job to job. However, this is not usually associated with long periods of unemployment. Unskilled labour, on the other hand, whose wages are generally low, often face considerable employment instability. Thus, although flexible production methods have been an important response to changing international conditions, and seem to have played a crucial role in the success of the footwear industry in Italy, there are significant implications for labour, primarily unskilled labour, in terms of employment security.

Flexibility in production often results in rapid increases or decreases in labour input and has led firms to increase the number of workers, temporary or part-time, who enjoy lower levels of employment security. This results in income variation for workers over time due to their changing access to employment. Finally, workers with lower levels of employment security are likely to have less bargaining power than more secure workers. Thus, production and labour flexibility may have played an important role in widening wage differentials between skilled and unskilled workers.

Flexible production methods result from the fragmentation of the production process into many specialised units linked together in a network of supplier-buyer and subcontracting relationships. The close inter-relations between suppliers entails that many firms tend to be located in close proximity which has led to the development of industrial districts. Rabellotti (1995) provides evidence of the nature of footwear districts from two Italian regions; Brenta and Marche. Of fundamental importance to these districts is the presence of strong backward-linkages. That is, the existence of a well-developed system of suppliers and subcontractors which can provide a wide variety of products with short delivery times. This has a number of advantages including, smaller stocks of inputs for producing final shoes, the progressive reduction of the time between order and delivery, and an increase in

the capacity of final shoe producers to diversify their products. Collaboration between the suppliers of inputs and the producers of shoes is an important aspect of the way that footwear industrial districts are organised since it allows fashion decisions to be taken together.

The Italian footwear districts are characterised by a high level of subcontracting with a wide network of enterprises specialised in particular aspects of the production process. According to Varaldo (1988), more than 80 per cent of Italian footwear firms subcontract the production of soles, insoles and heels, around 70 per cent subcontract the production phases of edging and sewing of uppers and about half of the firms subcontract the cutting phase. This splitting up of the production process allows the use of specialised machines and specific labour skills for particular tasks and provides for larger scale economies than are possible in shoe production itself. In the survey of Rabellotti (1995) the key reason for subcontracting is to reduce costs. Nearly three quarters of the surveyed firms report this as the catalyst for their decision. In addition, for 50 per cent of the firms subcontracting is seen as an important means of increasing flexibility. Because subcontractors are more specialised, and are more able to reap the available economies of scale, they are seen as providing better products at lower cost and with shorter delays.

Most of the shoe producers surveyed in Italy chose subcontractors within the same area. The key issue in terms of our discussion of globalisation, is why it is in Italy that subcontracting has mainly been allocated to other firms in the region and not overseas to even lower cost suppliers. A key feature of industrial districts is the maintenance of stable and continuous linkages between shoe producers and subcontractors. Despite having been given prominence in a number of previous studies of industrial districts, local government was of little importance in the footwear districts of Italy.

Several authors observe a link between the characteristics of the local labor market and industrial clusters. The learning process which usually takes place inside the firm, becomes a collective process in the industrial district, based on common knowledge which accumulates in people rather than in firms. Knowledge, which is transmitted from one generation to the next, enhances local innovation through labour mobility, which circulates the know-how of one firm to the other.

Interestingly, the Italian model of the industrial district in the footwear sector is not replicated elsewhere. In the case of Mexico, Rabellotti (1995) observed a substantial difference in the linkages between firms. The relationship between suppliers and manufacturers are mainly “market linkages”, simply based on a factor of price and not through cooperation, as in Italy. Hing (1998) explores regional clustering in Taiwan and focuses on the existing key role of trading companies, which did not play an important role in Italy. The connection of these companies with international markets helped to keep Taiwan’s small and medium sized shoe manufacturers up to date with rapidly changing fashion trends and technologies. Trading companies serve as a hub of information regarding managerial, technical and financial conditions in shoe factories.

In conclusion, a key feature of the footwear industry in Italy has been the increasing flexibility of production and the strong links between producers of components and the producers of final shoes within industrial districts. This has enabled Italian producers to

maintain market share and output in the high quality, design intensive, and fashion sensitive part of the footwear market. The flexibility of production and labour input have enabled footwear firms to respond quickly to changing demands and to efficiently and effectively meet small scale orders for quality footwear. Clearly, such a response to increased competition would not be appropriate in the case of the mass production of standardised shoes. Nevertheless, the use of subcontracting to local firms and the flexibility of small firms have been a crucial aspect of the success of the Italian footwear industry. The response elsewhere in Europe, for example in the UK, of increasing firm size has not provided a basis for effective competition in the global market.

Nevertheless, the precise role that flexibility and industrial districts play in relation to social exclusion is not yet entirely clear. Flexibility in the use of labour often means the increasing use of temporary, part-time and cottage workers. The lack of employment stability for these workers can be reflected in rising wage differentials compared to skilled workers with higher job stability. In addition, these are workers who can miss the social safety net which is in place for permanent, full-time workers.

5. Conclusions

Footwear is often perceived as a standard labour intensive manufactured product in which comparative advantage has decisively shifted from OECD countries to low-wage developing countries. In Europe as a whole there has been a substantial contraction of the sector over the past 30 years with a considerable loss of jobs. However, this decline is not uniform across EU countries. Italy, for example, has been able to maintain employment in footwear roughly at 1970 levels throughout the subsequent period.

What is apparent is that developments in the footwear sector have varied across EU countries. It would seem that Germany, for example, has been characterised by a substantial shift to production in overseas locations and the outsourcing of parts of the production process. Countries such as Italy, for example, have not shifted production overseas in this manner and have instead maintained domestic output and employment levels. An important feature of this has been the shift to ever-higher export intensities at the same time as import penetration has increased. Thus, one might conclude that globalisation, as well as creating additional competitive pressures in the domestic market, provides increased opportunities for sales overseas. An important part of the response to low-wage competition in countries which have maintained domestic output and employment would appear to be success in reorienting sales towards foreign markets. A key element in the relative success of the industry in countries such as Italy has been the move towards more flexible modes of production and the development of industrial districts. The role that policy can make in facilitating this adjustment is something which requires further attention.

Finally, this study highlights that even within a fairly standard sector such as footwear, unskilled or manual labour appears to be far from homogeneous. Within this group of workers there are significant differences in wages paid to certain types of workers. One interesting finding, which needs to be further substantiated, is that those manual workers with the highest level of skills and the highest wages tend to experience longer periods of unemployment than the least skilled footwear workers. This would suggest some attention be given to the need to target retraining schemes amongst unemployed manual workers

and that within the group of unskilled workers there may be particular market imperfections which reduce the flexibility of certain types of manual workers and so raise the costs of adjustment for these workers to new economic conditions.

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