Outsourcing

1. Introduction

With the fall of the Iron Curtain in Europe and the opening of China, the percentage of the world population integrated with the Western trading system has increased dramatically. Regions with very different endowments of capital and labour as well as very different commodity price ratios have been merged, creating huge potentials for gains from trade. And international trade indeed has grown rapidly. While world GDP increased by 50 percent in nominal terms from 1990 to 2002, the trading volume grew by 90 percent.

Among the increasing trading activities, international outsourcing and offshoring activities have received particular attention in the public debate in Western countries. Both relate to the so-called intra-industry trade of intermediate products. Outsourcing means that domestic firms give up parts of their intermediate production chains and instead buy parts from foreign suppliers (Feenstra and Hansen 2001). Offshoring means that domestic firms set up new factories abroad to produce the intermediary products themselves.[1] As the economic implications of these two phenomena are the same, we treat the two equally in our analysis.

Both phenomena involve a reduction in domestic production depth. Downstream activities close to consumers such as the final assembly of parts typically remain in the country, but labour-intensive upstream activities are often moved abroad in order to benefit from lower wages. Cars are good examples. Renault, Porsche and Audi are national brand names that require national content. But in fact, parts from Nissan or from own plants in Slovakia and Hungary account for substantial fractions of the value added. An extreme example is a car like the Porsche Cayenne. The car appears to be produced in Leipzig. However, in Leipzig only the steering, the gear box and a few other parts are added, while the main assembly line as such is in Bratislava. Leipzig accounts for only 12 percent of the value of the Cayenne; 88 percent of the value is already contained in what comes from Bratislava.

Comprehensive empirical information on outsourcing and offshoring developments in the United States is provided by Feenstra (1996). Reviewing evidence of long-run changes in trade and production structures in manufacturing, he finds that there have been tendencies for more use of imported intermediate inputs in production. Related results have been obtained by Hild (2004) and Sinn (2004a) for Germany (see the appendix to this chapter).

Outsourcing and offshoring activities not only apply to production for domestic use but also to production for exports. Increasing fractions of the value added content of exports seem to be coming from abroad indicating that trade in intermediaries is growing even faster than trade on average. Evidence for this is given by Ng and Yeats (2002). They show that between 1984 and 1996 East Asian imports and exports of manufactured components grew annually two to three times as fast as imports and exports of traditional production. Related results have been found for Germany. Sinn called this the "bazaar economy effect", a term which has triggered off a wide debate among German researchers.[2] If a country specializes in "bazaar" activities, its factors of production move from other sectors towards activities in which their value added rises, but the export and import volumes rise even faster than this.

International outsourcing and offshoring have gained importance in Europe since the mid-1990s, in particular after the ex-communist countries in Eastern Europe had overcome their transformation crises and EU membership came in sight. The public in western EU countries has been alarmed by potential job losses and low-wage competition from the east. By contrast, business representatives have tended to play down these fears, pointing to the advantages the new

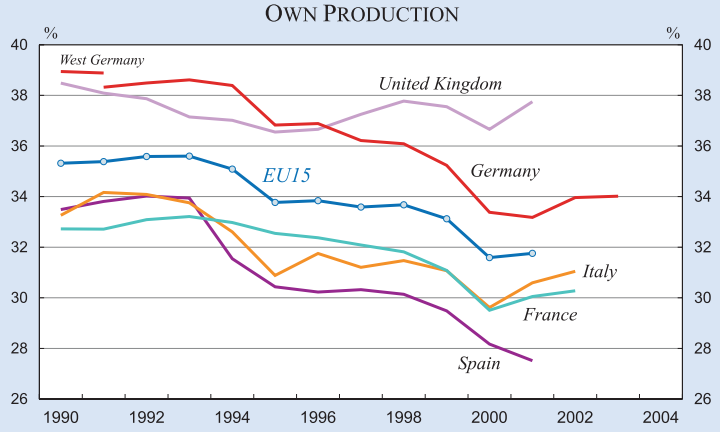
[1] Offshoring differs from foreign direct investment (FDI) in so far as FDI need not imply that the goods produced in an owned or partly owned company abroad are used in the domestic production process, although this could be the case as well. We follow the definition of Feenstra and Hansen. See also Feenstra (1996), who speak of outsourcing as international production sharing.

[2] The term was first used in H.-W. Sinn, Deutsche Rede, Stiftung Neu Hardenberg, live radio transmission, Deutschland Radio, 15.11.2003, reprinted in Sinn (2004b). An extensive discussion of the critics' arguments can be found in Sinn (2005).

trading opportunities are creating and to the possibility of cutting production cost, thus saving jobs in the west that otherwise would have been lost. This chapter tries to shed some more light on this issue.

Figure 2.1

SHARE OF VALUE ADDED IN THE MANUFACTURING SECTOR'S OWN PRODUCTION



Source: OECD, STAN database for Industrial Analysis, Vol. 2004 release 07; Germany: Federal Statistical Office, National Accounts: Special series 18, series S.21 and series 3.1; Ifo Institute calculations.

2. The decline in the share of value added in production

Outsourcing and offshoring activities, which reduce the domestic production depth, seem to be particularly important for the manufacturing sector. Outsourcing of services which also has received much attention in the media, does not (yet) seem to be an important empirical phenomenon.[3]

The reduction in domestic production depth is demonstrated quite clearly by the decline in the share of the manufacturing sector's value added in its own production. As Figure 2.1 shows, this decline is a pronounced empirical trend in all other major EU countries. In Germany, for instance, the own value added share in production declined from 40 percent in 1970 to less than 34 percent in 2003.

