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**THE IMPACT OF FOREIGN DIRECT INVESTMENT
ON REGIONAL DEVELOPMENT IN POLAND**



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SUMMARY

The transformation and modernization process of the Polish economy in the last 15 years has created a big demand for foreign capital. A successful stabilization process and opening up of the Polish market brought a dynamic inflow of foreign capital by the mid-1990s, which reached the highest absolute level in Central Europe in 1998. Although this record level of capital inflow resulted from the privatization process, Poland remains an attractive target for foreign investors. Privatization has not ended, but the long and sometimes bureaucratic processes in this field mean that many investors today prefer greenfield investment, which accounts for the largest share of FDI flows.

Economists widely accept that foreign direct investment (FDI) has been an important tool for financing the transformation process and catching up in Poland. Firms with foreign capital participation created workplaces and took part in modernizing the economy's production structure. Their influence on domestic firms was benign, for they had a positive impact on the introduction of modern technologies, management and organization techniques. Poland's large domestic market has meant that FDI made a smaller contribution to export activity than to imports. Although firms with foreign participation have an important share in the creation of GDP and in investment, they have contributed much to the country's big trade deficit.

Poland is regionally differentiated, and its spatial disparities have been reinforced by the transformation process, rather than diminished. The most favourable socio-economic conditions are found in conurbations with a large share for services and in some of the country's western regions. The past decade has shown a high correlation between GDP per capita and foreign investment per capita. Poland's most developed regions – Mazowieckie, Śląskie and Wielkopolskie – have had the highest rates of foreign capital inflow, as measured in cumulated value. Empirical research shows that although FDI has played an exceptional part in modernizing certain sectors of the economy, its overall impact on regional development has been adverse: regional disparities have widened as a result of FDI allocation.

Investors are generally attracted to regions where incomes are higher and densely populated conurbations are also attractive in this respect, while the western border also exerts a small positive effect. Finally, human capital is probably the biggest single factor behind investors' location choices, along with other agglomeration factors. On the other hand, research shows that regional investment policy has not had a big impact. So the conclusion can be drawn that the equity model in Poland has had a neutralizing impact on the divergences in poorer regions. Overall, such policy does not help to bring about regional spillover effects.

Regions facing with heavy tasks of industrial restructuring (diversification out of textiles in Łódź, or mining and quarrying in Upper Silesia) show that structural deficiencies cannot be solved by FDI unless there is a state policy strategy and an atmosphere conducive to business. The success factors, apart from an advantageous geographical setting, good transport and communication systems, and a favourable population structure in terms of age and educational attainment, are concerned with private-sector specialization in technologically more advanced industries (transport industry, electrical engineering). A major task for Poland's unsuccessful regions is to restructure agriculture and modernize traditional heavy industry. The upgrading of a region's economic structure, either by domestic players or with foreign capital, is a major factor in speeding up the modernization process.

INTRODUCTION*

Foreign investors began in the second half of the 1990s to discover Poland as an attractive location for investment. In absolute numbers, Poland is considered to have attracted the highest volume of FDI of any Central and East European (CEE) country, but in per capita terms, it still lags behind. The capital flows show a slowdown since a peak in 1998, connected partly with stop-go privatization policies applied by successive governments. This also explains why most of the foreign capital has gone into greenfield investment.

FDI has been important in financing the transformation and catch-up processes in Poland. Firms with foreign capital participation have created jobs, helped to modernize the country's production structure, and had a positive knock-on impact on domestically owned firms, encouraging them to introduce modern technologies and management and organization techniques. Poland's large domestic market (a population of 38 million) has meant that FDI has contributed less to exports than to imports, *i.e.* there is a dominance of market-seeking investment. Improvements in regulatory conditions providing for equal treatment of foreigners, in taxation policy, and in the establishment of incentives to attract investors have paved the way for efficiency-seeking investors as well. Foreign companies play an outstanding role in development and modernization of the Polish economy, although the specialization pattern is dominated by industries with medium to high levels of technology mainly because of preference for

investment in the automobile industry. Although companies with foreign participation play an important part in creating GDP and in investment activity, they have also contributed greatly to widening the trade deficit.

The socio-economic transformation process in the past decade has resulted in widening regional differences. Although FDI has been one of the most important factors accelerating economic growth in Polish regions, it has reinforced, rather than alleviated regional disparities. The better-off regions have the most urbanized structure, better infrastructure or industries and dominant services sector, and have made good use of their geographical advantages. The first and second chapters of the study examine the national and regional tendencies in FDI inflow, and its role in economic development. Also analysed are the incentive methods used in Poland and the role of these in attracting FDI. In aiming at a broad overview of the main FDI trends in a regional perspective, the study seeks to present examples from Poland: two mixed pictures, as well as a successful and an unsuccessful region for attracting FDI. The summary identifies various reasons for regional disparities in FDI attraction, based on these experiences.

The main sources of data on FDI in Poland are the Central Statistical Office (GUS), the National Bank of Poland, and the Polish Agency for Foreign Investment. Methodologically, however, the data differ considerably, due to different objectives and extents of analysis. GUS research specifies the number and structure of companies with foreign participation without minima for starting capital or workforce size, while NBP data consider the value of components of foreign investment inflows. The main PAIIZ objective is to promote FDI in Poland and monitor investment and firms, but research is limited to a minimum value of equity of a certain kind: large foreign investors, who have contributed over \$1

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million worth of assets on a countrywide scale. The NBP carries out analysis of companies with at least one foreign direct investor. GUS covers all registered companies to which foreign capital may be contributed. In the present study, use is usually made of the GUS time data. Regionally, there are problems of data availability at NUTS3 level,¹ but FDI datasets are available for the 16 NUTS2 regions.

1) DESCRIPTIVE ANALYSIS OF THE MAIN TRENDS IN FDI

1.1 FDI tendencies on a national level

The first years of transformation saw relatively small inflows of foreign capital, but the country started to attract much greater investor attention after 1992,

¹ Analysis on a regional level calls for some methodological comments on the database. There have been several changes in the territorial division of the country in the last few decades. Up to 1975, Poland was divided into 17 regions or voivodships. This was replaced by a regional structure of 49 voivodships as part of a two-tier system. Integration then made the 49 voivodships seem too small and weak to function as effective partners for EU regions. The need to 'harmonize' the regional divisions in Poland was generally accepted, but deciding the number and shape of the new regions became controversial. Eventually, the decentralization reform of 1999 created 16 regions at EU NUTS2 level. Disparities arising from the resulting boundary changes have impeded objective comparison of data over the long term. The study therefore focuses on regional development dynamics after 1998; only in cases where recalculated data are available (e.g. for GDP or gross value added) has it been possible to provide longer-time analysis. The Regional Data Bank has been compiled since 1995 in Poland with regional data on the socio-economic situation of gminas (NUTS5), powiats (NUTS4) and voivodships (NUTS 2). Data at NUTS3 level (sub-regions – podregiony) date only from 2000.

thanks to a successful reform process, creation of political and economic stability, debt rescheduling deals with the London and Paris Clubs, and the introduction of government investment incentives. According to information from the Polish Agency for Foreign Investment (PAIIZ), the cumulative value of foreign capital had reached USD 72.7 billion by the end of 2003, although annual increments began to decline in 2001.

Table 1
FDI inflow to Poland in 1993–2003,
according to PAIIZ

| | Cumulative (USD bn) | Annual (USD mn) |
|------|------------------------|--------------------|
| 1993 | 4.4 | 2830 |
| 1994 | 6.4 | 1491 |
| 1995 | 8.7 | 2510 |
| 1996 | 14.0 | 5197 |
| 1997 | 20.6 | 5678 |
| 1998 | 30.7 | 9574 |
| 1999 | 38.9 | 7891 |
| 2000 | 49.4 | 10601 |
| 2001 | 56.8 | 7147 |
| 2002 | 65.1 | 6064 |
| 2003 | 72.7 | 6420 |

Source: PAIIZ, 2003

Neither the faster GDP growth since the recession of 2001–2 nor Poland's accession to the EU have made much impact on the decline in FDI flows. A peak in 2000 after privatization of 35 per cent of the national telephone operator Telekomunikacja Polska to France Telecom for nearly USD 3 billion USD was followed by annual levels of about USD 4 billion USD (USD 6 billion according to PAIIZ). Although in absolute terms, Poland has been the most attractive CEE target for FDI, it lags in per capita terms, with an inflow of only USD 166 in 2003.

The share of FDI to GDP and to total investment also fell back considerably to the level of the early years of market opening to foreign capital in 1994–5 (*Table 2*). The main reason for the declining FDI trend is the slow-down of the

privatization process, and the smaller level of inflows from this source (USD 0.4 billion in 2002, as opposed to USD 1.2 billion in 2001 and USD 3.1 billion in 2000). On the other hand, there are further big privatization deals ahead. The PKO Bank was sold in 2004, and sales of the shares of the PZU SA insurance company, the PKN Orlen oil company and the KGHM are expected.

Table 2
FDI inflow to Poland in 1993–2003,
according to NBP

| | Annual FDI (USD mn) | FDI/GDP (%) | FDI/total investment |
|------|------------------------|----------------|-------------------------|
| 1994 | 1875 | 2.0 | 12.5 |
| 1995 | 3659 | 2.7 | 15.5 |
| 1996 | 4498 | 2.9 | 15.1 |
| 1997 | 4908 | 3.2 | 14.5 |
| 1998 | 6365 | 3.8 | 15.9 |
| 1999 | 7270 | 4.4 | 18.4 |
| 2000 | 9341 | 5.6 | 23.8 |
| 2001 | 5713 | 3.1 | 14.9 |
| 2002 | 4131 | 2.2 | 11.4 |
| 2003 | 4225 | 2.0 | 11.0 |

Source: National Bank of Poland, 2003

Companies with foreign participation are numerous even compared with the total number of firms in Poland: over 47,000 at the end of 2003, which was a 3.4 per cent increase over the previous year (see table in *Appendix 1*). Of these, almost 45,500 were limited liability companies and almost 1500 joint-stock companies. However, 59 per cent of foreign companies had less than 10 employees, 22 per cent of them had between 10–50 employees, 14 per cent 50–250 employees, and only 5 per cent of foreign companies employed more than 250 people. Among the foreign investments carried out in Poland, green-field investments dominate, which account for over half of all investments. This situation was due to the fact of large investments in the automotive and real estates sectors. Privatization processes (22 per cent) and acquisitions, as well as joint ventures (7 per cent)

also had a major share in the inflow of foreign direct investment.

Firms with foreign capital participation have had mounting importance in the economy. Their shares in investment, income, employment and foreign trade have increased in recent years.²

Foreign capital provides a moderate, but rising share of employment, although the growth seems to have slowed in the recent few years, partly because greenfield projects are tending to be on a smaller scale, and partly because employment obligations under privatization contracts are coming to an end. Foreign firms account for a proportionally very high share of income generation: over 50 per cent in manufacturing in 2002, and similarly large in transport, storage and communications, and hotels and restaurants. However, it is below 10 per cent in agriculture and mining.

