

# **Integration of Polish manufacturing into the world economy: lessons from past experiences**

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## **Introduction**

At the beginning of the 1990s, the Polish economy was less developed and relatively closed, in comparison to the economies of the Czech Republic and Hungary. High levels of protection of domestic market and inward orientation resulted in low share of trade in GDP, low EU market share and low levels of FDI stock. The quality of Polish exported goods was not only much lower than that of EU, but also than those of the Czech Republic and Hungary. This reflected lower levels of innovation and technology in Poland. The level of integration of the Polish economy into world economy was much lower, as compared to the Czech and Hungarian economies.

During the 1990s, the Polish economy underwent radical changes reflecting ‘catching up’ and integration into the Single European Market. A considerable increase in GDP per capita accompanied integration into the EU in terms of trade and in terms of capital. However, in terms of technology, Poland still lags behind both the Czech Republic and Hungary.

The aim of this paper is to show features and factors of integration of Polish manufacturing into the world market to and draw some lessons from Polish experience. It will first review the key facts and patterns that have characterized Polish manufacturing integration into the world market. It will then propose some interpretations of its causes. Finally, it will suggest some policy lessons which can be drawn from the Polish experience.

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## 1. Facts

Since the beginning of the 1990s Poland has been on a path of fast economic growth. In 1995-2004 its GDP growth was higher than the average of the incumbent EU members in every year but one - 2001 - allowing Poland to continuously converge toward the European level. In terms of GDP growth, Poland has been a catch-up country. Real GDP growth in Poland, like in most the New Member States (with exception of Slovenia and Hungary), has exhibited high volatility. Up to 2000, Polish cycles were clearly out of sync with that of the incumbent EU countries. Since then, the trend in economic growth in Poland has approached that of the EU-15. Although the neo-classical growth model still does not work in Poland as for the EU-15 countries, it has begun to work in Poland (Kaitila 2005).

Traditionally, Poland's economic growth has been much more inward-oriented than that of other Accession Countries (AC). In 1991, the share of trade in the GDP of Poland accounted for 22.9%, while in Hungary it was 41.4% and in the Czech Republic it was 36.5% (the EU average was 37.6%). Low exports intensity of Polish manufacturing accompanied its low share of the EU market and the low quality of exported goods as compared to the Czech Republic and Hungary. As compared to both countries, the Polish economy was much less integrated into the world economy not only in terms of trade but also in terms of capital. In 1996, FDI stock per capita in Poland was almost 3 times lower than in the Czech Republic and almost 5 times lower than in Hungary.

After signing the European Agreement, the EU has given Poland clear direction for reform in legislation, politics, economics and administration in the form of the EU *acquis communautaire*, i.e., the comprehensive body of laws, rules and regulations that govern the Union and which must be met before accession. Negotiations for accession were guided by the Copenhagen criteria (1993), which required that Poland had to become not only a "functioning market economy" but also should show "the capacity to cope with competitive pressure and market forces within the Union" (European Council 1993).

With respect to the integration of Polish manufacturing into the world economy and its ability to compete with foreign competitors since the mid-1990s, considerable changes have taken place. The level of openness and orientation of production have changed quite impressively. First, as the volume of Polish exports (in USD) increased by over 400% in the period 1991 – 2003, the share of trade in goods and services in GDP has almost doubled<sup>2</sup>, although it has remained below the EU average, and the Czech and Hungarian levels. Poland

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<sup>2</sup> increased from 22,9% in 1991 to 40% in 2004.

has contributed to more than a quarter of the value of the AC's exports to the EU-15 and since 1999<sup>3</sup> this share has continued to increase. In the years 1996-2003 the dynamics of growth in Polish manufacturing exports to the EU-15<sup>4</sup> were far higher than those for EU-25 internal export growth: double EU-15 internal export growth and slightly exceeding EU external imports growth (Table 1). The share of Polish manufacturing exports to the EU-15 in the EU-25 internal exports has almost doubled while in the EU-25 external imports increased by 50%. Polish manufacturing has taken over a larger part of the European market upsurge than the EU-15 countries and a quite considerable part of EU-15 external imports and EU-25 internal exports. One should also take into account the fact that trade among the ACs (not included in Table 1) is increasing more considerably than EU-15 trade. Poland's share of the EU-25 market has increased even more considerably, i.e., from 1.43 in 1999 to 2.2 in 2003 and is higher than shown in Table 1.

