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To cite this article: Marian Gorynia , Jan Nowak & Radostaw Wolniak (2007) Multinational Enterprises and the Competitiveness of Transitional Host Economies, Journal of Transnational Management, 12:2, 23-42, DOI: [10.1300/J482v12n02\\_03](https://doi.org/10.1300/J482v12n02_03)

To link to this article: [https://doi.org/10.1300/J482v12n02\\_03](https://doi.org/10.1300/J482v12n02_03)



Published online: 22 Sep 2008.



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# Multinational Enterprises and the Competitiveness of Transitional Host Economies: The Case of Poland

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**ABSTRACT.** The paper re-examines a hypothesis that multinational enterprise (MNE) subsidiaries in Poland make a significant contribution to host country competitiveness by raising overall export performance. Multiple indicators based on UNCTAD methodology are used by the authors to analyze Poland's export competitiveness and link this competitiveness to MNE subsidiaries export propensity and innovativeness. They find a confirmation of the positive impact of MNEs on the Polish export sector that has substantially strengthened the country's capacity to compete in world markets and speeded up the transition process to the market-led system. doi:10.1300/J482v12n02\_03 [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com> Website: <<http://www.HaworthPress.com>> © 2007 by The Haworth Press, Inc. All rights reserved.]

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Received Best Paper Award at the IMDA Conference, June 2004 in Maastricht, The Netherlands.

Journal of Transnational Management, Vol. 12(2) 2007  
Available online at <http://jtran.haworthpress.com>  
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doi:10.1300/J482v12n02\_03

**KEYWORDS.** Multinational enterprises, FDI, competitiveness, export performance, transitional economies, Poland

Most Central and East European (CEE) transitional economies perceive inward foreign direct investment (FDI) by multinational enterprises (MNEs) as an important source of improving their country competitiveness. Poland, as a major CEE market, is no different in this respect. The specific nature of Poland as a host country to MNE operations lies in the relatively open and liberal attitude of the state towards FDI inflows and, at the same time, unfortunately, in the continuing absence of a clear and coherent strategy of steering MNEs towards export-oriented and research- and technology-intensive industries which stimulate economic growth and contribute to the desired upgrading of country competitiveness.

The purpose of this study is to reexamine a simple hypothesis that MNE subsidiaries in Poland make a significant contribution to host country competitiveness by raising overall export proficiency and performance. The authors use a theoretical framework derived from the literature review that guides them in measuring Poland's export competitiveness and linking this competitiveness to MNE subsidiaries operations in Poland. Export competitiveness is analyzed by using such variables as export growth rates, export/GDP ratios, export market shares and commodity structure of exports. Export performance of MNEs is compared with those of domestic exporters, and the role of MNEs in technology transfer and upgrading of the host country's technological level is qualitatively examined. Statistical data sets, covering practically the whole transformation period to a market-led economy, that is, the years 1990-2004, are derived from both international (UNCTAD and WTO) and Polish (Central Statistical Office and relevant journal) sources.

### ***LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK***

The export-enhancing role of MNEs in host countries has been the subject of numerous studies for several decades now.<sup>1</sup> Many of these studies have focused on determining the relationship between MNE activities and export performance, behavior or competitiveness of host countries, host country industries and domestic firms. The terms "export performance," "export behavior" and "export competitiveness" are usually used interchangeably in these studies and are operationalized, as dependent variables, through such constructs as "export intensity"

or “export propensity.” Both constructs are similarly measured as either the ratio of exports to total sales (Kumar & Pradhan 2003; Aggarwal 2001; Kumar & Siddharthan 1993; Rojec, Damijan & Majcen 2001), the proportion of production exported (Greenaway, Sousa & Wakelin 2001), the ratio of exports to net production (Andersson & Fredriksson 1996), exports as percentage of total production (Tavares & Young 2002), or volume of exports (Bedi & Cieslik 2000). In addition to the proportion of production exported, Greenaway, Sousa and Wakelin (2001) use “the decision to export” as a dichotomous dependent variable of export propensity.