Eighty per cent of the total equity in firms with foreign participation is foreign (see *Appendix 2*). Foreign investors have played an important role in manufacturing, trade and transport, notably the automotive industry, and non-metallic manufacturing, especially manufactures. Food and beverages are also popular manufacturing sectors among investors in Poland. Although the investment activity of foreign companies has cooled in the last two years, they continue to play an immensely important role in technology development and the modernization process in the economy. The production structure of firms with foreign capital

² The GUS research does not include all firms with foreign capital participation. Company registration as such is not necessarily tantamount to active involvement in the economy. Many firms have not undertaken economic activity at all, have suspended their activity, or have become insolvent. Furthermore, companies with less than 10 employees are not obliged to file annual financial reports to GUS. So only partial data are available for 14,488 firms in 2002, while complete data could be gathered from 5910. See the dataset in the Appendices.

Table 3
FDI share in some indices, 1996–1999

| | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 |
|-----------------------|------|------|------|------|------|------|------|------|------|
| Employment | 7.0 | 10.1 | 10.0 | 12.5 | 15.5 | 18.2 | 19.6 | 21.0 | 22.5 |
| Income | 12.4 | 16.6 | 20.0 | 22.6 | 26.8 | 31.6 | 34.0 | 35.1 | 38.1 |
| Investment | 19.7 | 27.8 | 33.2 | 40.2 | 52.8 | 62.2 | 61.8 | 63.2 | 68.3 |
| Fixed assets | 8.9 | 8.9 | 10.8 | 15.3 | 23.1 | 28.7 | 32.0 | 32.8 | 34.7 |
| Own capital | 7.5 | 7.5 | 9.2 | 12.0 | 17.8 | 22.9 | 27.2 | 29.5 | 31.8 |
| Gross return on sales | 0.6 | 3.1 | 3.2 | 2.5 | 2.4 | 2.4 | 3.2 | 1.2 | 1.8 |
| Net return on sales | -0.5 | 1.4 | 1.5 | 0.8 | 0.6 | 0.7 | 1.4 | 0.0 | 0.7 |
| Export | - | - | 28.3 | 33.4 | 42.0 | 48.9 | 57.3 | 53.6 | 54.5 |
| Import | - | - | N/D | N/D | 53.4 | 55.8 | N/D | 59.8 | 60.7 |

Source: Chojna 2004

participation was on a higher technological level in manufacturing than was the case with other economic entities. High and medium-high technological facilities were utilized by 41.5 per cent of foreign firms, but only by 21.9 per cent of all entities. This was basically due to the importance of foreign investors in the automotive industry in Poland, which belongs to the medium/high technology group.

Research shows no positive spillover effects for the Polish economy. As Poland liberalized its product markets faster than other CEE countries, so it has become a more competitive market, which places a huge burden on domestic firms. In this sense, a negative competitive effect dominates the possible technological spillover effect, resulting in an overall negative spillover from foreign investment, although this applies less in manufacturing (Komings 1999). On the other hand, domestic firms with existing R and D facilities have managed to utilize positive spillovers.

After lagging in early years, foreign firms have shown better financial conditions than other entities since 1998. Even during the recession of 2000–2001, they were able to show positive figures for gross and net return on sales, whereas other companies reported a slight decline in net returns on sales. This can be attributed to better technological facilities

and work organization, and to easier access to credit and raw materials, as well as economies of scale deriving from a multinational background. While with foreign firms, those of large and medium size performed well, other medium-sized and small firms presented above-average performances due to delay in the restructuring of large state-owned enterprises and the financial consequences of these.

Table 4
Manufacturing production by technology level in 2002, %

| | Total | Foreign entities |
|-------------|-------|------------------|
| High-tech | 5.7 | 10.0 |
| Medium-high | 16.2 | 31.5 |
| Medium-Low | 31.7 | 19.2 |
| Low-tech | 46.4 | 39.3 |

Source: Nauka i technika w 2002 r. Warsaw: GUS, 2004.

Tendencies change by the year, but about 85 per cent of the cumulative value of foreign capital comes from EU countries: the Netherlands (24 per cent of all starting capital), followed by France (20 per cent), Germany (19 per cent), Britain (5 per cent) and Sweden (3 per cent). These countries account for 70 per cent of the total (*Appendix 3*). German capital still tends to come in small amounts (PLZ 3.2 million of investment per firm), while Dutch and

Table 5
Largest individual foreign investors on the basis of cumulative value

| | Investor | Investment (USD mn) | Country of origin | Sector |
|-----|----------------------------------|---------------------|-------------------|-----------------------------|
| 1. | France Telecom | 4020.3 | France | Telecom |
| 2. | EBRD | 2695.0 | Multinational | Banking, capital investment |
| 3. | FIAT | 1768.7 | Italy | Motor vehicles |
| 4. | HVB Group | 1366.0 | Germany | Banking, investment |
| 5. | Citigroup | 1300.0 | USA | Banking |
| 6. | KBC Bank N.V. | 1290.0 | Belgium | Banking, insurance |
| 7. | RAO Gazprom | 1283.8 | Russia | Transport, communications |
| 8. | Vivendi Universal | 1243.4 | France | Telecom, transport |
| 9. | United Pan-Europe Communications | 1200.0 | Netherlands | Media and entertainment |
| 10. | UniCredito Italiano | 1200.0 | Italy | Banking |

Source: PAIZ, 2003

French usually go to larger firms (PLZ 14 million and 21 million respectively).

When looking at foreign capital figures by country of origin, it should be remembered that the ongoing globalization process and global freedom of capital flows lend foreign investment a transnational nature. So a number of investors originating from the American or Asian markets invest in Poland through European subsidiaries. Examples are Coca-Cola, Goodyear and United Technologies, which have invested through Greece, Luxembourg and France respectively.

1.2 Regional FDI trends

There are some historical factors behind the regional development differences in Poland. These still include the country's partition in the 19th century between Russia (central-east), Prussia (north-west) and Austria (south-east), so that present-day Poland still has a better-off west and south, and a less developed, more rural east. Apart from this, the most developed region of the country is the central part, including Warsaw and its surroundings. The transformation and integration process has reinforced, rather

than diminished the old regional disparities, although some changes for the better have occurred, where regions have been able to take advantage of the changes. The winners by the integration and transformation process have been the regions containing the biggest conurbations – Warsaw (Mazowieckie voivodship), Poznań (Wielkopolskie), Wrocław (Dolnośląskie) and Cracow (Małopolskie) – as economic, cultural and scientific centres. The central Mazowieckie region that includes Warsaw plays a dominant role in regional development. The least developed eastern regions (Podlaskie, Lubelskie, Podkarpackie, Świętokrzyskie) are sparsely populated. There agriculture still has a very high share of employment and gross value added, while the level of regional development remains relatively low. Other specific problems have arisen with old industrial regions such as Łódź (textiles) and Śląsk (coal-mining).

Regional disparities in the socio-economic development structure can also be traced back to the distribution of foreign investors, as regions differ significantly in their ability to attract foreign capital (Appendix 6). According to GUS data, 52.9 per cent of the starting capital of firms with foreign participation is registered in the central Mazowieckie region, including Warsaw, so that the

degree of concentration of FDI in Poland is very high.³ The importance of this region is also visible in other indicators, such as level of employment, investment outlays or number of firms. Other regions attractive to investors are the industrialized and urban Wielkopolskie, Slaskie and Dolnoslaskie regions, all located in the west of the country. Those least attractive to foreign investors are in the rural east: the Podlaski, Opolskie, Podkarpackie, Lubelskie, Lubuskie, Swietokrzyskie and Warminsko-Mazurskie regions (Appendix 7–8).

Empirical studies have shown level of development to be the main determinant of FDI location. Experience in the past decade shows a high correlation between GDP and foreign investment per capita, resulting in a multiplied growth effect. (Jensen 2003) Although FDI has played an exceptional role in modernizing some sections of the economy, its overall impact on regional development has been adverse; regional disparities have widened through FDI allocation.

Other determinants of investment location at a regional level are more complex, ranging from geographical to economic factors. The distance from the western border has always played an important role, especially for neighbouring German investors. Another important factor is the road system, although the transport infrastructure as a whole is still rather underdeveloped in Poland. The central Mazowieckie region was able to lead in attracting FDI due to the coincidence of several factors. Warsaw as a centre for political and economic decision-making attracts large-scale investors convinced also of the city's better accessibility than its regional counterparts. (Gawlikowska and Heckel, 1997) Other attractions are an educated young workforce, qualified academic staff, and

equidistance between east and west. Since large cities are few in the east (the biggest are Białystok with 17 per cent of Warsaw's population and Lublin with 22 per cent), Warsaw performs many functions of a regional capital for most of eastern Poland. This is also important to investors focusing on eastern markets. An interesting counter-example, however, is the Slaskie voivodship. Though heavily burdened by loss-making traditional industries, such as mining and quarrying, its improving market infrastructure and attractive business environment could make it attractive to FDI, which would help to restructure its industrial profile and improve its manufacturing, especially car making.

The high concentration of foreign capital in the Mazowieckie region is attributable to the presence of the largest individual investors. Around 60 per cent of firms investing more than PLZ 1 million chose this region. Small and medium-sized firms take a relatively high share in the Slaskie and Wielkopolskie regions. The regional distribution of FDI in absolute terms has been determined basically by the largest foreign investors to arrive in Poland, such as Fiat (Italy), Citibank (USA), General Motors (Germany), CCC (Coca-Cola Hellenic Bottle Company–Greece). Their location choice did not depend upon the type of production activity. The main determinants were regional development level, labour-market qualities such as qualified workforce, the size of the domestic regional market, and access to central administrative facilities.

Although most foreign investors have found the capital and its conurbation the most attractive location, certain localization preferences can be seen to apply to certain investor countries. The Mazowieckie region has been preferred by French and American firms, investing mainly into service activities, such as telecommunications, banking and finance. Italian companies, on the other hand, have concentrated on the southern region

³ However, information on the location of a foreign entity in the statistics does not reflect the actual location of production. This may partly explain the high apparent concentration of FDI.

of Śląsk – over 50 per cent of Italian investment is located there, mainly because of Fiat and its suppliers. German and Dutch investors prefer western locations, especially the Wielkopolskie and Dolnoslaskie voivodships.

Foreign capital has become an important employer in Poland, but the regional pattern varies significantly. In 2002, every third employee of a firm with foreign participation had a job in the Mazowieckie voivodship. Much smaller, but still significant nationally is the contribution of companies in the Wielkopolskie, Slaskie and Dolnoslaskie regions. Around 70 per cent of employees work in larger foreign enterprises in the Swietokrzyskie and Warminsko-Mazurskie voivodships, which is attributable to the high importance of the Pilkington Sandomierz and Saint Gobin firms in Swietokrzyskie and the Daewoo and Philips groups in the Warminsko-Mazurskie regions.

Foreign investors' contributions to modernizing the economy show a very high correlation with size of venture, with bigger companies investing more. The investment activity of foreign firms concentrates mainly in this segment, 90 per cent of investments being made by firms employing more than ten persons in 2002. The investment activity is highly differentiated in regional terms as well: 62 per cent of all foreign investment went into the Mazowieckie region, of which 70 per cent went into new equipment. This is explained by the very high concentration round Warsaw of larger foreign firms.