Table 1. Export dynamics and changes in the share of Polish manufacturing in the domestic and the EU market in 1996-2003 (in %) .

	1996	1997	1998	1999	2000	2001	2002	2003
Dynamics of EU25 intra exports		11	10	6	18	3	1	-2
Dynamics of EU15 intra exports		9	9	6	17	2	1	-3
Dynamics of Polish exports to EU15		17	16	10	34	14	7	12
Dynamics of AC-3 exports to EU15		20	21	14	29	13	6	9
PL share in EU25 market	1.0	1.1	1.2	1.2	1.4	1.5	1.6	1.8
PL share in AC exports to EU15	27.4	26.7	25.5	24.7	25.6	25.8	25.9	26.5
Share of Polish exports to the EU-15 in the EU-25 external imports	2.4	2.4	2.5	2.5	2.7	3.0	3.4	3.8

Source: Comext data.

Although export promotion policy was not a priority at the top levels of government policy in 1992-1998, the total number of exporting firms doubled. High correlation between changes in exports volumes and entry of exporters into the EU market shows the increasing potential of Polish entrepreneurs to operate in foreign markets, the more so given that, due to the socialist inheritance and low level of openness of the economy, they lack experience in operating in foreign markets.

<sup>3</sup> in 1995 – 1999 it kept losing with other 9 new member states.

<sup>4</sup> The data on Eu trade comes from the Comext database. It is based on trade data expressed in EUR.

Secondly, the considerable improvements in Polish trade performance and increasing integration of Polish manufacturing into the EU market in terms of trade has accompanied its integration in capital terms. Since the mid-1990s, inflows of FDI to Poland have increased considerably - much more than in the case of Hungary - and have caught up with low FDI inflows in the earlier period. Stock of FDI increased from \$ 4.3 billion to \$ 84.5 billion. The share of FDI in GDP and in total investment increased considerably as well (Table 2). However, although differences in FDI stock per capita between Poland and the Czech Republic and Hungary dropped, FDI per capita in 2003 in Poland was two times lower than in both of these countries.

Table 2. FDI inflow to Poland in 1994 -2004

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Inflow of FDI (\$ mln)	1875	3659	4498	4408	6365	7270	9343	5714	4131	4589	12613
FDI stock (\$ billion)	4.3	6.8	12.0	17.7	27.3	35.2	45.8	53.2	65.1	72.7	84.5
FDI/GDP	2.0	2.7	2.9	3.2	3.8	4.4	5.6	3.1	2.2	2.2	5.2
FDI/total investment (%)	12.5	15.5	15.1	14.5	15.9	18.4	23.8	14.9	11.4	11.9	28.5

Source: Inwestycje zagraniczne w Polsce. Raport Roczny. IKC HZ, Warszawa 2005

Thirdly, the increase of Polish manufacturing exports in the EU market share has accompanied the lower quality of exported goods than in the Czech Republic and Hungary. In this paper we have used Relative Unit Export Value (RUEV) as a proxy for product quality<sup>5</sup>. It is defined as the export euro value of a given industry divided by its physical weight (kilogram)<sup>6</sup> of Polish as compared to the EU-15. A drop in RUEV is a sign of a fall in prices and often reflects increasing price competition and no improvements in the quality of goods. It indicates that domestic firms have not improved the quality of their products as much as their foreign counterparts and have not shifted to a higher quality segment of a given product

<sup>5</sup> However, in the literature there are several different proxies for product quality: as patents, R&D expenditure, investments, see Greenhalgh et al. 1994; Muscatelli 1995.

<sup>6</sup> However, there are certain methodological problems using unit values as measures of product quality. Firstly, changes in unit export values for a given product category may reflect both changes in product quality and changes in product bundle (Aw and Roberts 1986). The more aggregated the product the more serious the problem becomes. Secondly, it may be different from unit prices since it represents a unit of weight rather than price of any unit (Rosati, 1998).

market. An increase in RUEV suggests an improvement in the quality of products or a widening of the range of exported commodities within the more sophisticated industries.