In principle, the observed deviation of value added from production could be a result of domestic outsourcing to other sectors rather than international outsourcing and offshoring. In fact, this has been the position taken by the *Financial Times Deutschland* in a series of articles countering the bazaar economy view.[4] However, Table 2.1, which refers to all countries for which Eurostat data are available, shows that foreign outsourcing plays a more than proportionate role in explaining the development. In all major Western European countries, the share of foreign intermediate products in the total value of intermediate products increased from 1995 to 2000. This shows that the declining share of value added is indeed primarily due to the increased share of foreign, rather than domestic, outsourcing activities.

As the reader can easily verify, the strength of this development differs among countries with Germany being more affected than others. The reason could be that Germany's geographic and cultural proximity to the new EU member countries makes it particularly attractive for German firms to locate part of their production activities there.[5]

Table 2.1

International outsourcing
– The share of foreign intermediate products in total intermediate products (in percent) –

	Year	Share
Italy	1995	17
	2000	19
Denmark	1995	22
	2000	26
Finland	1995	20
	2000	24
Netherlands	1995	29
	2000	30
Austria	1995	25
	2000	29
Sweden	1995	23
	2000	28
Germany	1995	20
	2000	26

Note: The values reported above refer to the total economy.

Source: Eurostat and own calculations. The underlying data are stored in CIRCA, the Intranet of Eurostat, and can be purchased at the Eurostat data shop.

[3] For studies on service outsourcing, see Bhagwati et al. (2004) and Amiti and Wei (2004). The latter paper contains some data on international outsourcing of services. The authors find that (i) service outsourcing is still low, though increasing, (ii) some rich countries, for example USA and UK, have had more "insourcing" of services than outsourcing, and (iii) in the UK, job growth at the sectoral level is not negatively related to service outsourcing. Jones and Kierzkowski (2003) emphasize that the IT revolution and reductions in regulations have allowed firms to exploit potential increasing returns in service links between different stages of production. A cautious conclusion on the significance of service outsourcing might be that while it is discussed very much in the media, its role in the aggregate is still relatively small. Naturally, the phenomenon is of far greater significance for specific firms, jobs and industries. See also the discussion of outsourcing services in Chapter 1.

[4] See e.g. articles "Banker zweifeln an Basar-Ökonomie", *Financial Times Deutschland* 16.7.2004, p. 16, and "Der orientalische Basar und die deutsche Krise Ökonomen finden neue Erklärung für Wirtschaftsmisere", *Financial Times Deutschland,* 25.6.2004, p. 18.

[5] Further indicators for Germany's special role can be found in Sinn (2005).

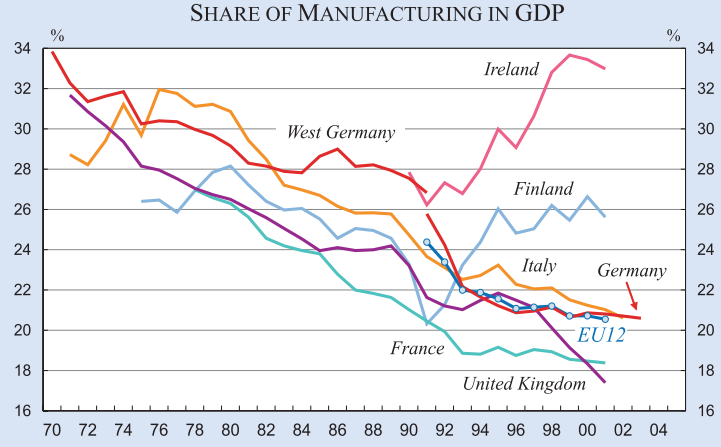
While the Eurostat information in Table 2.1 refers to the whole economy, the German Statistisches Bundesamt and the Council of Economic Advisors recently showed that the same tendency holds true for total exports as well as for exports of manufacturing goods.[6] From 1991 to 2002, the fraction of foreign intermediary inputs in German exports, including the import of exported merchandise, increased from 26.7 percent to 38.8 percent, that is, by about 11 percentage points. More than eight of these 11 percentage points can be attributed to the period from 1995 to 2002. Similarly, the fraction of foreign intermediary inputs in the exports of the manufacturing sector increased from 26.7 percent to 38.1 percent in the period from 1990 to 2000. We are not aware that similar statistical information is available for other countries, but the tendency is strong enough to expect a phenomenon of wider importance for many European countries. Regressing real export-induced imports on real exports, where the export price index is used as a deflator, the results – published by the German Federal Statistical Office – imply a marginal intermediary import propensity of exports of 55 percent. This means that 55 percent of an additional real euro of German exports is value added coming from abroad and only 45 percent is produced in Germany.[7]

Less value added per unit produced in the manufacturing sector does not necessarily imply that GDP is growing more slowly than it otherwise would. A development towards a bazaar economy could well be accompanied by an increasing prosperity of the exporting sector in general and the manufacturing sector in particular. In principle, at least some countries could specialise in engineering, final assembly and industrial sales activities with an ever increasing share of income earned this way. Figure 2.2 shows a mixed picture in this regard. While the downward trend of the manufacturing value added share in GDP is a general phenomenon for the old EU, there are substantial differences among the various countries. Most countries, for instance Italy, Great Britain and Germany, display long-term reductions in their share of manufacturing value added in GDP. The overall decline since 1970 is very pronounced indeed. Only in France has the share stabilised, albeit at a very low level.

Exceptions to the general pattern appear to be Ireland and Finland. Ireland as one of the fastest growing economies in Europe has experienced a substantial increase in the share of manufacturing in total GDP. In Finland, the share fell up to 1991. However, thereafter it increased over much of the 1990s along with the "Finish miracle" boom that was particularly driven by the IT and other high-tech industries.[8] The Finnish and Irish development may also, to some extent, have to do with the EU single market, which has removed the disadvantage of a limited domestic market size from which the smaller European countries had suffered before.