Polish firms spend relatively little on R and D, even when compared with their counterparts in other CEE countries. The R and D density, measured by the ratio of commercial R and D spending to value added, was at a level of 0.92 per cent in 1999 for the whole of manufacturing (Jakubiak 2002). Average R and D intensity in 1995–9 was 0.74 per cent. If R and D spending is compared to GDP, the score of 0.72 per cent for Po-

land is still much lower than for its neighbours. (In the Czech Republic, the score was 1.22 per cent.)

Furthermore, this low Polish R and D spending is mainly conducted by domestic firms. Foreign firms accumulated only 14 per cent of the total technology stock in manufacturing up to 1999. Poland has one of the lowest shares of foreign engagement in R and D activities of any OECD country, according to GUS. So it seems reasonable to say that the influence of FDI-related R and D on the productivity of manufacturing industries is not significant. Multinationals coming to Poland tend to concentrate on developing production and distribution platforms for existing product lines, not on activity that would improve regional innovation capacity.

Although figures show that the investment activity of firms with foreign participation is higher than that of domestic firms, 28.2 per cent of the innovation activity in industry was carried out by foreign firms amounting to only 13.5 per cent of the sector their investment focuses on human resources and training. Only 38.3 per cent of their investment was made in purchasing new know-how and 31.8 per cent on new equipment.

Foreign capital has relatively high concentration within regions too, with both advantageous and disadvantageous consequences. According to empirical research, the positive regional impact of FDI has been increased labour productivity, improved levels of qualifications in a given environment, and better management and work organization in production. Adverse outcomes include the generation of unemployment (by a more productive production structure and better management) and the poor linkages with local R and D centres mentioned already, accompanied by increased imports of high-tech products. These are evidently because the investment has been

aimed mainly at traditional manufacturing primarily for the large local market.

A concentration of foreign capital in a region or sub-region does not necessarily mean an improvement in economic activity. The low level of regional embeddedness of foreign firms, their low level of innovation activity, and the competition they generate for local producers may well amount to an adverse impact. (Pakulska, Poniatowska and Jaksch 2002)

2) INCENTIVES AND FDI PROMOTION AT A REGIONAL LEVEL

Poland's stable, fast economic growth and the size of its domestic market (at 38.6 million inhabitants, 40 per cent larger than that of Hungary, the Czech Republic and Slovakia combined), and its geographical location in the heart of Europe have all helped to attract investors. The legal infrastructure, however, remained unstable for a while, and economic decisions about state-owned enterprises were made slowly, causing some years of delay in capital inflows, compared with other Central European countries. The introduction of OECD regulations providing for equal treatment for foreign and domestic companies and the beginning of a wide privatization process that favoured strategic investors brought a peak in foreign investment after 1998.

The main factors considered by foreign investors when deciding where to locate in Poland were market-oriented. According to research carried out in 1999 (Karaszewski 1999), these were the creation of a new market, the certainty of existing markets, and the low competitiveness of local enterprises. Cost-related factors, such as labour costs, lower real-estate prices, costs of raw material and semi-finished products were

less important though still significant. Tax reform, bringing lower corporate tax rates, had a decisive impact and helped retain foreign firms even after tax-exemption periods were over. The Polish Agency for Foreign Investment (PAIZ) deals actively with promoting the country and supplying information to foreign investors.

Table 6
Corporate income tax in Poland
in 1999–2004

| | Corporate income tax |
|------|----------------------|
| 1999 | 34 |
| 2000 | 30 |
| 2001 | 28 |
| 2002 | 28 |
| 2003 | 24 |
| 2004 | 19 |

Source: Council of Ministers, Poland, 2004.

Investment promotion developed later than in other CEE countries and had a dual character from the outset.

On the one hand, it applied fiscal instruments found commonly in neighbouring countries for certain types of investments, in line with national economic objectives, such as job creation or enhancing technological development. Even today, under the Act on Financial Support for Investment, of 20 March 2002, foreign investors may obtain investment grants covering up to 25 per cent of investment outlays, employment grants up to EUR 4000 per job created, and infrastructure and training grants. These grants, however, vary from region to region, being higher in eastern and less developed voivodships than in Warsaw or Poznań. The Polish regulations require investors to meet certain criteria for state support: a minimum investment value⁴ or development-policy criteria such

⁴ Investment over EUR 10 million, or EUR 500,000 if it involves development and modernization and creates at least 100 jobs for at least five years; or at least 20 jobs for at least five years along with new or environmentally friendly technologies (Act on Financial Support for in-

as job creation, modernization, training. There may be state relief available at county level to reimburse social-security contributions where jobs have been created or the employees are disabled. The community council may give investors full or partial exemption from real estate tax. But the wide range of possible tax relief at regional level are focused mainly on national problems. The programme of investment promotion since EU accession has been is tightly linked connected to the Sector Operation Programme entitled Enhanced Competitiveness of Enterprises, under which new investment can be funded through technological or industrial parks, from the budget and EU funds.

On the other hand, Polish promotion policy from the outset had another type of incentive group: special economic zones (SEZs). The October 1994 SEZ Act aimed at accelerating economic development of selected regions by offering geographically targeted fiscal incentives to investing firms. This is an important area for regional initiative on FDI. It is also consistent with a general bottom-up emphasis in the Polish transition process (Bachtler *et al.* 1999). A map of the regions affected appears in Appendix 10. The first SEZ was set up in 1995 in the Podkarpackie region and the next two in 1996 in the Śląskie and Podlaskie regions. The process of establishing the zones continued until 1997, when an additional 14 were created, although 2 of these never started operation and were disbanded liquidated in 2001. Eventually, there were operational SEZs in 11 out of the 16 Polish regions. Regions specified in the SEZ Act can set up special new-firm zones on their own initiative (PAIZ 2003). The SEZs are aimed at attracting greenfield investment, creating tax holidays for up to 15 years, and dispensing job-creation grants under certain condition of investment size and durability of jobs created. Although the act

vestment, 2002).

specifies a wide range of objectives, including economic development, export promotion, introduction of new technologies and infrastructural upgrading, the main object was to combat unemployment, *e.g.* to help industrial regions to weather the social and employment effects of industrial restructuring. So the designated regions have above-average unemployment and have traditionally lagged behind due to significant restructuring problems. The aim of combating high unemployment lay behind the SEZs created in the rural Podkarpackie voivodship, in Mielec,⁵ in Katowice, where restructuring of the mining and quarrying industry is still to be done, and in the least developed region of the north-east at Podlaski, created in Suwalki. In Łódź (textile industry), Częstochowa (coal and steel), Walbrzysk and Katowice (mining) the SEZs were to enhance modernization of the regions and help to redistribute the workforce on the labour market. There were two further regions with a technology bias: the Technology Park near Cracow and Technopark Modlin. The first tries to make use of the proximity of Cracow, the country's second largest academic and educational centre, and the second of the proximity to Warsaw. The SEZs had attracted 677 projects by 2002 (including ones by Isuzu, Delphi, Volkswagen, Toyota, Opel, Motorola, Flextronics, Viessman, Atlas and Agora), involving total investment of PLN 3.9 billion (over EUR 1 billion), and created about 47,000 jobs. But they have only attracted some 3.5 per cent of the foreign capital invested in Poland, although that includes

⁵ Mielec SEZ was among the first zones created for 20 years. The main employer in the town of 65,000 inhabitants was the WSK-PZL aircraft factory, which laid off much of its workforce in the early 1990s. The qualified workforce there was an advantage in attracting a foreign investor, but the zone, on about 3 hectares, was not very successful at investment promotion. So far, 36 permits have been granted, of which only 25 firms actually operate in the zone. (The Katowice zone has been able to develop rapidly thanks to investment by GM in an Opel factory.)

25 per cent of the greenfield investment in manufacturing (Smetkowski 2002). So far, operation of these areas has not been successful.

Individual regional strategies, however, provide some success stories. The Łódź SEZ, established in 1997 for 20 years, consists of 12 sub-zones, the fastest developing are the pharmaceutical, construction (production of ceramic tiles in particular), automotive and food industries. It features similar systems of assistance for investors as those in other economic zones in Poland.⁶ On the other hand, regional administration changed the general rules in compliance with regional interests. What was crucial is that the threshold which guarantees access to the zone had been lowered. As of 2001, it is enough to invest 100,000 euros in order to apply for a permit to operate in the zone. Before the threshold was very high, around 2 million euros. As a result, the year 2003 brought about an economic boom in the ŁSSE. The zone managed to find five investors who invested over 520 million PLN, which is more than that of the zone's entire previous history. This was the result of a new investor policy: the zone management provided comprehensive investor service; the purchase of land, obtaining a decision on conditions on construction and area development, the construction permit. This first formula of overcoming all bureaucratic difficulties involved in obtaining permits met with a particularly warm welcome. The other end of new strategy related to clusters of investments. As soon as it was known that a significant investor entered Łódź or Łódź province, the zone management started to negotiate with companies which could become subcontractors for those inves-

tors. Interest in SEZs is expected to return with the shift of investment from privatization to greenfield investment. Although successful in industrial reorientation in certain regions, such as Śląsk, the zones have not had much effect in other regions in creating new workplaces, so that they have not been effective in overcoming regional disparities. Current results suggest that the best performing SEZs are those located in the least backward of the eligible regions and that their overall effect on employment has been small (Smetkowski 2002). Most regions had low attractiveness due to weak infrastructure, poor services (no consultancy, bureaucratic permit processes, no internet or similar services), serious social problems, and a shortage of a qualified workforce.

Poland's integration to the EU has necessitated some changes in the SEZs as an incentive method. The system did not differentiate between firms according to size, so that large companies also received state aid, which proved to be incompatible with EU competition law. Some derogation was obtained here under the provisions of the EU-Poland Accession Treaty, but changes in the operating rules have already been applied. Small firms may retain tax exemptions within SEZs until 2011, and medium-sized firms until 2010. Large firms can make use of this incentive method provided this accords with European Law.

As the SEZs have not been success stories in equalizing regional development through FDI or in multiplying capital inflows to the country, new methods are being devised. The Programme for Promoting the Polish Economy to 2005 seeks to improve FDI attraction and increase investment in the advanced technology sectors, while retaining the earlier equalizing objective. This is symbolized by the setting up of hitherto rare technology parks, to achieve closer technological links between domestic and foreign firms and solve restructuring and employment problems in certain areas. The parks

⁶ An investor who intends to employ up to 250 people can reclaim up to 65 per cent of invested funds in exemption from income tax, while local authorities can exempt an investor from property tax. Investors employing over 250 can expect a return of 50 per cent of invested funds in income tax exemption as well as exemption from local-authority property tax.

have learnt from the experience with the SEZs and provide infrastructural, consulting and administrative advantages to firms ready to invest there.