Although the level of RUEV in Poland (Table 3) improved (from 0.55 to 0.68) it still remained below levels found in the Czech Republic and Hungary. The difference in domestic demand in terms of quality of goods between the AC and the EU-15 corresponds to the difference in the quality of goods exported by Poland to the AC and the EU-15. A comparison of the RUEV of Polish goods exported to the EU-15 with Polish exports to the AC shows that Polish firms adjusted to differences in the structure of demand in terms of quality between the EU and accession countries markets. Unit export value (UEV) of Polish exports to the EU-15, as compared to the average UEV traded among the EU-15, increased from 0,59 in 1999 to 0,68 in 2003. UEV of Polish goods exported to the AC as compared to the average UEV of goods traded among the EU-25 was much lower (0,42) and did not change. However although UEV of Polish exports to the AC was much lower than UEV of goods exported to the EU-15, it remained very high as compared to the UEV of goods traded among the AC (1,2 in 2003).

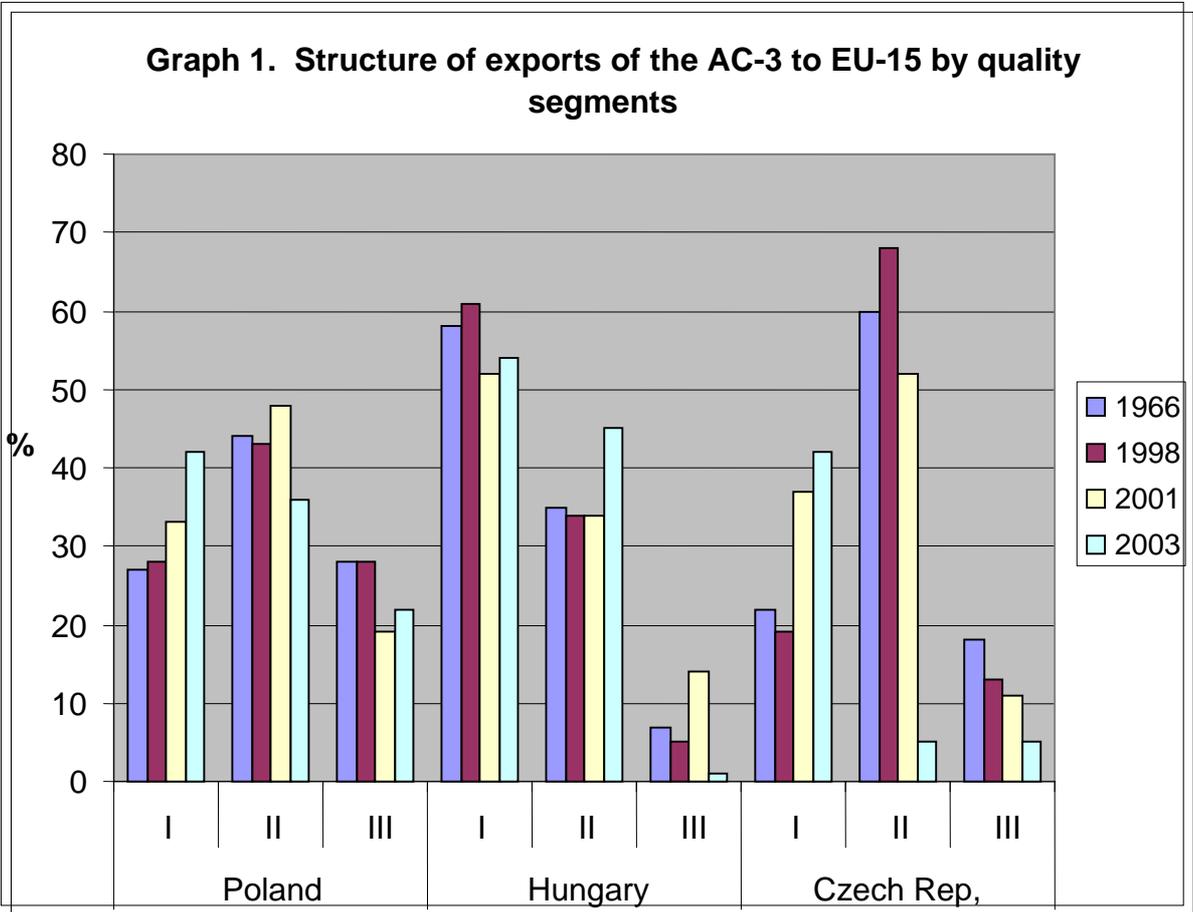
Table 3. RUEV and RULC of Polish, the Czech Republic and Hungarian manufacturing in 1996-2003