Interestingly however, Germany, where the outsourcing and offshoring activities are particularly pronounced, seems to have succeeded in stabilising the share of manufacturing value added in GDP to some extent. However, Germany has had the slowest growth among all EU countries since 1995. Part of the stabilisation of the share may therefore simply reflect the weak performance of the rest of the economy.

Figure 2.2

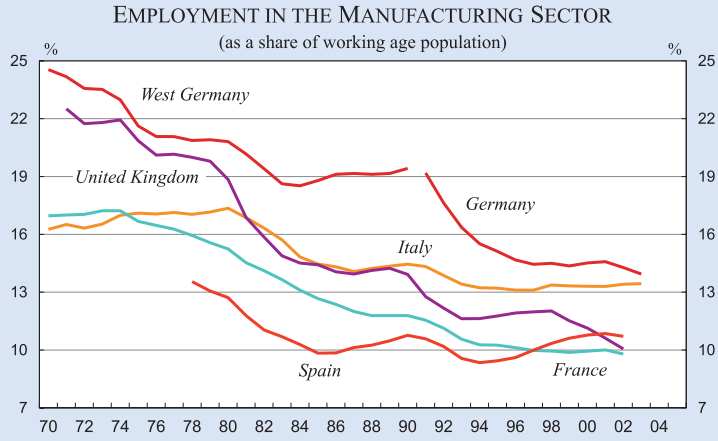


Sources: The World Bank Group, World Development Indicators Database 2003 and 2004. Germany: Federal Statistical Office, National Accounts: Special series 18, Series S.21 and Series 1.3; Ifo Institute calculations.

The value-added shares are only approximate indicators of employment shares, as firms in the old EU countries may react to the competitive pressures by increasing the capital intensity of their production and dismissing unskilled labour with relatively

[6] Statistisches Bundesamt (2004) and Sachverständigenrat zur Begutachtung der gesamtwirtschaftlichen Entwicklung (2004), pp. 361–364.
[7] See Flaig et al. (2004).
[8] Other factors contributing to the extraordinary pattern in Finland were the fall of exports to the Soviet Union that contributed to the large fall in 1989–91 and the recovery from the deep Finnish recession in the early 1990s, that contributed to the recovery in the share of manufacturing in GDP.

Figure 2.3



Sources: OECD, STAN database for Industrial Analysis, Vol 2004 release 07; Working Age Population (Between 15 and 64 years old): OECD Economic Outlook database; Germany: Federal Statistical Office, National Accounts: Special Series 18, series S.21 and Series 1.3; Ifo Institute calculations.

low value added per capita. Indeed, Figure 2.3 shows that the decline in manufacturing employment shares is more pronounced than the decline in value added shares.

3. The general motives for outsourcing and offshoring activities

Despite the media attention that outsourcing and offshoring is currently receiving, the academic literature on this topic is mostly recent, diverse and relatively scarce.

Outsourcing as a reason for change in industrial structures, with outsourcing as a particular form of vertical disintegration, is emphasized by Grossman and Helpman (2002, 2003). They argue that outsourcing has been increasing in recent years due to improvements in communication technologies and the reduction of transaction costs between intermediate and final goods producers. In related work, McLaren (2000, 2003) argues that globalisation has increased the thickness of markets and that thicker markets imply less vertical integration.[9]

Another related idea is suggested by Casella and Rauch (2002) and Rauch and Casella (2003), who argue that outsourcing helps reduce informational barriers to trade and that foreign intermediaries have access to information that domestic firms would otherwise not have. According to these hypotheses, trading services are an important aspect of outsourcing. This is similar in spirit to Feenstra, Hanson and Lin (2002). These authors show that Chinese imports to the United States are to a large extent channeled through intermediaries in Hong Kong and they view this as a form of outsourcing trading services that indicates benefits to firms from informational advantages of the Hong Kong intermediaries.

A related question is that, given that a firm has decided to outsource and offshore part of the production process, where to outsource. Hanson, Mataloni and Slaughter (2001) show that distance is among the most important factors in the decision to outsource in US data, next to tax differences and differences in labour cost. While not surprising, this finding is particularly important for Europe, as the proximity of Eastern Europe allows small and medium-sized firms to outsource parts of their production processes to the new members of the European Union, which are close-by neighbours.

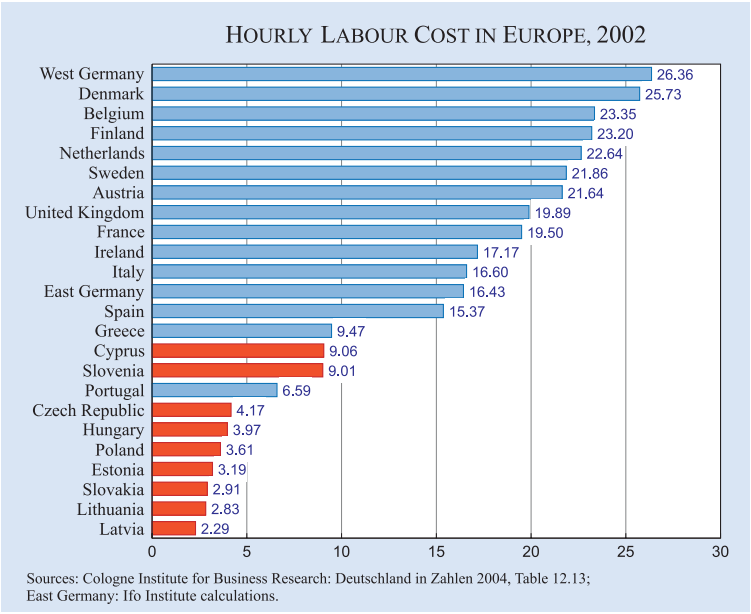
4. Opening trade with the ex-communist countries: Low-wage competition at the extreme

While these are important motives that certainly play a role in explaining outsourcing, it seems to us that the idiosyncratic shock to the world trading system that came about with the end of the communist regimes in the late 1980s and early 1990s was of particular importance. The more or less sudden opening of trade between devastated, poor ex-communist countries and the highly productive and rich western countries was like opening the weirs between two lakes of different height. Much of what has happened to international trade since that time can be explained by this picture, including the rapid emergence of outsourcing and offshoring activities.