3) CASE STUDIES: SUCCESSFUL AND UNSUCCESSFUL REGIONS IN ATTRACTING FDI

The present regional structure has been shaped by the ability of regions to adapt to fundamental changes after 1989. The task of adaptation, however, has varied according to the level of initial development in the region, the socio-economic structure, the education level of the workforce, and the geographical situation. The transformation reshaped the regional pattern: some regions appeared to have been better prepared for the new economic challenges, while others have failed to cope. These initially better-off regions with a better qualified workforce and higher-quality institutions and infrastructure attracted more foreign capital and transformed more rapidly, so that they became clear leaders and winners by the transition process (Mazowieckie, Wielkopolskie, Dolnoslaskie regions – Gorzelak 2000).

Poland, like other CEE countries, shows urban/rural differentiation. Large urban centres almost evenly distributed over the country have managed to develop rapidly, thanks the presence of academic centres and a highly qualified workforce. The traditional urban/rural split had become stronger during the industry-driven planned economy of the socialist period. On the one hand, some regions became highly specialized in certain industries (e.g. Śląsk in mining), while others have retained a traditional rural character (eastern regions). This duality is also reflected in the east/west division of the country, rooted in the

historical partition of Poland, but reinforced by the planned economy and by the transition process.

The transformation process has had an impact on all sectors, but to different extents. The service sector developed rapidly, but was concentrated mainly in the most developed regions, while agriculture did not manage any major breakthrough in the last 15 years, although food processing did so. As for industrial regions, there are some success stories and some examples of slow structural change. An absence of economic policy measures proved in some cases to be more beneficial to ailing industries than policy measures. The best way of restructuring was through FDI, but the proviso here was the level of development in any region.

3.1 Successful restructuring – the Łódź region

The Łódź region, with traditional 19th-century textile and garment industries, provides a positive example of industrial restructuring, but with only modest involvement of FDI, due to a low development level in the region. Textiles and clothing underwent sudden collapse at the beginning of the transformation. Lack of regional or coherent state policy for these left no subsidies for a politically weak workforce in the factories and industries of minor economic importance compared with coalmining, for instance. Łódź was left to itself, which was one factor underlying social mobilization of regional and local elites (Gorzelak 2000).

The city and its surroundings managed to revitalize their economy, although the recovery is still fragile and reliant on demand for simple, inexpensive textiles produced by unskilled labour. As the old industries have revitalized, there has also been a shift to new ones. The central location, a good infra-

structure, with a motorway to Warsaw, and a strong economic and cultural position have all encouraged change. Full utilization of a diversified academic and scientific background remains for the future, but offers good chances for further diversification. Łódź exemplifies endogenous local growth, in an area where business enterprise is deeply embedded in local culture and tradition. The area has one of the highest incidences of business start-ups in the country. Diversification continues through new local firms and inward capital flows, so that the region now has important chemical (domestic firms like Organika SA), electromechanical (GE, Philips) and construction industries. The crisis has given way to many positive developments.

Organika SA, an important player of Poland's chemical industry, manufactures primary products. Its production profile has undergone many changes in response to the demands of a developing economy, especially the leather and textile industries, as well as motorization, the construction industry and other branches. Organika SA was offered for privatization under an industry restructuring programme in 1992, but was eventually leased to employees after suitable foreign buyers failed to appear. Since then, business performance has improved thanks to initial favourable conditions, with no bank debt and concessionary tax levels. The firm's undeniable strength has been concentration of ownership in the hands of a small group of owners. A well-defined strategy around production for motorization and the textile industry has been complemented by production of aerosols and by bottle and polyethylene package manufacture. The firm has won ISO 9001:2000 quality certificates. Environmental and human resources programmes have been implemented and a strong reputation has been gained among domestic buyers and retailers.

3.2 Less successful restructuring – Upper Silesia (Śląsk)

The state's regional policy has had limited impact on structural change in traditional industrial regions such as Upper Silesia (Śląsk), known for extraction industries. The sub-region round Katowice was a typical coal/steel area with a skewed social and educational structure, a heavily polluted environment, and an old but relatively good infrastructure. Although the state policy towards the region used to be as liberal as with Łódź, this proved insufficient to cope with the area's serious problems. Demand for coal dropped significantly in recent years due to rationalization of energy consumption and a shift to other fuels. Polish coal also became too expensive compared with alternative sources such as imported coal from Siberia. As demand fell, there was a failure to restructure production or trim the workforce. The problem was politically sensitive due to the region's weight in national elections, and the high concentration of working class, with strong trade unions that could use energy blackmail to achieve their aims (Gorzelać 2002). Upper Silesia shows a low rate of business start-ups due to lack of traditions of business enterprise, inadequate R and D facility and universities, and the strong labour unions already mentioned. These proved serious brakes on endogenous development and a disincentive to foreign investment, which could only be overcome with huge subsidies and tax concessions. Otherwise, the development can be described as mixed. The stagnating state sector has been joined by some strong multinational players, which have helped to offset the restructuring problems and modernize some industries, such as car-making.

Fiat started from a good position in Poland due to strong ties of licensing during the socialist period. A move eastward was logical for the group's globalization plans. The plan was to upgrade and modernize existing production plant and improve quality. Fiat Auto Poland was created in partnership with the Polish Treasury in October 1992, after Fiat had acquired 90 per cent of FSM, their previous licensee, and its 11 component manufacturers. The new venture was essentially a joint one between the Polish Treasury, Fiat, Magneti-Marelli and Teksid Poland, with an initial investment of about EUR 246 million. Assurances were received of tax-free import quotas and safeguards against future changes in legislation. Another big factor behind investment in Poland has been the large domestic market. Research shows that most car sales are made by major domestic producers (Dunin, Wasowicz *et al.* 2002). In the first years after market entry, Fiat made use of its monopolistic position. Fear that it might leave Poland prompted further subsidies to balance more favourable tax conditions given to newcomers, such as Opel in 1996. Although the incentives for Fiat to stay meant the state budget did not profit directly from its existence, there were other impacts that helped to revitalize the regional economy. Privatization of old car factories made them more dynamic and able to diversify. The previous over-employment was cut significantly, while wages rose faster than in manufacturing as a whole. Fiat Poland is integrated into Fiat's overall production structure through the Cinquecento and Palio models, and deals with production, not just car assembly: local content grew from 55 per cent in 1992 to 75 per cent by 1997. There is evidence that many of Fiat's component suppliers have set up joint ventures with local firms, which has helped the latter to enter European markets. Even with this positive example, however, technology spillover has been limited.

The two regions considered are mixed examples of a successful restructuring process, with FDI playing a marginal role or unable to offset the structural deficiencies of the region. It is also worth mentioning that they have huge future growth potential. With more efficient state policy and more active domestic players, the Śląsk and Łódź regions could become major success stories in a future Poland, thanks to a good setting, advantageous population structure, specialization of the private sector on technologically more advanced industries (transport industry) and the presence of an existing business community. Diversification towards services has yet come to materialize. A further big task will be to restructure the traditional heavy industry.

There are also clearer success stories: the central Mazowieckie (Warsaw) and the western Wielkopolskie (Poznań) regions, of which the former is presented in the next section.

3.3 Successful attraction of FDI – Wielkopolska

Poland's second largest region, in the mid-western part of the country, has about 3.3 million inhabitants, of whom 60 per cent live in urban areas. Wielkopolska lies third for GDP. The standard of living is 108 per cent of the national average and unemployment there is lower (16.6 per cent) than the 19.0 per cent national average. The main cities are Kalisz (the oldest town in Poland, 107,000), Konin (84,000), Pila (75,000), Gniezno (capital of the Polish state in the 11th century, 70,000), Leszno (63,000), and the centre, Poznań (571,000). The region is the historical cradle of the Polish nation, but after Poland's partition, it belonged to Prussia for the whole 19th century, which brought rapid modernization and industrialization. At the time, the Polish population lived by values that

facilitated capitalist growth (respect for law, work, saving, and increase in personal wealth). Systematic development means that the region can be considered the most advanced in self-organization and the spirit of enterprise. The population is highly educated (13 per cent with a higher education as opposed to a national average of 7 per cent). The advantageous location on the main east-west transit routes is very important. Travelling time from Germany will be even shorter after the A2 motorway is built. The centre, Poznań, has several respected universities and important R and D potential and academic staff. Altogether 8.17 per cent of the total population with a higher education is an inhabitant of this region.

The strong economic activity appears in the high absolute number of economic entities: almost 340,000, of which 4500 have a foreign capital stake. Still more important is that the firms in the region – 8.97 per cent of the national total – produce 9.24 per cent of the country's GDP. Meanwhile, Wielkopolskie voivodship takes 8.29 per cent of all FDI. A further advantage is a positive image gained in the transformation period, as a region providing a flexible, creative, well-organized business environment. Local authorities show strong investment activity, although the above-average level of development precludes having a special economic zone in the region. There are frequent international fairs and exhibitions for domestic and foreign firms and well-developed institutions backing up business activity. The main industries are food, power, metal, electrical engineering, wood and furniture, and automobiles, but services play a similarly important role. Wielkopolska has the country's third biggest concentration of employment in finance and insurance (21.5 per 1000 inhabitants, as against a national average of 14). Poznań has several factories, with engineering, electronics and transport means prominent.

VW of Germany has made a green-field investment and the Polish subsidiary has already become a prominent producer on the car market (49th out of 500). Volkswagen had no past on the Polish market and the decision was much assisted by the richest businessman in Poland, Jan Kulczyk, whose firm Tradex used to be the VW importer. The investment was completed in 1992 and the company dealt initially with assembly. Production of the VW Transporter began in 1994. Company sales revenue reached PLZ 2.3 billion in 2001. Other cities in the region add to its industrial potential: Kalisz and the district of Ostrów Wielkopolski (machinery and electrical industries, light industry and food processing). Konin provides 10 per cent of national electric power (from brown coal extracted in a nearby mine that accounts for 30 per cent of national brown-coal extraction) and an aluminium plant. Pila is a centre of electronics (Phillips); agriculture in the region is the most efficient in the country, with yields in Wielkopolska higher than elsewhere for centuries. Leszno is the centre of the best Polish agriculture, with well organized medium-sized private farms (20–50 hectares), well equipped with machinery and skilfully run.

The voivodship is a very attractive region to investors and has the second largest concentration of FDI after Warsaw, in absolute and per capita terms. Poznań alone has attracted some USD 2 billion since 1990, while the small town of Tarnowo Podgórne, near the western border of Poznań had had almost USD 1 billion invested in it (Gorzela 2000) The main investor is the American Wrigley, which that built a chewing-gum factory in Poznań, followed by the German tobacco concern Reemtsma Cigaretten Fabriken GmbH, which bought a majority share in the Poznań tobacco maker WWT, as well as the cigarette maker in Jankowice, near Tarnów Podgórny. Beiersdorf is the German strategic investor in the Poznań Pollena Lechia (Beiers-

dorf Lechia SA) in the chemical industry, while the Japanese firm Bridgestone has started a joint venture with Stomil to produce radial tyres. Much of the investment is in the food sector. The leaders are Nestlé of Switzerland, Bestfoods of the United States, and Stollwerck of Germany, the last of which built a chocolate factory at Jankowice, near Tarnowo Podgórne. An important role in the modernization process has been played by the Dutch group Phillips, which built a light-bulb factory and a joint-venture battery factory with the Japanese group Matsushita.