		1996	1997	1998	1999	2000	2001	2002	2003
RUEV	PL	0.55	0.57	0.59	0.59	0.61	0.66	0.66	0.68
	CZ	0.65	0.66	0.68	0.68	0.66	0.71	0.70	0.76
	H	0.76	0.77	0.81	0.82	0.87	0.76	0.97	0.97
RULC	PL	0.77	0.79	0.81	0.79	0.75	0.77	0.71	0.62
	CZ		0.80	0.81	0.82	0.79	0.77	0.79	0.73
	H			0.61	0.59	0.59	0.57	0.59	0.55

*Source: Eurostat, and national statistics, own calculations.*

The lower average RUEV of Polish manufacturing exports to the EU was reflected in differences in the structure of Polish exports to the EU-15 in terms of quality between Poland and other accession countries. Based on RUEV, the manufacturing industries of Poland were divided into three quality segments. The first (high quality goods) covered industries whose UEV was similar to the EU average (RUEV >0.85). The second covered industries whose RUEV was between 0.45 and 0.85 (middle quality), while the third segment covered the lowest quality products (RUEV <0.45). A much higher, although diminishing, share of low

quality goods in Polish exports to the EU-15 as compared to the Czech Republic and Hungary (graph 1) shows that these goods play a more important role in Polish export performance. Poland competes to a higher degree than these countries in low quality products. This implies that liberalization of the EU market will result in an increase of competitive pressure on Polish exports from East Asia. Although the quality of the labour force in Poland is quite high, Poland specialize in medium and low technology goods (Landesman 2002). However, on the other hand, the share of high quality products in Poland's exports has increased significantly. These changes have reflected not only a dynamic increase in the exports of high quality goods, but also a visible increase in the quality of most goods. The latter was reflected in shifts in industries between the three quality segments, mainly up-grades<sup>7</sup>.



<sup>7</sup> in Poland the number of industries in the highest quality segment increased from 13 to 27, in the Czech Republic from 22 to 32 and in Hungary from 24 to 47

All in all, although Poland shows quite impressive progress in integration into world economy and increased competitive pressure on EU products, its exports performance is determined by low and medium technology/quality goods.

## **2. Sources**

The following question arises: which factors were responsible for improvement in ability to compete of Polish manufacturing goods and for the relatively high share of low quality goods in Polish trade performance? At first, we focus on four factors responsible for improvements in the ability of Polish manufacturing to compete: relative unit labour costs (RULC), RUEV, relative unit intermediate costs (RUIC) and relative unit investments (RUI). Then, we turn to the role of FDI in the integration of Polish manufacturing into the world market. Last, but not the least, we turn to the role of government policy in Polish integration into the world economy.

RULC is derived by dividing unit labour costs (ULC) in Poland (calculated as the labour compensation (wages and salaries plus social contributions of a particular industry related to its total sales) by ULC in the EU-15 for each of the industries. Whenever RULC is above one (ULC in Poland higher than in the EU) the efficiency of the use of labour costs in Poland is lower than in the EU.

Change in RULC is the result of a combination of changes in the gap in productivity of Polish manufacturing against the EU average and changes in wages. As labour productivity measures reflect the combined effects of changes in capital inputs, intermediate inputs and overall productivity, they do not leave out any direct effect of technical change, be they embodied or disembodied. The former operates via capital goods and intermediate inputs and so affects labour productivity. The latter generally enhances production possibilities for a given set of inputs and so also affects labour productivity. RUI is the relationship between Poland and the EU-15 investment rate (share of investment in sales) while RUIC – between intermediate goods and sales.

A multinomial logit model that has been performed (Wziatek-Kubiak, Magda 2005) to identify which of four variables were indeed responsible for changes in Polish manufacturing industries in both domestic and EU market share, shows that during the whole period (1996-2003) and three selected sub-periods (1996-1998, 1998-2001, 2001-2003), i.e., during upswing and downswing) only RULC was a significant factor in these changes. A decline in RULC increases the probability of achieving a better market position in both markets by a

given industry (at three digit level by NACE Rev.1 classification), i.e., probability of increasing competitive pressure on foreign competitors. However, only in the period 2001 – 2003 did the rate of investment turn out to be a statistically significant factor of the market performance of Polish industries. The greater the share of investment in an industry's turnover, the higher the odds of a better market performance and stronger competitive pressure on foreign competitors. As the coefficients RUIC and RUEV are not statistically significant and their signs vary across industries differentiating in terms of changes in both domestic and the EU market shares, these variables cannot be interpreted as factors important for market performance in the analysed period. From the model we can conclude that the basis for the increase in both market shares was an improvement in the ability to compete measured by the level of RULC – regardless of the time period. The level of investment also played an important role, mainly in 2001 – 2003.