In particular, outsourcing and offshoring is one way of taking advantage of the low labour cost in the eastern European accession countries. Figure 2.4 gives an idea of how large the relocation incentives may be by comparing the wage costs for industrial workers across the EU countries.

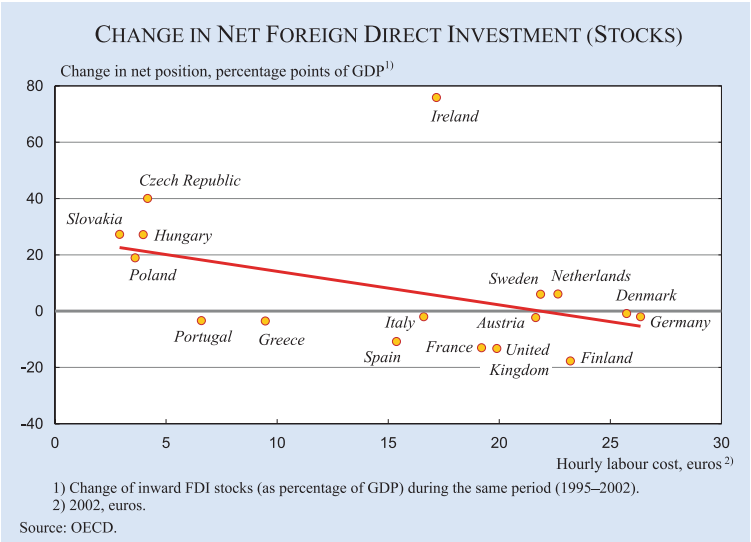
[9] See also the CESifo Forum (summer 2004) for a further discussion on the consequences of outsourcing.

Figure 2.4



Sources: Cologne Institute for Business Research: Deutschland in Zahlen 2004, Table 12.13; East Germany: Ifo Institute calculations.

Figure 2.5



1) Change of inward FDI stocks (as percentage of GDP) during the same period (1995–2002).
2) 2002, euros.

Source: OECD.

Figure 2.4 shows that the hourly labour cost in most Western European countries exceeds the labour cost in the new EU member countries by a factor of five to ten.[10,11] Moving parts of the production process to Eastern Europe is therefore not a marginal saving for the firms but a large discrete jump in reducing total labour costs. Clearly this plays a major role in the location choice of newly established firms and is large enough in magnitude to justify a relocation of already existing plants if the share of labour cost in total production cost is large enough.[12]

Figure 2.5 indicates that the share of FDI in GDP that flows to the countries in net terms is negatively related to the hourly labour cost. In particular the eastern European countries, which have the lowest wages within the EU, are the ones that have received the largest share of FDI. This is not identical but likely to be highly correlated with offshoring and outsourcing.[13]

A strong link between wages and direct investment flows has also been found by Marin, Lorentowicz and Raubold (2003) and in a most recent study of the Ifo Institute by Becker, Ekholm, Jäckle and Muendler (2004). The latter have exploited the voluminous direct investment data base of the Bundesbank that had not previously been accessible. They found that German and Eastern European workers are close substitutes rather than complements and that a wage increase in Germany has a significant and sizable positive impact on the number of jobs created by German firms in Eastern Europe.[14]

[10] Wages for workers in the new industrial locations of Eastern Europe are higher than average wages as shown above. Outsourcing and offshoring from Western Europe imply substantial wage differences within the new accession countries.
[11] For a more detailed analysis for the economic performance of the accession countries, see our 2004 EEAG Report.
[12] In Chapter 3, we make suggestions on how to overcome the high labor cost problems of the Western European countries.
[13] Normally FDI statistics give little information of green-field investment. The lion's share of measured investment is purchases of existing firms and retained earnings within such firms. In Eastern Europe, these items are unlikely to be large, however, due to the fact that communism did not leave many functioning existing firms.
[14] In the recent literature there is a consensus that domestic and foreign workers are substitutes. However previous studies, some came to different conclusions. Braconier and Ekholm (2000) found a substitutability for high income countries, but not for low income countries. Braconier and Ekholm (2001) found in the same data set, however, that outsourcing of Swedish firms to Eastern Europe has triggered both a relocation of jobs from Sweden to Eastern Europe and, to an even larger extent, a relocation of jobs of Swedish companies that where already outsourced to Southern Europe. Brainard and Riker (1997 and 2001) found for a set of US multinationals that parent employment and affiliate employment in low-wage countries are weak substitutes, while affiliate employment in different low-wage countries are strong substitutes. However, they also reported complementarity between affiliate employment in different types of countries. In particular in their 2001 paper, which uses an updated data set, they confirmed the evidence of substitutability. Konings and Murphy (2001) found evidence of substitutability, although only at the 10 percent significance level, for a set of EU firms. See Ekholm (2003) for an overview.

5. Impact on wages

While it is clear that outsourcing and offshoring activities are driven by wage differences, there is less evidence for the reverse causality. Theoretically, outsourcing reflects changes in international cost structures and productivity and thereby major shifts in comparative advantage. Such shocks will have the initial impact that some factors will earn lower income or lose employment if factor prices are rigid.