Usually export competitiveness/performance of foreign subsidiaries of MNEs and that of domestic firms are analyzed comparatively. One stream of such studies focuses on analyzing and measuring the impact of MNEs activity on export competitiveness/performance of domestic firms, or the spillover effects of the former (e.g., Greenaway, Sousa & Wakelin 2001; Bedi & Cieslak 2000; Blomstrom & Kokko 1998; Aiken, Hanson & Harrison 1997).

Virtually all studies of the impact of MNEs on host country export competitiveness or performance hypothesize that MNEs activity should enhance export competitiveness of host countries and industries. By the same token, foreign subsidiaries of MNEs are expected to perform better, that is, show higher export intensity or propensity, or generally be more competitive in export markets, than their domestic counterparts. The reasons for the above expectations include the following arguments:

- MNEs have better access to information about, and greater experience in, global markets, which are usually combined with their propensity to engage in cross-border intra-firm product or process specialization between subsidiaries or between parent company and subsidiaries (Dunning 1993);
- MNEs have better access to proprietary and non-proprietary assets, including technology, brand names, skills, managerial know-how, marketing, distribution networks, finance, and intermediate inputs, which provide them with competitive advantage over local firms (Greenaway, Sousa & Wakelin 2001; Aggarwal 2001; Kumar & Pradhan 2003);
- MNEs benefit from location-specific advantages, endowments of host countries and strategies to deploy and integrate their assets (Aggarwal 2001);
- MNEs exhibit a natural strategic inclination to export from their host countries (Kumar & Siddharthan 1993);

- MNEs enjoy superior productivity stemming from such factors as transfer of assets to and from subsidiaries, participation in multinational networks, corporate governance systems, “frontier” technology, input intensity per worker and the tendency of foreign investors to acquire “the winners” (Pfaffermayr & Bellak 2000).

Most empirical studies, especially the more recent ones, confirm the above expectations, proving that MNE affiliates generally have a higher propensity to export than indigenous firms. There are of course some research results that are either inconclusive or “prove” otherwise. For example, the earlier studies by Kumar (1990) and Kumar and Siddharthan (1993) did not find any significant difference in the export performance of foreign-controlled and local firms in India. A more recent study by Aggarwal (2001) provides a relatively weak support to the hypothesis that MNE affiliates in India perform distinctly better than their local counterparts in export markets. However, the most recent study on India (Kumar & Pradhan 2003) paints a different picture: Foreign subsidiaries in Indian manufacturing are found to achieve higher export performance than domestic firms. The explanation of this change of export performance of foreign subsidiaries vis-à-vis domestic firms in India over the last decade lies in India’s reforms undertaken in the early 1990s that have led to the country’s greater openness and attracted more efficiency-seeking foreign investors as opposed to market-seeking MNEs that dominated the Indian inward FDI in the past.

The few studies that investigated the spillover effects of MNEs in the export sector generally confirm the positive impact of MNE subsidiaries on domestic firms’ export capabilities. Greenaway, Sousa and Wakelin’s (2001) results confirm positive spillover effects from MNEs on the decision to export of UK-owned firms, as well as on their export propensity. Similarly, Aitken et al. (1997), who analyzed extensive panel data on Mexican manufacturing plants, found export spillovers from MNEs to be significant. Also the results of a study by Bedi and Cieslik (2000) on Poland are consistent with the notion of beneficial spillovers from foreign firms and suggest that domestic firms operating in regions/industries with a higher concentration of MNE export activity achieve higher export volumes.

There are two common features of the studies referred to earlier. First, they treat export competitiveness or export performance as a unidimensional construct, typically measured as export intensity or export propensity. Second, they (especially the empirical studies) essentially take a microeconomic perspective, analyzing export competitiveness,

performance or behavior of groups of firms (foreign owned and/or domestic) and sometimes also of industries or specific sectors thereof.