There are about 5500 firms in the electronics sector in Poland, employing some 38,800 people and with a total income of USD 2.2 billion. Most of the sector has been sold to foreign strategic investors; only about 1 per cent remains in public ownership. In telecommunications, the largest investors have been service providers – Vivendi and France Telecom – while the telecom equipment producers include Lucent Technologies, Siemens and Alcatel. Alcatel was not new to Poland at the time of the political changeover, as it had licence contacts with local telecom equipment producer Teletra in Poznań (Wielkopolska) under the communists. In 1990, two joint ventures were formed, later merged as Alcatel Poland, centred in Warsaw, with an operating plant in Poznań, now the 143rd biggest company on the Polish market for operating income. The Polish plant enjoys a special position, as third-generation digital technologies were introduced here for the first time outside France. Alcatel is a market leader in Poland, selling more than 50 per cent of the telecom equipment, well ahead of German and US competitors. The Poznań plant produces Alcatel 1000 S12 systems and transmission equipment, while the Warsaw plant has an R and D unit for domestic and foreign markets, and engineering, logistics and customer services. The country's biggest investor in electronic parts the Dutch Philips group,

which has operated in Poland since 1991, when it bought a majority in the Polam-Pila electronics company to become a market leader in electronic parts production. The group has invested about USD 400 million in Poland and its six plants employ about 6700 people. Philips is also a major exporter from Poland, with about 80 per cent of production going abroad. Besides the lighting production plant in Pila, Philips also purchased other plants previously belonging to Polam: other lighting plants in Białystok and Bielsko-Biala, and there is a consumer electronics part-producing unit at Kwidzyn (formerly Brabork). All these have been modernized, as their ISO certificates warrant. Technological change in the industry is rapid and it is most important to keep pace with this, which calls for high R and D expenditure. This is what the involvement of multinationals has accomplished, along with assistance in overcoming financial difficulties and in structural modernization. Foreign capital has mobilized the industry and acted as its driving force. Domestic firms have also been able to upgrade production structure, especially in the new technology sector. The main players are DGT Gdańsk, Mikrotel Gdańsk, Slican Bydgoszcz, Digitex Sopot, Cyfral Łódź, Veris Varsó, RWT TP SA Radom and Telkom Telos in Kraków.

There are also domestic examples of success in electrical engineering, such as the producer of household equipment Amica Wronki SA (Wronki, Wielkopolska). Amica dates back to 1921, but its production profile has changed several times. Starting with agricultural machinery and motor vehicles, the Wronki plant later turned to gas cookers and heating appliances. In 1981, it entered the East German market and diversified into electric cookers. Success in Soviet-bloc markets was followed by sales in West Germany. It became the Wronki Cooker Factory in 1993 and 80 per cent was sold by the State Treasury in the following year to Amica Holding S. A.,

with Bank Handlowy w Warszawie S.A. taking the remainder. Currently, Amica Wronki S.A. has four factories (for cookers, appliances, refrigerators and washing machines), all with international certificates. Amica Wronki S.A. has been listed on the Warsaw Stock Exchange since 1997. Thirty per cent of production goes to the German market. Sales reached PLZ 963 million in 2003.

The historically industrialized, advantaged position of Wielkopolska region even before the political changes provided the region with a specialization pattern in more advanced technologies. Its special qualities included high educational attainment and active regional state bodies. Serious barriers remain to further growth, however, one being the nationwide problem of obsolete infrastructure and slow motorway construction. The region has been able to upgrade its economic structure by involving foreign capital, which opened the way to foreign strategic investors not primarily seeking local markets. This has helped to modernize some very important industries. The healthy business climate has also helped greenfield investors and domestic players to develop their activity in the area and in the traditionally known branches. Another important factor has been the spirit of enterprise shown in the region. It has been able to diversify its economic structure by increasing its activity in services (insurance and banking). It is also important that the region has managed to modernize traditionally problematic sectors such as agriculture. The advantage of high agricultural production has been transformed into an efficient food industry, with domestic players (potato processing in Lubon, Pila and Wronki, sugar refining, and fruit and vegetable processing) and involvement of foreign capital (Bestfoods, Stollwerck and Nestlé).

3.4 Smaller success – the Podkarpackie region

The region lies in the far south-east of Poland, adjacent to Ukraine to the east and Slovakia to the south. It covers 5.7 per cent of the country's territory and has a population of 2.1 million (5.5 per cent). The regional capital is Rzeszow with 163,000 inhabitants. Other larger towns are Krosno, Sarzyna and Stalowa Wola. It has the sixth lowest level of GDP – 3.99 per cent of the national total and 71.4 per cent of the national average. Employment is relatively high – 6.32 per cent of the national total. Unemployment is close to the national average – 16.9 per cent. The demographic structure, with a high proportion of the young people, is favourable to economic growth. Thanks to the university at Rzeszów, higher education is relatively good. Among the advantages of the area are a clean environment and tourist sites, with the proximity of the Carpathian and Podgorze mountains. The region is rich in natural resources, including the world's richest deposit of sulphur near Tarnobrzeg. Other resources include natural gas and oil reserves now close to depletion. The peripheral geographical location, however, has not been offset by the favourable resource potential. Another serious brake on growth is the lack of motorways, which seems to be a long-term disadvantage, as the region does not yet feature in any motorway construction plans.

Agriculture still has disproportionate weight in the economy, employing 47 per cent of active earners, as opposed to 16.2 per cent in industry, 3 per cent in construction, and 19.3 per cent in services. The sector breakdown shows a different picture in terms of gross value added. There agriculture contributes only about 3 per cent, industry 26.7 per cent, construction 6.9 per cent and ser-

vices 42.8 per cent. The region shows low entrepreneurial activity. The number of firms (15,500) amounts to about 3.7 per cent of the national total, while the 584 foreign firms that invested in the region are some 1.28 per cent of the total. The main industries in the region are steelmaking (Stalowa Wola), military, aerospace (an aircraft manufacturer in Mielec and Rzeszow), auto parts (Debica-Goodyear, United Technologies and Delphi), food and raw materials, and wood and wood products (Kronospan). Traditional industries such as the steelworks in Stalowa Wola, the Organika Sarzyna chemical factory have the tyre company Debica survived the transformation either by state restructuring or with the involvement of foreign capital.

The Debica tyre company has been operating since 1937. A turning point in the company's history came in 1991 with the first stage of privatization, which turned the state-owned enterprise into a company quoted on the Warsaw Stock Exchange in 1994. The privatization process progressed with a contract in 1995 with a strategic investor, Goodyear Tyre & Rubber Company, which bought a tranche of the Debica shares. A later investment made Goodyear the majority stockholder, with a 50.79 per cent holding. The last five years of cooperation between Goodyear and Debica have included extensive restructuring to comply with production and management standards implemented throughout the group worldwide. This covered practically all aspects of Debica's activities, ranging from the organizational structure, through management of financial and trade operations, to new investments in the energy system and production of heavy truck steel-steel tyres. Today Debica is the sole Goodyear tube producer in Europe. Gaining one of the world's greatest tyre companies as an active strategic investor allowed Debica to obtain the funds to develop and gave it access to the most advanced technology and research centres. Debica has been

able to extend its tyre and tube production and increase sales volumes under its own name. Organika Sarzyna, established in 1937, converted itself in January 2001 from a state-owned enterprise into a joint stock company owned by the State Treasury, after an intensive restructuring programme covering assets, employment and organization. The management system rests on collective leadership by the managers of functional divisions. Reorganization focused on adapting to a variable economic environment, product portfolio, management of human resources, manufacturing of quality products, competitiveness in domestic and international markets, maintenance or increase of market shares, flexible marketing, continued customer service, and expansion and strengthening of the distribution network. To achieve its objectives, the organization has adopted a modern style by increasing decision-making and responsibilities for managers of units and departments, simplifying structures, optimizing the activities within functional divisions, forming some integrated business units, using reasonable saving and cost reduction approaches, implementing a management system compliant with ISO 9001, ISO 14001 and ISO 18001, and conducting extensive training courses for employees. The present portfolio consists of: plant protection products and a range of biologically active substances for manufacturing these. Although the present situation has stabilized the company's financial state, the management still believes that the involvement of a strategic investor would be the best way to modernize the company.

In spite of the various local-authority incentives, including duty-free imports of equipment for new factories, job-creation grants, reimbursement employee-training costs and various tax exemptions in two special economic zones (Mielec and Tarnobrzeg), foreign capital has not really discovered the region so far. The 584 companies with foreign participation have invested about PLZ 1 billion in the past

fifteen years. The most important investors have been Kronospan (timber and wooden products), Casino (retailing), BP and Shell (petrol), Philips (electrical machinery), Goodyear (auto tyres), Delphi Automotive Systems, Stahlschmidt (transport equipment), and ICN Pharmaceuticals. Investors have been attracted by the cheap labour force and raw-material resources of the region, but have specialized in technologically less developed industries – the production of raw materials or semi-finished products.

Melnox, a subsidiary of Kronospan, operating in the Euro-Park Special Economic Zone in Mielec, is a leading supplier of wood-based products and finish materials, with 18 local branches across Europe. The concern has been investing in Poland since 1989 and now owns four factories in Poland, the others being in Szczecinek, Poznań and Pustków. The Polish Agency for Industrial Development awarded Melnox a permit to start business activities in the Euro-Park Special Economic Zone in 1996. It soon became one of the most advanced industrial plants to manufacture panels and finish materials using wood-based boards. Capital expenditure by the two companies makes up more than a half of the capital expenditure in the park. Melnox supplies 40 per cent of the domestic market for floor panels and exports to several other countries. Other important products are wall panels, final-finish skirting boards, workplace desktops, and window sills, all manufactured in Mielec. Melnox installed advanced technologies in the factory, with particular emphasis on environment protection. Melnox today is among the region's biggest employers. Two firms were created in 1996–7: Melnox Ltd and Krono-Wood Ltd. In 1997–2001, these expanded their range of products and designs.

EU membership opens new chances for the least developed, more agricultural regions of Poland. Podkarpackie will be able to make use of the structural funds and of support for farmers

under the Common Agricultural Policy. The peripheral location may be slightly offset by instruments for EU neighbourhood policy, to give a new impetus to restructuring and modernizing the agricultural sector, so that a more efficient food industry can develop. The disadvantages, however, will not disappear in the near future: an underdeveloped transport system, distance from the western borders and sparse domestic entrepreneurial experience are all serious obstacles to faster growth. Although the region is rich in natural resources, the consequence has been a double specialization pattern in industry: state-owned enterprises in traditional heavy industry and sulphur extraction, and private firms investing in labour-intensive branches such as raw materials and semi-processed products. Domestic companies are active in the service sector, specializing in tourism, where the region has a clear comparative advantage.