Outsourcing is like technical progress, which may or may not hurt the different types of labour in the economy. The effects on the income distribution depend, among other things, on the relative capital intensities of the sectors that experience and do not experience outsourcing. In particular whether a factor will gain or lose depends on whether it is a complement or a substitute to the factor that has become more abundant by opening trade (see, for example, Jones 2003, Kohler 2004 and Bhagwati et al. 2004). Clearly those wage earners who are substitutes to the low-wage earners who offer their labour abroad and who trigger off outsourcing and offshoring are hurt. They have to accept wage reductions to preserve their jobs. By contrast, those who offer labour that is complementary to the low-wage earners abroad will gain. Theoretically, it is even possible that the average wage rate rises.

From an empirical perspective it seems clear that low-skilled wage earners, basically industrial workers, will lose, as there is an abundance of people in the ex-communist countries including China who are now offering their labour for low-skilled industrial jobs.[15] And it may also seem plausible that highly skilled individuals whose services are complements to these large numbers of low-skilled workers will gain. However, it is unclear where the borderline between skilled and unskilled labour lies. According to a study of Geishecker and Görg (2004), even German workers with a normal school degree and accomplished vocational training programme belong to the group of losers, and only workers with a university degree can clearly be identified as winners. If this is true, then substantial fractions of wage earners in Germany are likely to belong to the group of losers.

This view is implicitly confirmed by Marin (2004) who found that outsourcing to Eastern Europe does not only involve low-skilled labour, as is often assumed, but includes high-skilled labour, too. Labour markets in Eastern Europe are not comparable to labour markets in third-world countries. Rather a high degree of skill abundance seems to prevail. However, Marin finds only few negative effects on jobs of outsourcing from Germany and Austria.

The empirical studies that try to estimate the impact of international outsourcing on wages face the difficulty of separating the effects of outsourcing from the technological changes in cost and production that often are the initial reason for outsourcing. These studies must also consider the closely related issue of skill-biased technical change and its role in the wage gap between skilled and unskilled workers that widened in the 1980s and 1990s.[16] Feenstra and Hanson (2001) survey the empirical literature that has attempted to estimate the reasons behind the widened wage gap between skilled and unskilled workers in the US. This literature has employed several related methodologies, for example estimations of demand for skilled labour, price-cost conditions or economy-wide GDP functions to study the role of outsourcing. Feenstra and Hanson conclude that in addition to skill-biased technical change, "international trade is an important explanation of the increased wage gap". However, the quantitative results in these studies are sensitive to the framework employed and also to the variables used to measure skill-biased technical progress.

6. Outsourcing, factor price equalisation and the welfare state: how to evaluate the process

The question that arises is how to evaluate the patterns of industrial restructuring documented above. In principle, there is a strong presumption that the countries between which trade is opened up will experience gains from trade, because they can specialise in those sectors where they have comparative advantages and move away from others where they have disadvantages. As a rule, a country will gain more the further the price ratios of its products move away from the price ratios that prevailed, or would have prevailed, in autarchy, because then they can specialise more and buy imports at increasingly lower prices in terms of exported goods. Outsourcing and offshoring

[15] Meshcheryakova (2004) attempts to estimate the income losses of low-skilled workers in a two-country version of a neoclassical growth model. In a calibration exercise with data from the United States and China she finds that outsorcing reduces the lifetime utility of low-skilled workers in the US.

[16] Katz and Autor (1999) give the estimates that between 1979 and 1995 the real wages of U.S. workers with more than 16 years of education rose by 3.4 percent, while those with less than 12 years of education fell by 20.2 percent.

are important elements that contribute to gains from trade.

If one sees the world as consisting of two kinds of countries, the highly industrialised countries of the West and the ex-communist countries that recently joined the world trading system, both groups of countries will unambiguously gain if they open up trade under free competition, since before trade was opened, the commodity price ratios differed widely. Both groups of countries will be able to import goods more cheaply than it would have been possible for them to produce these goods themselves.

However, when the world is seen in a more disaggregated way and if various institutional constraints that limit the role of free competition are taken into account, the gains from trade are less obvious.

Consider, for example, a third group of countries, say the resource-rich developing countries of the south. Then it may well be the case that the terms of trade will not improve for the countries of the West if the ex-communist countries join the trade between the West and the developing countries as a third partner. Suppose, for example, that the West has specialised in skill-intensive goods and that the ex-communist countries will do the same. Then the terms of trade for the West may worsen in the sense that the price of skill-intensive goods in terms of natural resources falls, moving closer to the level that would have prevailed in the West in autarchy. In this case. the West's gains from trade will decline. This is the fear that Samuelson (2004) expressed recently. The recent rise of the world oil price, which many have attributed to increasing demand from China, can be interpreted in the light of this argument. However, as has been shown by Dixit and Grossman (2004), the empirical conditions for this scenario to be relevant are unlikely to be satisfied.

A more relevant concern for the countries of Europe seems to be that the condition that the markets in the countries among which trade is opened operate competitively is not satisfied. Gains from trade and specialisation require that the countries internally be organised such that the factors of production, capital and labour in particular, can freely move from the disadvantaged to the advantaged sectors. There are always disadvantaged sectors with dying firms and growing unemployment. The crucial test for gains from trade is how quickly a country is able to return to full employment after trade is opened and jobs in the import-competing industries are destroyed by creating new jobs in the rising export sectors.

This test applies to outsourcing and offshoring activities in particular. The domestic job losses they incur must be compensated for by new jobs that are established in other parts of the economy. To be concrete, an efficient process of international outsourcing and offshoring would imply that the work time set free in the firms that dislocate their labour is used in other sectors such as services or construction whose output cannot easily be provided by the ex-communist low-wage countries or in downstream manufacturing sectors that specialise in bazaar activities.