A different approach is followed by UNCTAD in its 2002 World Investment Report. UNCTAD is concerned with export competitiveness of countries, especially developing and transitional ones, through export competitiveness of their firms, and adopts a policy-maker perspective. The report notes that “Competitive exports allow countries to earn more foreign exchange, and so to import the products, services and technologies they need to raise productivity and living standards” (UNCTAD 2002, p. 117). The report also recognizes the crucial role MNEs play in helping developing countries and economies in transition raise their export competitiveness, stating, *inter alia*, that “MNEs tend to be the leaders in export-oriented production and marketing, especially for the most dynamic products, for which linking up to marketing and distribution networks is crucial” (UNCTAD 2002, p. 152).

While starting with world export market share gains as a reflection of increasing export competitiveness of countries, UNCTAD’s methodology goes beyond that measure. Other factors used as indicators of country export competitiveness include:

- Diversification of the export basket;
- Sustainability of high rates of export growth over time;
- Technological level and skill content of export activity;
- Expansion of the base of domestic firms able to compete internationally so that competitiveness becomes sustainable.

According to the above-mentioned approach, a country’s export competitiveness increases when its exports gain world market share, become more diversified, can sustain high growth rates for a long time, move up the skill and technological ladder, which are essential for increasing local value added and for rising wages, and involve more and more domestic firms, which in turn benefit from spillover effects from export-oriented MNEs.

### ***POLAND’S EXPORT PERFORMANCE AND EXPORT MARKET SHARES***

As a result of Poland’s progressing openness to world markets after 1989, her export activity has increased quite dramatically. As shown in Table 1, exports from Poland increased from around US\$14 billion in 1990 to more than US\$70 billion in 2004. In real terms, exports grew by

TABLE 1. Poland's Gross Domestic Product and Exports, 1990-2004

Years	GDP		Exports		Volume Index (Previous Year = 100)	Exports/ GDP Ratio
	In Million USD <sup>a</sup>	Per Capita in USD <sup>a</sup>	In Million USD (Current Prices)	Per Capita in USD		
1990	58976	1547	14322	376	114	24.3
1991	72924	1998	14903	390	98	20.4
1992	84326	2198	13187	344	97	15.6
1993	85853	2232	14143	368	99	16.5
1994	117978	3057	17240	447	118	14.6
1995	126348	3086	22895	593	117	18.1
1996	134550	3484	24440	633	110	18.2
1997	143066	3702	25751	666	114	18.0
1998	157274	4068	28229	730	109	17.9
1999	155151	4014	27407	709	102	17.7
2000	171300	4110	31650	820	125	18.5
2001	183000	4737	36092	934	112	19.7
2002	189000	4944	41010	1073	108	21.7
2003	209600	5486	53577	1403	131	25.6
2004	252400	6610	73781	1932	138	29.2

<sup>a</sup>According to official exchange rate.

The exports/GDP ratio: Own calculations based on the figures given in the table.

Source: Author compiled table from data obtained from: Statistical Yearbook of the Republic of Poland (2000, 2001, 2002, 2003, 2004 and 2005).

an impressive 192 percent between 1990 and 2004. However, the growth of exports fluctuated from one year to another. For example, in 2004 the rate of growth was 38 percent, whereas in 1999 it was only 2 percent.

Another indicator of export performance is the export/GDP ratio. After its initial decrease during the first years of the 1990s, the ratio stabilized at around 18 percent between 1995 and 1999 and started to grow thereafter, accelerating in the last two years of the studied period. In 2004, it amounted to 29.2 percent as compared with 14.6 percent in 1994. The reasons for this rather unusual trend in the exports/GDP ratio lie mostly in the movements of the value of Polish zloty vis-à-vis the US dollar. The zloty appreciated considerably between 1990 and 1994, "boosting"

the GDP value expressed in US dollars and making the value of exports relatively lower. The value of exports declined sharply in 1992 and only slightly recovered in 1993. The zloty's appreciation played also a minor role in keeping the exports/GDP ratio at roughly the same level in the subsequent years of the last decade in spite of the significant growth of export volume. Moreover, the relatively high GDP growth rates experienced by the Polish economy in the second half of the decade prevented the export/GDP ratio from increasing substantially.

The value of exports per capita has been growing steadily since 1992 when it showed the lowest level in the period under study. In 2004, the per capita value of exports amounted to US\$1,932. This figure was considerably higher than the world average (US\$1,332) (Central Statistical Office 2005).