Firstly, the increase in the competitive pressure of Polish goods on EU-15 goods follows a drop in RULC, which was improved but remained higher than in Hungary. The deterioration of the RULC of Poland up to 1999 was accompanied by a small improvement in the quality of exported goods, a small increase in the EU-25 export share and a large inflow of FDI. Afterwards, the quite considerable improvement in RULC and the quality of exported goods of Polish manufacturing were in line with considerable improvements in EU export shares (Table 1 and 3). This accompanied a drop in the investment rate and continuous large inflows of FDI into Poland (Table 2).

Table 4. Average changes in wages, productivity, turnover and employment of Poland, Hungary, the Czech Republic and EU manufacturing in 1998-2003 (in current prices).

Country	Wages per employee	Productivity	Turnover	Employment	Differences between changes in wages and productivity (in percentage points)
	1	2	3	4	5
Hungary	93%	94%	82%	-6%	1
Czech Rep.	56%	69%	58%	-6%	13
Poland	38%	82%	48%	-19%	44
EU15	30%	20%	16%	-5%	-10

*Source: own estimation based on national statistic of the AC-3 and Eurostat.*

Secondly, a drop in the RULC of Polish manufacturing (Table 3) from 0.77 to 0.62 resulted from a combination of a drop in the productivity gap against the EU-15 (column 2, Table 4) and a slower rate of growth of wages than that of productivity. The opposite was the case in the EU-15 (Table 2, column 5). The EU-15 unit labour cost increase was primarily the

result of a reluctance to adjust changes in wages to that of productivity and to not react quickly or fully to cut total labour costs in the face of slow dynamics of growth of production and productivity (Table 4, column 5). This means that higher dynamics of growth in wages than in productivity in the EU-15 support improvement to RULC in Poland and serve to increase the competitive pressure of Polish goods on EU goods. Increases in Polish productivity and a drop in the productivity gap against the EU were brought about by rising output and by considerable falling labour input, and a higher investment rate than in the EU-15, although this is diminishing over time. Productivity growth within industries accounts for a bulk of productivity growth in total manufacturing. The relocation of resources between Polish industries contributes to a very small degree to productivity growth. Disappointing share effect for productivity growth in Poland may suggest the existence of barriers inhibiting effective reallocation of resource across industries and suggest a great efforts of Polish firms to improve competitiveness of their production. However, the rapid growth of labour productivity in Poland was linked to a considerable increase in the unemployment rate<sup>8</sup> - much higher than in the case of the Czech Republic, Hungary and the EU-15. So, during the downswing in the Polish economy (1998-2001), private firms adjusted to the new economic environment by diminishing employment and increasing the number of working hours. This strategy was the main source of improvement in their ability to compete in 1995-2003. State-owned enterprises were losing their position in both domestic and the EU market as their RULC did not improve. All in all, the improvements in RULC of Poland were determined by the decline in the productivity gap. The drop in employment played an important role in productivity improvements.

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<sup>8</sup> The number of people employed in Polish manufacturing industry fell by 21% between 1998 and 2002.

Table 5. Share of fixed assets, investment and Treasury securities in the GDP of Poland (in%)

	1995	1996	1997	1998	1999	2000	2001	2002	2003
Share of fixed assets in GDP	17.7	19.0	23.5	25.2	25.6	23.5	18.7	18.3	18.0
Share of investment in GDP	19.7	21.9	24.6	26.2	25.4	25.1	21.1	19.1	
Share FDI in investment in fixed assets	22	26.2	31.5	41	44.6	42.6	41.6	46.1	47.2
Share of Treasury securities in GDP						0.8	3.9	4.7	4.3

*Source: Central Statistical Office, Warsaw 2005; A. Wernik, Public finance and fiscal Policy in Poland in 1989-2004 (in:) Polish economy at the turn of the 20<sup>th</sup> and 21 century ( in polish), NBP, Warszawa 2005*