Some European countries seem to meet the test. The UK where unemployment declined despite substantial job losses in manufacturing is a good example. The UK seems to have succeeded well in managing the structural change towards a service-based economy. Its growth and employment performance in the last ten years has been outstanding.

Other countries seem to be having more difficulties. Germany, which has been growing more slowly than any other EU country since 1995, is the most prominent example. However, the views on Germany differ widely. A number of German researchers have argued that Germany is able to master the current period of globalisation well and to capture gains from trade since the exporting sectors' employment and value-added shares are growing relative to the rest of the economy. The Federal Statistical Office has been able to demonstrate that this is the case in Germany despite the pronounced tendency to reduce the value added per unit of export. The growth in the export volume overcompensated the declining production depth due to outsourcing and offshoring. The same researchers see it as a confirmation of Germany's gains that the export surplus has increased in recent years.[17]

This line of reasoning escapes our understanding of how economies function. As explained, opening trade with a number of previously excluded countries means specialisation, and specialisation means increased exports and imports. Sectors where a country has a comparative advantage expand, export their products and absorb more factors of production such that their value added increases. Other sectors where a country has a disadvantage decline, giving way to

[17] Sinn (2005).

imports. They lose the factors of production, and hence their value added falls behind. Showing that value added and employment in the exporting sectors have increased relative to the rest of the economy is close to a tautology. It implies that countries specialise, but it does not in itself imply gains from trade, let alone an optimal reaction to international trade.

One reason why increasing exports cannot, by themselves, be interpreted as signs of gains from trade has been given by Brecher (1974) in a Heckscher-Ohlin trade model with a minimum wage constraint. If the minimum wage constraint applies in the high-wage, capital-abundant country, the labour-intensive sector of that country has difficulties surviving the low-wage competition from abroad, setting free an excessive amount of capital and labour. The capital-intensive exporting sector then expands more rapidly, and the country overspecialises. The capital intensive goods are used to buy more labour intensive goods abroad, replacing the reduced national production of such goods. Both imports and exports grow beyond their optimal size. There is an export boom, but it is a sign of a pathologic reaction of the economy rather than of a successful reaction to international trade, because the capital-intensive sector is unable to absorb the workforce set free in the labour-intensive sector. This example shows that it is not always better to export more and to generate more export-induced value added.[18] While it is debatable whether this case already applies to Europe, the argument makes it clear that a high level of exports in itself cannot possibly be interpreted as a sign for gains from trade if wages are sticky.

Similarly, the mere fact that a country has an export surplus does not show gains from trade either. By definition, an export surplus is a capital export. While a capital export could be the sign of welfare-improving intertemporal trade, it could also be the consequence of bad national policies.[19] When wages are fixed above the market clearing level and factor proportions cannot react to the forces of globalisation, a capital export can even be taken as an indicator of job exports. It is difficult to say to what extent this case applies to the European economies, but it is clear that a trade surplus in itself cannot be interpreted as a sign of gains from trade.

An indication that the case of inflexible labour markets is relevant for Europe is the increasing unemployment from which many European countries have suffered in recent years. Germany, whose unemployment has risen for more than three decades, is a characteristic example. In the period from 1995 to 2003, when the reduction in domestic production depth was particularly pronounced, 1.9 billion hours of work disappeared from the German manufacturing sector (industrial production without construction), which is a decline of 14 percent. However, only 290 million additional hours of work were created in the rest of the economy. There was a net loss of 1.61 billion hours of work in the period under consideration. This undoubtedly was not a sound development that speaks of gains from trade.

Outsourcing and offshoring per se do not cause unemployment. The problem is instead the inflexibility of the labour market. In order for the structural change accompanying specialisation to operate efficiently and bring about gains from trade, wages would have to give way as a reaction to increased low-wage competition from abroad. However, both trade unions and the relatively high replacement incomes of the welfare state have prevented wages from falling. Replacement incomes, such as unemployment benefits and social aid, act as lower bounds on the wage distribution. They were not a problem when growth was high and wages were rising, because they then followed wages at a sufficient distance. However, when trade is opened with huge low-wage areas like China and Eastern Europe, wages come under pressure while the replacement incomes stemming from better times prevent them from giving way. Thus, too much outsourcing and offshoring activity may have been induced, and too few jobs may have been created in the rest of the economy. This has added to the already existing unemployment problems caused by the interaction of macroeconomic shocks in the past and unfavourable institutional conditions.

This is the general dilemma of market integration between high-wage and low-wage countries. Such integration will bring about gains from trade, but only

[18] For a more extensive discussion, see Sinn (2005).

[19] A current account surplus by definition is equal to an export of capital. Suppose we start with the identity Y-T=C+I+G+(X-M), where Y (income) –T (taxes) is the disposable income, C is consumption, I is investment, G is government expenditure and X (exports) –M (imports) is the current account surplus. A reformulation of this equation yields (Y-T-C)+(T-G)=I+(X-M), where private and public saving stand on the left hand side and investment and the current account surplus on the right hand side. National savings are obviously allocated in the open economy towards domestic investment and net exports. Therefore, by definition, an export surplus is a capital outflow. This identity of course says nothing about the causality. Part of the current European export surplus may result from the attempt to export capital, part may be due to low internal demand which implies low imports. However, the low internal demand may in turn result from the low investment volume which itself may reflect the availability of attracting outsourcing and offshoring alternatives.