The share of Polish exports in world exports increased from 0.42 percent in 1990 to 0.82 percent in 2004 (own calculations based on UNCTAD 2002 and WTO 2005). This seemingly insignificant increase translates into an almost 100 percent improvement in Poland's share of world export markets over the studied period. In fact, UNCTAD (2002) placed Poland among the 20 winner economies, based on export market share gains between 1985 and 2000. In addition to Poland, two other transitional economies of CEE—Hungary and the Czech Republic—were among the biggest world market-share gainers. Since 2000, Poland's export share in world exports has increased even more dramatically than during the period covered by the cited UNCTAD study. In 2004, Poland exported more than any other new member of the European Union (WTO 2005).

In this context, it is worth noting that Poland, Hungary and the Czech Republic have also been the largest FDI recipients in Central and Eastern Europe. In 2004, the three countries jointly attracted around US\$15 billion in FDI and were placed by UNCTAD in the same FDI range as Canada, Japan and Ireland (UNCTAD 2005). This fact reflects a positive link between inward FDI and export performance.

### ***COMMODITY STRUCTURE OF EXPORTS***

The structure of Poland's exports by sections according to Standard International Trade Classification (SITC) is shown in Table 2. It should be noted in this context that data at such high level of aggregation are difficult to interpret.



TABLE 2. Structure of Exports by Sections According to SITC in Current Prices in the Years 1990-2004

Specification	1990	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Food and live animals	E 10.9	10.2	10.1	9.2	10.1	11.8	10.1	8.5	7.5	7.4	7.2	7.6	7.7
Beverages and tobacco	E 0.5	1.0	1.4	0.7	0.5	0.4	0.3	0.4	0.4	0.4	0.3	0.4	0.5
Crude materials, inedible, except fuels	E 6.8	5.5	4.7	4.5	3.4	3.2	2.9	3.0	2.8	2.5	2.5	2.6	2.6
Mineral fuels, lubricants, and related materials	E 10.7	9.7	9.1	8.2	6.9	6.7	5.5	5.0	5.1	5.6	5.0	4.3	5.4
Animal and vegetable oils, fats and waxes	E 0.2	0.1	0.1	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.0	0.0	0.1
Chemicals and related products	E 9.2	6.8	6.7	7.7	7.7	7.9	6.7	6.2	6.8	6.3	6.4	6.5	6.4
Manufactured goods classified chiefly by material input	E 23.0	26.4	27.5	27.5	25.8	26.5	25.2	25.5	24.8	23.9	23.8	23.7	23.4
Machinery and transport equipment	E 26.2	20.9	19.8	21.1	23.4	21.6	28.4	30.3	34.2	36.2	37.6	37.8	38.8
Miscellaneous manufactured articles	E 7.5	19.4	20.5	20.9	22.0	21.7	20.8	20.9	18.3	17.6	17.2	17.1	15.1
Commodities and transactions not classified elsewhere in SITC	E 5.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Source: Author compiled table from data obtained from: Yearbook of Foreign Trade Statistics (1998, 2002, 2003, 2004 and 2005).

The data indicate that although certain commodity groups of unprocessed or semi-processed nature (notably food and live animals) have retained their significance in Poland's exports, there is a noticeable general trend towards "modernization" of Polish exports. Machinery and transport equipment, in particular, has shown a substantial increase in its share, from 26.2 in 1990 and 19.8 in 1994 to 38.8 in 2004. Manufactured goods taken together represented 77% of Polish exports in 2004, as opposed to 57% in 1990. However, this general trend conceals some differing changes taking place during the analyzed period. Two sub-periods can be distinguished in this respect: 1990-1997 and 1998-2004.

More detailed analyses of changes in Polish foreign trade in the years 1990-1997 indicate a rather unsophisticated character of the structure (Płowiec 1997, p. 231). Furthermore a phenomenon of apparent backwardness of the export structure may be observed whereby in exports the significance of highly processed goods and the share of value added decrease in favor of material and energy intensive products of relatively low technological level (Perczynski 1997, p. 273).