Thirdly, although a multilogit model shows the increasing role of investment in the competitive pressure of Polish manufacturing on foreign competitors since 2000, other estimates show that the contribution of investment in productivity growth was increasing also before 1999. In 1995, about 20% of the increase in productivity resulted from an increase in investment, while in 1998 this was as much as 91%. However, a drop in investment in 1999 resulted in a drop in this contribution of investment to productivity improvements to 62% (Szatauynger, 2003). The progressive decline in outlay since 1999 lead to insufficient investment in many branches, accompanied by an excessively high level of consumption of all kinds of fixed assets, which reached 47.7% in 2003. Considering that investments are a major source of technological progress in Poland, it follows that the restructuring of Polish manufacturing was rather shallow. Since the potential to improve the competitiveness of Polish manufacturing by diminishing employment has been exhausted, any further improvement in competitiveness depends on an increase in investments.

Fourthly, it is worth mentioning that the appreciation of Polish currencies against the euro during the 1990s did not result in a worsening of exports performance and RULC. Appreciation of the Polish currency was offset by increasing productivity growth and a declining productivity gap between Poland and the EU-15. This also created an incentive to

upgrade export products in terms of quality and technological sophistication, which is a strategy to offset upward price pressure from the appreciation of the currency. However, it is unrealistic to assume that domestic firms can quickly upgrade export products in terms of quality of product or innovativeness. The adjustment time or learning phase required depends on the general ability of the firms to adjust, the level of sophistication already required (and hence the presence of foreign investors) and the share of skilled workers available. All in all, appreciation of the exchange rate was counterbalanced by improvements in productivity and a drop in the productivity gap, allowing for improvements in the competitiveness of Polish exports to the EU-15.

Three issues require comment: the first is the low quality and low level of technology of Polish goods and their not very impressive improvements. The second is the role of FDI in Polish integration into the world economy as it shows how capital integration impacts the trade integration, and restructuring of the economy and product upgrading. The third is government policy, especially the effect of a lack of reorganisation of public finance for integration of manufacturing into the world market and lack of long term technology and innovation policy .

In terms of level of technology, Polish manufacturing specialises in low and medium technology goods (Landesman 2002). In 1995, the share of low technology goods in total Polish production accounted for more than 50% (Table 6) while that of high technology goods was 28.1%. During the analysed period this structure of Polish production did not change much. It reflects the low level of technology of Polish domestic manufacturing production and lack of progress in this respect. The estimates base on CIS methodology show that the share of Polish domestic firms which introduced innovation against the total number of firms dropped from 37.6% during an upturn of Polish economy (in 1994 – 1996) to 23.8% during an downturn (in 1998 – 2001). Although the share of innovative firms in traditional industries was much lower than that operating in medium and high technology industries, in both cases the share of innovating firms in the total number of firms dropped. This finding worth consideration since Kolasa (2005) found strong and positive effect of innovation on productivity growth in Poland in 1994-2002. May be a quite high level of education of the Polish labour force is a part of explanation of a significant role of innovation for productivity improvements. The more that according to Kolasa the lower estimates of coefficient for total innovation intensity in Poland reflect the fact that R&D expenditure in Poland accounted on average for only 10% of total innovation expenditure. A drop in R&D as percentage of GDP from 0.82 in 1994 to 0.72 in 1998 and 0.64 in 2003, a drop in state spending on R&D from

0.55 to 0.43 and 0.41 respectively and very low and almost stable share of R&D in expenditure of the state budget shows the low public understanding of science, technology and innovation, especially among politicians. It also explain the lack of long term science, technology and innovation strategy in Poland. Short term strategies of innovation prepared for each year by government are very much dependent on upswing and downswing of Polish economy. During a downswing of the Polish economy the government did not enhance technology and innovation, either by supporting investment growth or by supporting research. The fact that R&D as percentage of GDP on Poland is one of the lowest among OECD, is tow times lower than in the Czech republic and Hungary and is diminishing illustrates the underestimation of Polish governments the role of science, technology and innovation in economic growth and in integration of the Polish economy into the world market. National system of innovation as “all important economic, social, political, organisation, institutional and other factors that influence the development, diffusion and use of innovations” and as “relationship among listed factors of innovation and the actions of both firms and government” (Edquist 1997, quoted by Lundvall 2005) was not prepared by government. Most of the instruments of innovation strategy were of financial nature. They focus on promotion of innovation and neglect diffusion of technology and innovation among Polish firms. Macroeconomic regulations, market forces, inflow of foreign technology and FDI were the main source of a new technology innovation in Poland.