4) CONCLUSION

FDI has been an important tool for financing the transformation process and economic catch-up in Poland. Firms with foreign capital participation have created jobs and taken part in modernizing the production structure. Their influence on domestic firms has helped with the introduction of modern technologies, management and organization techniques. Although firms with foreign participation have an important share in the creation of GDP and in investment activity, they have also contributed greatly to the country's trade deficit. The overall impact on regional development has been adverse; regional disparities have widened as a result of FDI allocation. Investors are attracted to regions with higher income in general and agglomeration appears to matter as well. The western

border has a small, albeit positive effect. Finally, human capital is probably the single most important factor for FDI location choice. Regional investment policy has not had a major impact on choice of investor location. The model aiming at reducing unemployment has not attained its objective. A more active policy for enhancing a spirit of enterprise might be more helpful in revitalizing peripheral regions. Example of regions burdened by heavy tasks of industrial restructuring (textiles in Łódź; mining and quarrying in Upper Silesia) show that FDI without a state strategy and an entrepreneurial atmosphere cannot solve regional structural deficiencies. The key factors for success are advantageous geographical setting, good transport and communications, a favourable population structure in terms of age and education, specialization of the private sector on technologically more advanced industries (transport, electrical engineering). Major tasks for unsuccessful regions in Poland are to restructure agriculture and modernize traditional heavy industry. Upgrading of a region's economic structure by domestic or foreign players is a major factor in accelerating the modernization process.

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Appendices

Appendix 1
No. of firms with foreign participation, 1994–2003

| | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Firms with foreign participation (no.) | 20324 | 24635 | 29157 | 33459 | 37355 | 40910 | 44229 | 46258 | 47352 | 48973 |
| Share (%) | 10.1 | 11.5 | 12.0 | 12.6 | 12.5 | 12.1 | 11.5 | 10.5 | 10.0 | 9.7 |
| Agriculture | 3.2 | 4.8 | 5.8 | 6.6 | 7.3 | 7.9 | 8.4 | 8.9 | 9.3 | 9.8 |
| Industry | 20.5 | 22.6 | 23.9 | 24.9 | 25.6 | 25.9 | 25.8 | 24.8 | 23.4 | 23.0 |
| Mining and quarrying | 23.7 | 26.9 | 28.2 | 29.0 | 28.5 | 28.1 | 26.1 | 25.0 | 23.5 | 23.3 |
| Manufacturing | 21.1 | 23.3 | 24.8 | 25.8 | 26.5 | 26.9 | 26.9 | 25.7 | 24.1 | 23.7 |
| Electricity, gas, water supply | 1.0 | 1.2 | 1.5 | 2.3 | 3.0 | 3.2 | 4.3 | 6.3 | 8.2 | 8.7 |
| Construction | 8.5 | 10.1 | 11.5 | 12.8 | 14.0 | 14.6 | 15.2 | 15.0 | 14.4 | 14.4 |
| Commerce | 19.3 | 22.2 | 24.7 | 26.8 | 28.2 | 29.2 | 29.7 | 27.8 | 25.2 | 24.6 |
| Hotels and restaurants | 29.8 | 33.6 | 36.5 | 38.1 | 39.4 | 40.3 | 39.2 | 37.0 | 34.1 | 31.2 |
| Transport, storage | 20.7 | 22.9 | 24.4 | 28.7 | 26.3 | 26.1 | 25.9 | 24.6 | 23.6 | 22.6 |
| Financial intermediation | 6.6 | 7.2 | 8.1 | 9.2 | 10.1 | 11.0 | 10.6 | 10.2 | 9.9 | 9.8 |
| Real estate and business activity | 9.2 | 10.1 | 11.0 | 11.2 | 9.1 | 8.0 | 6.9 | 5.8 | 5.4 | 5.1 |
| Education | 0.4 | 0.5 | 0.5 | 0.6 | 0.7 | 0.7 | 0.7 | 0.7 | 0.7 | 0.6 |
| Health and social work | 1.0 | 1.1 | 1.1 | 1.3 | 1.4 | 1.1 | 1.4 | 1.4 | 1.5 | 2.5 |

Sources: Chojna, Janusz: Miejsce podmiotów z udziałem kapitału zagranicznego w gospodarce narodowej Polski, in Inwestycje zagraniczne w Polsce, IKChZ, 2004, and Zmiany strukturalne grup podmiotów gospodarki narodowej w 2003 r., GUS, Warszawa 2004 and Informacja o sytuacji społeczno-gospodarczej kraju 2003 GUS, Warszawa 2004 and earlier editions.

Appendix 2
No. of firms with foreign participation and their equity in the economy and manufacturing, 2002

| | No. of firms | Total value of equity | Foreign share | Structure in per cent | | | | | |
|--|--------------|-----------------------|----------------|-----------------------|-----------------------------|-----------------------|-------------------------------|-------------------------|--|
| | | | | Share of enterprises | Firm share in manufacturing | Share in total equity | Equity share in manufacturing | Share of foreign equity | Share of foreign equity in manufacturing |
| <i>Total</i> | <i>14488</i> | <i>113609.8</i> | <i>90884.9</i> | 100.0% | | <i>100.0%</i> | | <i>100.0%</i> | |
| Agriculture, forestry A | 440 | 554.8 | 490.5 | 3.0% | | <i>0.5%</i> | | <i>0.5%</i> | |
| Fishing B | 9 | 0.5 | 0.3 | 0.1% | | <i>0.0%</i> | | <i>0.0%</i> | |
| Industry CDE | 4580 | 46890.7 | 39055.7 | 31.6% | | <i>41.3%</i> | | <i>43.0%</i> | |
| Mining and quarrying C | 66 | 374.6 | 241.0 | 0.5% | | <i>0.3%</i> | | <i>0.3%</i> | |
| Manufacturing (D) | 4412 | 43045.7 | 36952.5 | 30.5% | <i>100.0%</i> | <i>37.9%</i> | <i>100.0%</i> | <i>40.7%</i> | 100.0% |
| Food products and beverages | 461 | 9175.1 | 8540.5 | 3.2% | <i>10.4%</i> | <i>8.1%</i> | <i>21.3%</i> | <i>9.4%</i> | 23.1% |
| Tobacco products | 10 | 328.7 | 290.6 | 0.1% | <i>0.2%</i> | <i>0.3%</i> | <i>0.8%</i> | <i>0.3%</i> | 0.8% |
| Textiles | 151 | 402.7 | 357.5 | 1.0% | <i>3.4%</i> | <i>0.4%</i> | <i>0.9%</i> | <i>0.4%</i> | 1.0% |
| Wearing apparel and furriery | 237 | 247.4 | 200.3 | 1.6% | <i>5.4%</i> | <i>0.2%</i> | <i>0.6%</i> | <i>0.2%</i> | 0.5% |
| Leather | 33 | 51.1 | 45.4 | 0.2% | <i>0.7%</i> | <i>0.0%</i> | <i>0.1%</i> | <i>0.0%</i> | 0.1% |
| Wood, straw and wicker products | 263 | 1911.7 | 602.2 | 1.8% | <i>6.0%</i> | <i>1.7%</i> | <i>4.4%</i> | <i>0.7%</i> | 1.6% |
| Pulp and paper | 108 | 1544.6 | 1272.5 | 0.7% | <i>2.4%</i> | <i>1.4%</i> | <i>3.6%</i> | <i>1.4%</i> | 3.4% |
| Publishing, printing and reproduction | 227 | 1334.3 | 1082.8 | 1.6% | <i>5.1%</i> | <i>1.2%</i> | <i>3.1%</i> | <i>1.2%</i> | 2.9% |
| Coke, refined petroleum | 7 | 547.0 | 92.2 | 0.0% | <i>0.2%</i> | <i>0.5%</i> | <i>1.3%</i> | <i>0.1%</i> | 0.2% |
| Chemicals and chemical products | 228 | 3906.3 | 3359.8 | 1.6% | <i>5.2%</i> | <i>3.4%</i> | <i>9.1%</i> | <i>3.7%</i> | 9.1% |
| Rubber and plastic products | 390 | 2555.0 | 2369.8 | 2.7% | <i>8.8%</i> | <i>2.2%</i> | <i>5.9%</i> | <i>2.6%</i> | 6.4% |
| Other non-metallic mineral products | 336 | 4981.2 | 4639.7 | 2.3% | <i>7.6%</i> | <i>4.4%</i> | <i>11.6%</i> | <i>5.1%</i> | 12.6% |
| Basic metals | 63 | 1117.5 | 936.7 | 0.4% | <i>1.4%</i> | <i>1.0%</i> | <i>2.6%</i> | <i>1.0%</i> | 2.5% |
| Metal products | 537 | 1370.8 | 1173.9 | 3.7% | <i>12.2%</i> | <i>1.2%</i> | <i>3.2%</i> | <i>1.3%</i> | 3.2% |
| Machinery and equipment | 383 | 1519.8 | 1421.3 | 2.6% | <i>8.7%</i> | <i>1.3%</i> | <i>3.5%</i> | <i>1.6%</i> | 3.8% |
| Office machinery and computers | 30 | 42.6 | 33.5 | 0.2% | <i>0.7%</i> | <i>0.0%</i> | <i>0.1%</i> | <i>0.0%</i> | 0.1% |
| Electrical machinery and apparatus | 172 | 1388.3 | 1300.8 | 1.2% | <i>3.9%</i> | <i>1.2%</i> | <i>3.2%</i> | <i>1.4%</i> | 3.5% |
| Radio, television and communication | 72 | 959.0 | 921.5 | 0.5% | <i>1.6%</i> | <i>0.8%</i> | <i>2.2%</i> | <i>1.0%</i> | 2.5% |
| Medical, precision and optical instruments | 131 | 264.4 | 241.0 | 0.9% | <i>3.0%</i> | <i>0.2%</i> | <i>0.6%</i> | <i>0.3%</i> | 0.7% |
| Motor vehicles, trailers and semi-trail. | 177 | 7420.0 | 6506.6 | 1.2% | <i>4.0%</i> | <i>6.5%</i> | <i>17.2%</i> | <i>7.2%</i> | 17.6% |
| Other transport equipment | 64 | 920.4 | 679.7 | 0.4% | <i>1.5%</i> | <i>0.8%</i> | <i>2.1%</i> | <i>0.7%</i> | 1.8% |
| Furniture, manufacturing n.e.c. | 288 | 1010.9 | 851.3 | 2.0% | <i>6.5%</i> | <i>0.9%</i> | <i>2.3%</i> | <i>0.9%</i> | 2.3% |

| | No. of firms | Total value of equity | Foreign share | Structure in per cent | | | | | |
|---------------------------------------|--------------|-----------------------|---------------|-----------------------|-----------------------------|-----------------------|-------------------------------|-------------------------|--|
| | | | | Share of enterprises | Firm share in manufacturing | Share in total equity | Equity share in manufacturing | Share of foreign equity | Share of foreign equity in manufacturing |
| Recycling | 44 | 47.2 | 33.0 | 0.3% | 1.0% | 0.0% | 0.1% | 0.0% | 0.1% |
| Electricity, gas and water supply E | 102 | 3470.4 | 1862.2 | 0.7% | | 3.1% | | 2.0% | |
| Construction F | 861 | 3132.5 | 2724.6 | 5.9% | | 2.8% | | 3.0% | |
| Wholesale and retail trade, repair G | 4636 | 30776.1 | 29213.1 | 32.0% | | 27.1% | | 32.1% | |
| Hotels and restaurants H | 321 | 797.4 | 671.8 | 2.2% | | 0.7% | | 0.7% | |
| Transport, storage and comm. I | 721 | 22400.7 | 11104.5 | 5.0% | | 19.7% | | 12.2% | |
| Financial intermediation J | 162 | 1066.9 | 834.1 | 1.1% | | 0.9% | | 0.9% | |
| Real estate, renting and business K | 2375 | 7297.6 | 6291.4 | 16.4% | | 6.4% | | 6.9% | |
| Education M | 70 | 17.7 | 13.3 | 0.5% | | 0.0% | | 0.0% | |
| Health and social work N | 71 | 89.4 | 79.9 | 0.5% | | 0.1% | | 0.1% | |
| Other community and social services O | 242 | 585.5 | 405.7 | 1.7% | | 0.5% | | 0.4% | |