Box 2.1

Competitiveness

In the discussion on outsourcing, and the process of globalisation in general, the term "competitiveness" is often used in a misleading way. Often, it is argued that the lower cost of inputs from Eastern Europe makes Western European firms more competitive and therefore gives them an advantage in placing their products on the world markets. This undoubtedly is the case However, it is not the most interesting and relevant form of competitiveness. While the firms – and the owners of capital in general – including perhaps skilled workers remain competitive and even increase their competitiveness through outsourcing, it is the unskilled workers who are unable to compete. The main concerns raised about competitiveness in this chapter is that workers in a highly regulated labour market may not be able to compete with the low-wage alternatives that are opening up for internationally mobile capital in Eastern Europe.

in the sense that the winners gain more than the losers lose. The reason is that market integration tends to bring about factor price equalisation or at least a narrowing of the gap in factor prices. As argued above, at least wages for unskilled labour in the EU-15 come under pressure, and by the same mechanism wages in the new accession countries are lifted. Thus there are losers in the west, and in the current situation the losers may well comprise substantial fractions of the workforce of the Western European countries.

It is understandable that unions and politicians try to stem the tide and prevent the distributional consequences.[20] However, if they do that by fixing wages and social replacement incomes, they prevent the necessary adjustments of the economy and hence the gains from trade from occurring. There are no gains from trade if political constraints make the corresponding convergence of factor prices impossible.

Nevertheless, the exporting sector of such an economy may flourish for the reasons given by Brecher (1974), as cited above. Also many firms in such an economy may stay competitive. However, unemployment shows that an increasing fraction of the workforce may at the same time have lost its competitiveness (see Box 2.1)

In this sense, the judgment of international outsourcing and offshoring is not trivial. In principle, these are good and natural consequences of a fruitful integration of markets. However, the inflexibility of wages in the west may create more shifts in production processes and a more rapid reduction in domestic production depth than is optimal. The subtle truth is that a process that is good in principle may go too far because of the inflexibility of Western labour markets.

The EEAG had previously argued that one of the most powerful tools in the fight against unemployment is a partial conversion of the welfare state from the payment of wage replacement incomes to a policy of permanently paying wage subsidies to the very low-skilled, and it had presented a system of activating social aid to accomplish this without increasing the cost of the welfare state. This strategy remains the appropriate medicine against an overly rapid process of outsourcing and offshoring, because it establishes the wage flexibility necessary to bring about the gains from trade while at the same time compensating the victims of factor price equalisation.[21]

7. Conclusions

Since the fall of the Iron Curtain and the integration of China into the world trading system, international trade in goods and services has increased significantly, given that the factor endowments and hence relative prices differ substantially. Trade in intermediate products has developed particularly rapidly due to outsourcing and offshoring activities of firms that have tried to make use of the huge wage differences between the formerly separated parts of the world. This has caused the domestic value added per unit of output – the so-called production depth – to decline in many sectors.

This trend towards a reduction in production depth has been particularly strong in the manufacturing sector. This trend of de-industrialisation is related to outsourcing and offshoring activities of domestic firms. Parts of the production process have been moved to low-wage countries. In particular the new members of the European Union in Eastern Europe are the focus of a new restructuring of the economy.

Outsourcing and offshoring are not limited to manufacturing only. In Germany, for example, it has been

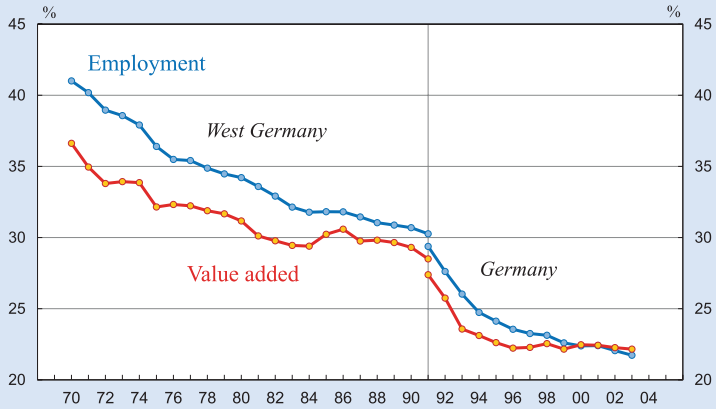
[20] The implications of labour market unionisation on the effects of outsourcing are considered by Skaksen (2004). He shows that potential outsourcing makes the members of trade unions worse off relative to capital, while the reverse is true after realised outsourcing. Zhao (2001) argues that unionisation in vertically related markets gives firms incentives to outsource.

[21] See Chapter 6 of our 2002 report.

shown that these phenomena apply to the export sector as a whole. From 1991 to 2002, the additional unit of real exports, on average, induced a 55 percent increase in intermediate imports. Only 45 percent of the increase in real exports implied additional value added in the exporting country, a phenomenon that has been caricatured as the "bazaar effect". If a country specialises in bazaar activities, its factors of production move from other sectors towards such activities such that their value added rises, but the export and import volumes rise even faster than this.

Figure 2.6

SHARE OF MANUFACTURING VALUE ADDED IN TOTAL VALUE ADDED AND MANUFACTURING EMPLOYMENT IN TOTAL EMPLOYMENT[1)]



1) Total Employment: Domestic employees in total economy, including public sector.
Sources: Federal Statistical Office, National Accounts: Special series 18, Series S.21., Table 1.2.1 and 1.2.6.

In principle, outsourcing activities may lead to gains from trade for all countries involved. The low-wage countries of Eastern Europe and Asia find new and profitable employment activities for their affluent labour forces and are able to increase their wages. And the high wage countries of the West are able to withdraw part of their endowments of labour and capital from labour intensive sectors to use them more productively in the service and high-tech sectors where they may have comparative advantages. Outsourcing and offshoring is just a special form of international trade that can be expected to boost world GDP and world welfare, because it allows the countries to specialise in their comparative advantages.