Table 6. Structure of Polish production by level of technology in 1995 and 2003 (in %)

	Total		Firms with majority foreign capital	
	1995	2003	1995	2003
High technology	3.3	4.5	5.6	7.4
High-medium technology	24.4	23.6	16.2	39.4
Medium low technology	13.8	17.7	10.3	18.9
Low technology	58.5	54.3	67.9	34.4

Source: J.Chojna, Miejsce podmiotów z udziałem kapitału zagranicznego w gospodarce narodowej Polski (in:) Inwestycje zagraniczne w Polsce. Raport Roczny. IKC HZ, Warszawa 2005

The major driver of changes in the structure of Polish production in terms of level of technology have been foreign-owned firms. In terms of the level of technology, the structure of their production has changed considerably (Table 6). The share of high technology goods in their production has doubled, i.e., increased from 21.8% in 1995 to 46.8% in 2003. In

1995, FDI inflow to low technology production. Continuous product upgrading results in changes in the structure of their production and exports in terms of level of technology. This implies that a change in the structure of Polish exports in term of the level of quality of goods (graph 1) and the level of technology reflects the integration of the Polish economy into the world market in terms of capital.

Although the share of domestic firms which innovate in the total number of domestic firms was higher than that of foreign firms, total outlays on science, technology and innovation of the latter were higher than the former. Very low spending of Polish firms on R&D suggests the existence of barriers hampering the increasing innovativeness and competitiveness of Polish domestic firms. Underestimation of Polish governments of the importance of improvements in technology and innovativeness of the economy for its integration into the world market and the small ability of small and medium sized domestic firms to introduce innovation on a large scale result in an increase in the role of foreign-owned firms in product upgrading of Polish manufacturing. However, if the level of innovativeness in a country is low, possible spillovers from foreign direct investment might be very limited. The issue is even more important, given that the most “easy” gain in productivity, resulting from removing inefficiencies accrued over the socialist period, have already been exhausted.

Foreign owned firms have been important agents of integration of Polish manufacturing into world markets. In 1997-2003, the productivity of foreign-owned firms operating in Polish manufacturing was two times higher than domestic ones, export intensity was three times higher and (since 1998) net profitability was also higher (Table 7). The impressive performance of foreign-owned firms has ensured that they have reinvested a considerable part of their profits in Poland. This has also resulted in an increase of foreign-owned firms in Polish manufacturing turnover to 52.2%, in manufacturing employment to 32.3% and in Polish exports to 58% in 2003. Considering that, since the mid-1990s the Polish policy towards FDI was not more generous than other ACs, this leads to the conclusion that market reforms, including the privatisation and liberalisation of the Polish economy, adjustment to EU regulations and high quality of Polish labour force boosting the inflow of FDI, has allowed for the integration of the Polish economy into world market in terms of trade and capital.

Table 7. Share of firms with foreign capital in the Polish economy

Share in total	1994	1995	1996	1998	1999	2000	2001	2002	2003
Employment	7	10.1	10	15.5	18.2	19.6	21	22.5	22.9
turnover	12.4	16.6	20	26.8	31.6	34	35.1	38.1	38.8
Share of exports in turnover	15.6	15.3	13.9	14.1	13.2	16.2	16.8	18.4	20.6
Share of exports in turnover of non-foreign firms	9	9.5	8.8	7.1	6.4	6.2	6.1	6.2	6.7
Investment in fixed assets	18	22	26.2	41	44.6	42.6	41.6	46.1	47.2
Net profitability of foreign firms	-0.5	1.4	1.5	0.6	0.7	1.4	0	0.7	1.9
Net profitability of firms without foreign capital	1.5	1.8	1.5	0.5	0.1	0.6	-0.2	-0.3	2

Source: J.Chojna, Miejsce podmiotów z udziałem kapitału zagranicznego w gospodarce narodowej Polski (in:) Inwestycje zagraniczne w Polsce. Raport Roczny. IKC HZ, Warszawa 2005