Source: Działalność gospodarcza spółek z udziałem kapitału zagranicznego w 2002 r., Central Statistical Office 2003, and own calculations

Appendix 3
Initial foreign capital by country of origin, 2002

| Country | No. of firms | Initial capital (PLZ million) | Share in total foreign starting capital (%) |
|----------------|--------------|-------------------------------|---|
| <i>Total</i> | <i>x</i> | <i>90884.0</i> | <i>100.00</i> |
| EU countries | 11629 | 76875.1 | 84.59 |
| OECD countries | 13755 | 89405.2 | 98.37 |
| Netherlands | 1487 | 21643.0 | 23.81 |
| France | 844 | 18015.2 | 19.82 |
| Germany | 5386 | 17259.6 | 18.99 |
| USA | 770 | 6666.0 | 7.33 |
| Great Britain | 573 | 4777.9 | 5.26 |
| Sweden | 576 | 3089.3 | 3.40 |
| Denmark | 468 | 2920.7 | 3.21 |
| Belgium | 397 | 2412.9 | 2.65 |
| South Korea | 48 | 2382.9 | 2.62 |
| Italy | 703 | 2368.1 | 2.61 |
| Austria | 620 | 1435.1 | 1.58 |
| Switzerland | 362 | 1407.6 | 1.55 |
| Luxembourg | 219 | 1325.0 | 1.46 |
| Spain | 122 | 970.6 | 1.07 |
| Norway | 181 | 614.1 | 0.68 |
| Cyprus | 97 | 608.8 | 0.67 |
| Czech Republic | 288 | 453.1 | 0.50 |
| Canada | 115 | 384.8 | 0.42 |
| Finland | 122 | 367.1 | 0.40 |
| Hungary | 60 | 277.6 | 0.31 |
| Liechtenstein | 76 | 173.6 | 0.19 |
| Japan | 48 | 151.3 | 0.17 |
| Ireland | 49 | 123.6 | 0.14 |
| Greece | 42 | 102.2 | 0.11 |
| Slovakia | 53 | 86.8 | 0.10 |
| Croatia | 13 | 75.8 | 0.08 |
| Singapore | 10 | 67.8 | 0.07 |

Source: Działalność gospodarcza spółek z udziałem kapitału zagranicznego w 2002 r., Central Statistical Office 2003, and own calculations

Appendix 4
Accumulated value of FDI by country of origin, December 31, 2003

| Country of registration | Capital invested (USD mn) | Investment plans (USD mn) |
|--|---------------------------|---------------------------|
| France | 13.857.2 | 1.733.1 |
| Netherlands | 9.863.2 | 1.262.5 |
| United States | 8.689.3 | 2.898.4 |
| Germany | 8.414.7 | 1.372.7 |
| Italy | 3.837.4 | 1.113.0 |
| United Kingdom | 3.689.8 | 279.7 |
| International | 3.161.5 | 237.0 |
| Sweden | 3.062.3 | 259.8 |
| Belgium | 2.048.1 | 349.8 |
| Denmark | 2.111.4 | 460.8 |
| Russia | 1.291.9 | 50.0 |
| Austria | 1.122.9 | 221.9 |
| Cyprus | 1.106.1 | 180.0 |
| Ireland | 1.087.7 | 69.7 |
| Switzerland | 1.087.3 | 168.9 |
| South Korea | 965.8 | N/A |
| Greece | 556.5 | N/A |
| Luxembourg | 541.4 | 134.0 |
| Finland | 479.2 | 179.0 |
| Portugal | 423.4 | 66.6 |
| Spain | 387.4 | 40.5 |
| Norway | 343.7 | 69.8 |
| Japan | 258.0 | 262.4 |
| Canada | 212.7 | 287.9 |
| Croatia | 173.0 | 16.0 |
| Australia | 158.1 | 11.0 |
| Turkey | 100.1 | 58.0 |
| Israel | 70.4 | 131.0 |
| Slovenia | 66.2 | 42.5 |
| Czech Republic | 61.3 | N/A |
| South Africa | 57.2 | N/A |
| Hungary | 55.8 | 10.0 |
| China | 45.0 | 45.0 |
| Philippines | 40.0 | N/A |
| Liechtenstein | 14.4 | 32.2 |
| Investments exceeding \$1 million | 69.441.0 | 12.058.3 |
| Estimated investment not exceeding \$1mn | 3.265.0 | |
| <i>Total</i> | <i>72.706.0</i> | |

Source: PAIIZ, 2003

Appendix 5
FDI inflow into Poland by sectors of Polish Business Classification (PKD)

| PKD | Capital invested (millions of USD) | Plans (millions of USD) |
|--|---------------------------------------|----------------------------|
| Manufacturing | 27.76.9 | 4826.5 |
| Transport equipment | 6581.3 | 775.0 |
| Food processing | 6247.0 | 377.8 |
| Other non-metal goods | 3936.1 | 567.5 |
| Chemicals and chemical products | 2503.1 | 706.5 |
| Electrical machinery and apparatus | 2090.6 | 274.7 |
| Pulp and paper | 1960.2 | 397.5 |
| Wood and wooden products | 1494.8 | 195.0 |
| Rubber and plastics | 968.8 | 454.2 |
| Metals and metal products | 770.5 | 757.7 |
| Machinery and equipment | 709.4 | 122.2 |
| Fabrics and textiles | 247.3 | 177.1 |
| Furniture production | 236.9 | 20.1 |
| Leather and leather products | 31.4 | 1.5 |
| Financial intermediation | 16190.5 | 1382.5 |
| Trade and repairs | 8127.4 | 905.1 |
| Transport, storage and communication | 7089.1 | 249.7 |
| Construction | 2938.7 | 325.1 |
| Power, gas and water supply | 2565.7 | 1223.0 |
| Community, social and personal services | 2060.8 | 697.2 |
| Real estate and business activities | 1570.5 | 2019.9 |
| Hotels and restaurants | 847.2 | 392.2 |
| Mining and quarrying | 224.5 | 13.0 |
| Agriculture | 49.6 | 24.1 |
| Investments exceeding \$1 million | 69441.0 | 12058.3 |
| Estimated investment not exceeding \$1 million | 3265.0 | |
| <i>Total</i> | <i>72706.0</i> | |

Source: PAIZ, 2003

Appendix 6
Some regional indicators for Poland, 2001

| Region | Total area, km ² | Population per km ² | GDP, PLZ mn | Share of GDP | Share of employment | Share of higher edu- cation | Proportion of all firms | No. of for- eign firms | Proportion of foreign firms | Starting capital to- tal, PLZ mn | Share of foreign starting capital |
|---------------------|--------------------------------|-----------------------------------|----------------|-----------------|------------------------|-----------------------------------|----------------------------|---------------------------|-----------------------------------|--|--|
| Dolnośląskie | 19948 | 149 | 58704.5 | 7.82% | 6.64% | 7.75% | 8.75% | 4571 | 9.99% | 3832.5 | 4.84% |
| Kujawsko-Pomorskie | 17970 | 117 | 36884.7 | 4.91% | 4.99% | 4.52% | 4.53% | 1202 | 2.63% | 818.7 | 1.03% |
| Lubelskie | 25114 | 89 | 30361.4 | 4.04% | 6.54% | 5.41% | 4.18% | 711 | 1.55% | 1009.7 | 1.28% |
| Lubuskie | 13984 | 73 | 17675.8 | 2.35% | 2.16% | 2.18% | 2.90% | 1980 | 4.33% | 1148.9 | 1.45% |
| Łódzkie | 18219 | 145 | 46261.2 | 6.16% | 7.13% | 6.50% | 5.96% | 1907 | 4.17% | 2006.8 | 2.54% |
| Małopolskie | 15107 | 214 | 54360.9 | 7.24% | 8.85% | 8.52% | 8.03% | 2249 | 4.91% | 5784.8 | 7.31% |
| Mazowieckie | 35579 | 143 | 153702.2 | 20.47% | 15.74% | 18.85% | 18.49% | 15801 | 34.53% | 41867.0 | 52.92% |
| Opolskie | 9412 | 115 | 17085.7 | 2.28% | 2.40% | 2.28% | 2.73% | 1057 | 2.31% | 1048.9 | 1.33% |
| Podkarpackie | 17926 | 119 | 29540.8 | 3.93% | 6.32% | 4.59% | 3.71% | 584 | 1.28% | 1027.3 | 1.30% |
| Podlaskie | 20180 | 60 | 17976.2 | 2.39% | 3.31% | 2.90% | 2.28% | 355 | 0.78% | 463.4 | 0.59% |
| Pomorskie | 18293 | 121 | 42498.7 | 5.66% | 4.90% | 6.24% | 6.80% | 3059 | 6.68% | 2593.6 | 3.28% |
| Śląskie | 12331 | 393 | 102639.4 | 13.67% | 11.49% | 11.38% | 12.16% | 3880 | 8.48% | 5862.2 | 7.41% |
| Świętokrzyskie | 11691 | 113 | 19613.5 | 2.61% | 3.96% | 3.12% | 2.50% | 452 | 0.99% | 1869.6 | 2.36% |
| Warmińsko-Mazurskie | 24203 | 61 | 20659.8 | 2.75% | 3.00% | 3.10% | 3.37% | 764 | 1.67% | 1166.9 | 1.47% |
| Wielkopolskie | 29826 | 113 | 69397.1 | 9.24% | 8.92% | 8.17% | 8.36% | 4107 | 8.97% | 6561.8 | 8.29% |
| Zachodniopomorskie | 22902 | 76 | 33423.9 | 4.45% | 3.65% | 4.50% | 5.24% | 3086 | 6.74% | 2057.7 | 2.60% |
| Total | 312685 | 124 | 750785.8 | 100.00% | 100.00% | 100.00% | 100.00% | 45765 | 100.00% | 79119.8 | 100.00% |

Source: GUS. Statistical Yearbooks of the Regions, Warszawa, 2003 and own calculations