However, for the gains from trade to occur it is essential that the domestic factor markets in the West are flexible enough to allow for the necessary factor migration between shrinking and expanding sectors. While capital markets in Europe do seem to meet this requirement, labour markets are quite rigid. For one thing, national job protection measures prevent workers from moving easily between sectors. For another, the repercussions of collective wage agreements and the welfare state that is based on wage replacement payments prevent the necessary wage flexibility. Gains from trade go hand in hand with a tendency towards factor price equalisation. In particular, the specialisation on more capital intensive production requires lower wages so as to prevent unemployment. If wages are rigid, this process cannot take place. The sectors where the West has a comparative disadvantage shrink too quickly setting more labour free than useful, and the growing sectors where there is a comparative advantage do not create enough additional jobs even though they grow faster than optimal. A growing level of unemployment results.

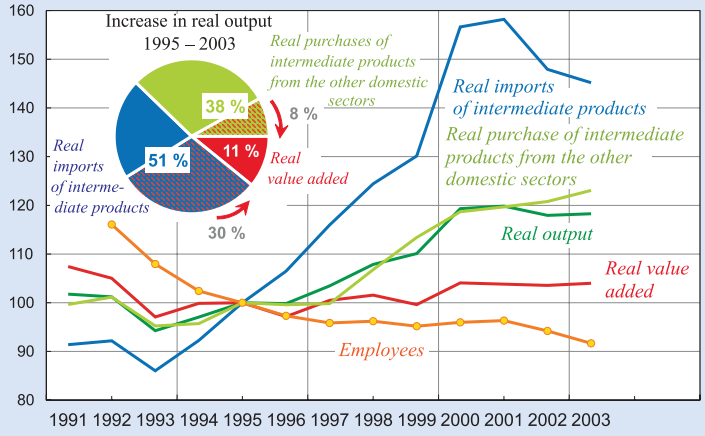
In some European countries we see strong signs of such a deficiency of the adjustment process. Thus the EEAG advocates policies to make the labour market more flexible. The necessary measures include the measures it recommended in earlier years' reports. They range from more limited job protection policies via opening clauses for collective wage agreements towards a policy of activating social aid that changes the role of the welfare state from a competitor to a partner of private enterprises. In addition, of course, increasing daily work times as recommended in Chapter 3 of this report, would be an easy way to alleviate the problems.

Appendix on Germany

As argued above, for Germany the process of international outsourcing and offshoring seems to be particularly pronounced. Figure 2.6 illustrates that the value-added share of the manufacturing sector has decreased from more than 40 percent in 1970, to less than 25 percent in 2003. Comparably, the share of employment of the manufacturing sector in total employment (including government, without self-employed) has declined from 36 percent in 1970 to only 20 in 2002.

Figure 2.7 illustrates the patterns of industrial changes in Germany in more detail. Particularly important are the developments of real output and real value added as reported in the input-output sta-

Figure 2.7



Note: Real output net of transactions within the manufacturing sector, as reported by the Federal Statistical Office. The shaded areas in the cake diagram show the extent to which the reduction in production depth can be traced to more than proportional increases in the intermediate products delivered from internal sectors and from other countries. 2003: Ifo estimate.

Sources: Federal Statistical Office, Input-output tables 1995 and 2000: Special series 18, Series 2 and Sinn (2004a) on the basis of Ifo Institute calculations and estimates.

tistics of the German Federal Statistical Office (the nominal shares are also reported in Figure 2.6). Real output is the inflation-adjusted total value of industrial products in a given year. The value added is that part of the value that was generated by the manufacturing sector itself. Value added is equivalent to the primary income of the industrial production sector, plus taxes, which is in principle identical to the gross profits, interest payments, wage payments, gross salaries, including social insurance payments and indirect taxes. Not included are intermediate goods obtained elsewhere. Due to these intermediate goods, the real output is always larger than value added. This does not imply that the indexed real output figure need to lie above the index of value added. If both values were to grow at the same rate, the share of intermediate goods would remain constant over time. As Figure 2. 7 illustrates, this is clearly not the case in Germany.

Instead, one can see that the two lines drift apart in the course of the late 1990s. While real output has grown by 18.3 percent, which is roughly equal to the EU average GDP growth, value added has only grown by 4 percent. Apparently, a growing share of German manufacturing production is due to a process of outsourcing to other sectors and countries and to offshoring. In the light of these developments, it is not surprising that employment in the German manufacturing sector has been reduced by 8.3 percent.

The question is where the production of intermediate goods has moved to. In principle, both domestic and foreign sectors could be supplying the intermediate products. Figure 2.7 shows that the latter of the two is more important. Imported intermediate products have grown by 45 percent in the time period from 1995 to 2003, twice as fast as industrial production and about 10 times as fast as value added. Despite the cyclical downturn in 2002 and 2003, this shows that increasing fractions of industrial output have been moving abroad.

The share that the German manufacturing industry had in its own increase in real output was merely 11 percent; 38 percent was due to intermediate products from other branches in the domestic economy, and a remarkable 51 percent was due to intermediate products imported from other countries. This corresponds to the data provided by the Federal Statistical Office, as cited above in the main text, according to which 55 cents of each real additional euro of German export is directly used for the purchase of imported intermediate goods.

The shaded parts of the pie-diagram in Figure 2.7 indicate which shares of manufacturing production have been crowded out by other sectors and other countries, respectively. Had all three components of real output (domestic production, foreign and domestic intermediate goods) changed proportionately, the share of the manufacturing sector's own value added in the increase in production would have been 49 percent. The fact that the share is actually only 11 percent is explained by an 8 percentage point increase of domestic outsourcing, and a 30 percentage point increase in foreign outsourcing and offshoring. The reduction in the domestic depth of production is therefore to an extent of four-fifths explained by shifting production to foreign countries and only to one-fifth by shifting production to other sectors in the domestic economy that are not part of the manufacturing sector.

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