The role of foreign capital inflow should also be considered against the background of government policy during the slowdown in the Polish economy in 1999-2002. The drop in the share of fixed assets in GDP since 1999 has accompanied an increase in the share of FDI's fixed assets in GDP, as well as an increase in the share of Treasury Securities in GDP (Table 2 and Table 5). The latter reflects changes in the structure of budget revenue. To 2000, privatisation revenue has played a major role in budget management and in covering the budget deficit. Privatisation revenue has not only stabilised the budget but, and this is now apparent, it has dampened the motivation for far-reaching organisational and financial changes in the public sector. In 2001, this source of budget revenue collapsed partly because the process of privatisation slowed down. Since 2001, the role of privatisation in budget revenue was taken by Treasury securities (bills and bonds). The increase of their share in GDP has accompanied a drop in the share of government investment in its expenditures as well as a drop (in absolute terms and in relation to GDP) in total fix assets. High return on

securities has resulted in the drainage of private savings by the state budget and has contributed to a drop in the total investment rate. So, during the downturn in the Polish economy, government policy has contributed to a drop in the investment rate both directly and indirectly. This policy also leads to an increase in public debt from 39,3% in 2000 to 50,1% in 2003. Considering that investment is the major source of new technology and innovation in Poland and that technology and innovation policy of the government is rather weak, this implies that this type of policy did not support the integration of the Polish economy into the world economy at the beginning of the 2000s.

### **3. Lessons**

What can other countries learn from Polish experiences in integration of the economy into the world market? The main lessons to be learned are: (1) support liberalization, privatization and reform state finance as soon as possible (2) support free international investment and trade, (3) introduce active innovation policy within the national system of innovation as defined above.

The first lesson is that the prerequisite for integration of small, transition and catching up economy into world market is continuation of privatization and liberalization of economy. Development path of Poland was determined by early internal and external liberalisation and privatisation. It created conducive conditions for entrepreneurship, for entry of new firms and exit of non competitive ones and resulted in adjustment of private firms into new economic conditions. However the emergence of thousands of domestic SME and their expansion on both domestic and the EU market did not accompany deep institutional reforms. Institutional barriers were not removed and system of regulations did not improve.

Polish experience shows some differences in ability to adjust to changing world market conditions and globalisation between governments and state sector and private sector. The analysis of Polish economy (Balcerowicz, Sobolewski 2005) shows negative impact of the state ownership on performance of the enterprises sector. Maintaining enterprises in the state's hands negatively influenced competitiveness of Polish manufacturing on both the domestic and EU markets in the years 1996-2003. The recommendation for the government is to withdraw from the ownership of enterprises. The reluctance of the government to introduce radical reforms in public finance also hampers integration of economy into world market. In upswing of Polish economy no reforms in the public finance were introduced. During downswing private sectors introduced radical restructuring of activity which results in improvements in competitiveness of Polish manufacturing. However low investment was

partly crowded out by public sector and hampered integration of Polish economy into world market .

The second lesson is that small, open economies, such as Polish one, must be active supporters of free international trade and investment. Most research shows that outward orientation accelerates innovation and diffusion of new technology into the domestic economy, and allows for access to foreign markets and strengthens the competitiveness of domestic firms by subjecting them to international competition. Welcoming attitudes toward foreign investment serves to restructure the economy, neutralize government induced distortions and serves integration into the world economy.

The third lesson to be drawn is that an important precondition for fast integration of the economy into world market is to support science, technology and innovation and investment. Globalization change the environment in which firms operate. Although an increase in FDI inflows support fast technological progress in the medium run, the domestic innovation gains much when the technology gap becomes small. If the level of science, technology and innovativeness in the host country is low, positive spillovers from FDI might be limited. Innovation and technology policy means different things for catching-up countries than it does for high-income countries. In the former the focus of this policy is to increase ability to absorb innovations and to help to enter into specific promising established industries using new technologies in the process of doing so. “Systemic” rather than the laissez faire version of public innovation policy referring to the concept of “innovation system” aiming at fostering “entrepreneurship”, promoting a positive attitude to science and technology in the population and designing the linkages between the parts of the system should be endorsed. Since the important part of labour productivity gap between Poland the EU incumbent countries still exists, mainly due to relative low capital intensity and low technology in the former, the need to create conditions conducive for investment is of crucial importance.

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