Appendix 7
Regional structure of starting capital for domestic and foreign companies, 2002

| Region | No. of firms | Total starting capital, PLZ mn | Domestic capital, PLZ mn | Foreign capital, PLZ mn | Proportion of firms | Share of total capital | Share of domestic capital | Share of foreign capital |
|---------------------|--------------|--------------------------------|--------------------------|-------------------------|---------------------|------------------------|---------------------------|--------------------------|
| Dolnośląskie | 1593 | 4680.7 | 305.3 | 4333.6 | 11.0% | 4.1% | 1.5% | 4.8% |
| Kujawsko-Pomorskie | 392 | 1083.8 | 175.3 | 893.0 | 2.7% | 1.0% | 0.8% | 1.0% |
| Lubelskie | 297 | 588.7 | 158.3 | 420.9 | 2.0% | 0.5% | 0.8% | 0.5% |
| Lubuskie | 570 | 1362.4 | 208.0 | 1154.4 | 3.9% | 1.2% | 1.0% | 1.3% |
| Łódzkie | 671 | 2523.1 | 422.9 | 2086.4 | 4.6% | 2.2% | 2.1% | 2.3% |
| Małopolskie | 745 | 8129.6 | 520.2 | 7595.5 | 5.1% | 7.2% | 2.5% | 8.4% |
| Mazowieckie | 4306 | 67977.1 | 13231.1 | 52927.8 | 29.7% | 59.8% | 64.2% | 58.2% |
| Opolskie | 426 | 1273.0 | 121.1 | 1125.1 | 2.9% | 1.1% | 0.6% | 1.2% |
| Podkarpackie | 260 | 1240.6 | 164.8 | 1025.0 | 1.8% | 1.1% | 0.8% | 1.1% |
| Podlaskie | 87 | 445.5 | 75.8 | 369.0 | 0.6% | 0.4% | 0.4% | 0.4% |
| Pomorskie | 1002 | 3134.5 | 1262.7 | 1868.9 | 6.9% | 2.8% | 6.1% | 2.1% |
| Śląskie | 1491 | 7057.4 | 1004.6 | 5997.7 | 10.3% | 6.2% | 4.9% | 6.6% |
| Świętokrzyskie | 135 | 2157.4 | 518.9 | 1634.6 | 0.9% | 1.9% | 2.5% | 1.8% |
| Warmińsko-Mazurskie | 296 | 1061.0 | 230.9 | 793.2 | 2.0% | 0.9% | 1.1% | 0.9% |
| Wielkopolskie | 1262 | 8359.0 | 755.9 | 7591.9 | 8.7% | 7.4% | 3.7% | 8.4% |
| Zachodniopomorskie | 955 | 2536.1 | 1468.3 | 1067.8 | 6.6% | 2.2% | 7.1% | 1.2% |
| <i>Total</i> | <i>14488</i> | <i>113609.9</i> | <i>20624.1</i> | <i>90884.8</i> | <i>100.0%</i> | <i>100.0%</i> | <i>100.0%</i> | <i>100.0%</i> |

Source: Działalność gospodarcza spółek z udziałem kapitału zagranicznego w 2002 r., Central Statistical Office 2003, and own calculations

Appendix 8
Performance indicators for foreign firms according to regions, 2002

| Region | No. of firms | Proportion | Investment total | Share | Total employment | Share | Total income | Share | Gross financial balance | Net financial balance |
|---------------------|--------------|----------------|------------------|----------------|------------------|----------------|-----------------|---------------|-------------------------|-----------------------|
| Dolnośląskie | 531 | 9.91% | 2428.5 | 6.12% | 75346 | 7.58% | 24073.0 | 5.2% | -128.5 | -334.7 |
| Kujawsko-Pomorskie | 186 | 3.47% | 532.6 | 1.34% | 30312 | 3.05% | 9072.4 | 2.0% | 368.6 | 238.8 |
| Lubelskie | 95 | 1.77% | 215.9 | 0.54% | 12441 | 1.25% | 3495.4 | 0.8% | 24.2 | -22.5 |
| Lubuskie | 199 | 3.71% | 571.1 | 1.44% | 23626 | 2.38% | 6364.1 | 1.4% | 203.4 | 150.9 |
| Łódzkie | 291 | 5.43% | 556.0 | 1.40% | 34537 | 3.48% | 10363.4 | 2.2% | 406.7 | 263.7 |
| Małopolskie | 264 | 4.93% | 1263.3 | 3.18% | 66619 | 6.70% | 28336.5 | 6.1% | 155.4 | 22.8 |
| Mazowieckie | 1516 | 28.29% | 22059.7 | 55.58% | 374362 | 37.68% | 239035.4 | 51.6% | 3753.5 | 969.3 |
| Opolskie | 140 | 2.61% | 413.1 | 1.04% | 17399 | 1.75% | 5308.9 | 1.1% | 75.0 | -7.3 |
| Podkarpackie | 91 | 1.70% | 512.6 | 1.29% | 29243 | 2.94% | 7403.2 | 1.6% | 282.7 | 216.7 |
| Podlaskie | 34 | 0.63% | 135.9 | 0.34% | 7169 | 0.72% | 3876.7 | 0.8% | 41.4 | 17.4 |
| Pomorskie | 356 | 6.64% | 1025.0 | 2.58% | 52020 | 5.24% | 18812.1 | 4.1% | 769.0 | 544.5 |
| Śląskie | 579 | 10.80% | 4035.3 | 10.17% | 80361 | 8.09% | 34344.2 | 7.4% | 549.6 | 255.6 |
| Świętokrzyskie | 79 | 1.47% | 1368.7 | 3.45% | 21637 | 2.18% | 8500.6 | 1.8% | 35.3 | -6.8 |
| Warmińsko-Mazurskie | 99 | 1.85% | 369.2 | 0.93% | 22174 | 2.23% | 6402.9 | 1.4% | 270.6 | 151.6 |
| Wielkopolskie | 588 | 10.97% | 3480.2 | 8.77% | 111008 | 11.17% | 48616.5 | 10.5% | 1410.8 | 824.2 |
| Zachodniopomorskie | 311 | 5.80% | 722.4 | 1.82% | 35383 | 3.56% | 8990.5 | 1.9% | 81.6 | 14.7 |
| <i>Total</i> | <i>5359</i> | <i>100.00%</i> | <i>39689.5</i> | <i>100.00%</i> | <i>993637</i> | <i>100.00%</i> | <i>462995.8</i> | <i>100.0%</i> | <i>8299.3</i> | <i>3298.9</i> |

Source: Działalność gospodarcza spółek z udziałem kapitału zagranicznego w 2002 r., Central Statistical Office 2003, and own calculations

Appendix 9
Regional distribution of FDI according to country of origin, 2002

| | Netherlands | France | Germany | United States | Share for Netherlands | Share for France | Share for Germany | Share for United States |
|---------------------|----------------|----------------|----------------|---------------|-----------------------|------------------|-------------------|-------------------------|
| Dolnośląskie | 996.3 | 232.6 | 1739.5 | 208.0 | 4.6% | 1.3% | 10.1% | 3.1% |
| Kujawsko-Pomorskie | 260.5 | 25.3 | 343.2 | 8.7 | 1.2% | 0.1% | 2.0% | 0.1% |
| Lubelskie | 40.3 | 41.7 | 66.9 | 19.8 | 0.2% | 0.2% | 0.4% | 0.3% |
| Lubuskie | 138.5 | 36.6 | 191.1 | 6.7 | 0.6% | 0.2% | 1.1% | 0.1% |
| Łódzkie | 292.4 | 29.9 | 567.8 | 91.5 | 1.4% | 0.2% | 3.3% | 1.4% |
| Małopolskie | 5717.3 | 48.0 | 834.1 | 174.7 | 26.4% | 0.3% | 4.8% | 2.6% |
| Mazowieckie | 8824.6 | 15995.8 | 8064.0 | 5279.4 | 40.8% | 88.8% | 46.7% | 79.2% |
| Opolskie | 264.1 | 25.3 | 473.5 | 118.0 | 1.2% | 0.1% | 2.7% | 1.8% |
| Podkarpackie | 155.8 | 93.3 | 184.8 | 186.2 | 0.7% | 0.5% | 1.1% | 2.8% |
| Podlaskie | 148.8 | 108.3 | 84.4 | 9.4 | 0.7% | 0.6% | 0.5% | 0.1% |
| Pomorskie | 526.2 | 157.3 | 564.9 | 85.4 | 2.4% | 0.9% | 3.3% | 1.3% |
| Śląskie | 792.9 | 464.6 | 1300.1 | 307.1 | 3.7% | 2.6% | 7.5% | 4.6% |
| Świętokrzyskie | 425.4 | 70.9 | 205.2 | 27.5 | 2.0% | 0.4% | 1.2% | 0.4% |
| Warmińsko-Mazurskie | 239.0 | 88.2 | 121.8 | 3.5 | 1.1% | 0.5% | 0.7% | 0.1% |
| Wielkopolskie | 2672.3 | 588.1 | 2206.9 | 123.1 | 12.3% | 3.3% | 12.8% | 1.8% |
| Zachodniopomorskie | 148.7 | 9.3 | 311.5 | 17.1 | 0.7% | 0.1% | 1.8% | 0.3% |
| <i>Total</i> | <i>21643.1</i> | <i>18015.2</i> | <i>17259.7</i> | <i>6666.1</i> | 100.0% | 100.0% | 100.0% | 100.0% |

Source: Działalność gospodarcza spółek z udziałem kapitału zagranicznego w 2002 r., Central Statistical Office 2003, and own calculations

Appendix 10
Locations of Special Economic Zones in Poland



Source: PAIZ, 2003

Appendix 11
Anticipated economic effects of Special Economic Zones, 2002

| Name | Area (ha) | Investment size (PLZ mn) | No. of employed | Area occupied by investors (ha) | Zone development degree | No. of permits |
|--------------------------|-----------|--------------------------|-----------------|---------------------------------|-------------------------|----------------|
| SSE EURO/PARK Mielec | 781.2 | 1037.8 | 5376 | 162.0 | 20.7% | 59 |
| Suwalska SSE | 331.2 | 200.2 | 3808 | 93.4 | 28.2% | 90 |
| Katowicka SSE | 1077.2 | 4610.2 | 13649 | 464.6 | 43.1% | 106 |
| Legnicka SSE | 441.9 | 955.9 | 4466 | 158.6 | 35.9% | 36 |
| Wałbrzyska SSE | 492.6 | 702.7 | 4884 | 139.4 | 28.3% | 31 |
| Łódzka SSE | 337.2 | 502.0 | 2318 | 78.5 | 23.3% | 30 |
| Kamiennogórska SSE | 250.9 | 450.6 | 1227 | 72.8 | 29.0% | 22 |
| Kostrzyńsko/S ubicka SSE | 462.6 | 380.9 | 2500 | 112.9 | 24.4% | 57 |
| Krakowska SSE | 122.3 | 299.7 | 3183 | 45.0 | 36.8% | 19 |
| Pomorska SSE | 348.4 | 808.0 | 5652 | 123.7 | 35.5% | 61 |
| Słupska SSE | 167.9 | 38.2 | 1388 | 41.2 | 24.6% | 18 |
| SSE Starachowice | 351.5 | 147.2 | 1751 | 59.6 | 17.0% | 35 |
| Tarnobrzeska SSE | 786.8 | 370.2 | 3410 | 289.8 | 36.8% | 61 |
| Warmińsko-Mazurska SSE | 372.1 | 188.8 | 1704 | 69.5 | 18.7% | 52 |

Source: Informator Gospodarczy Województwa Śląskiego, 2003