According to the data presented in Table 2, the share of machinery and transport equipment in Poland's total exports declined from 26.2 in 1990 to 21.6 percent in 1997. In that same year above average growth in total Polish exports was reached by the group of agriculture and food products, furniture, wood and wood products as well as chemical and metallurgical products (Piotrowski 1998, p. 9). It is worth noting that with the exception of agriculture, the penetration of these industries by MNEs was most intensive.

However, since 1998 the share of machinery and transport equipment in the export structure was continuously growing. One of the most important factors behind this trend was FDI by MNEs in the motor industry such as Fiat, GM and Daewoo.

The European Union has become the most important export market for Poland, accounting for around 70 percent of Polish exports. Mroczek (2003) makes the following observations regarding the patterns in the Polish export structure in relation to the EU markets:

- The role of highly processed goods was rising, leading to a gradual assimilation of the internal trade structure of the EU;
- The most important Polish export category, machinery and appliances, accounted for almost 25 percent of total exports to the EU in 2002;

- Transport equipment accounted for approximately 17 percent of exports to the EU in 2002;
- Decreasing importance of product groups, which used to play the most important part in Polish exports, such as metallurgical products, wood products, fabrics, clothes and chemicals (in 1994 accounting for 45 percent of sales to the EU);
- Systematic growth of the role of furniture industry;
- Rapid increase of the value and role of the paper industry (dominated by one US MNE: International Paper);

A more detailed analysis of the changes in Polish exports to the EU and Polish exports in general, leads to the same conclusion that changes in the importance of particular groups of products were strongly tied to the expansion of foreign investors. Rising shares in Polish exports characterized these branches which received a relatively high inflow of FDI.

### ***THE ROLE OF MULTINATIONAL ENTERPRISES IN POLISH EXPORTS***

It is unfortunate that no detailed statistics exist concerning export engagement in Poland by subsidiaries of MNEs. The available data cover export activity of all companies with the foreign participation in general. Data collection is conducted by the Polish Central Statistical Office and is based on balance of payment statements. However, for the purpose of this study it is quite realistic and legitimate to assume that in Poland, within the population of firms with foreign equity participation, the dominating position is certainly held by subsidiaries of large MNEs.

Statistics confirm a much higher export intensity of companies with foreign participation, measured by their share in the country's total foreign trade turnover, compared with enterprises with exclusively Polish equity. The export-oriented approach of firms with foreign participation (notably MNEs) is related to the higher quality and higher level of international competitiveness of products manufactured by these enterprises and to their access to global distribution channels and state-of-the-art marketing expertise.

The share of enterprises with foreign participation in Polish exports is presented in Table 3. It is clearly visible that the share was increasing in almost every year of the studied period. Exceptions are the years 2001 and 2004, when the share declined.

TABLE 3. The Percentage Share of Enterprises with Foreign Participation in Polish Exports in the Years 1994-2004

1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
25.0	30.0	33.8	43.0	47.9	51.6	56.2	53.6	54.5	57.6	56.7

Source: Own calculations based on: Durka (ed.) (1998, 1999, 2000, 2001, 2002, 2003, 2004 and 2005).

More detailed data on exports of firms with foreign participation are shown in Table 4. The analysis that follows is based on that table and the annual reports edited by B. Durka and published by the Polish *Instytut Konjunktur i Cen Handlu Zagranicznego*.

In 1996, the total value of exports by companies with foreign participation amounted to US\$8.3 billion, compared with US\$6.8 billion in 1995. This increase of 17.4 percent was twice faster than that for total exports (6.7 percent). Even more symptomatic are comparisons of the growth rate of exports by firms with foreign participation with the growth rate in exports by companies with exclusively Polish equity (17.4 percent and 1.1 percent). The above data point to the crucial role performed by foreign firms in the overall increase in Polish exports in 1996. Consequently, the share of companies with foreign participation in Polish exports rose from 30.0 percent in 1995 to 33.8 percent in 1996 (see Table 3 and Durka ed. 1997).

In 1997, the total value of exports by companies with foreign participation amounted to US\$11.0 billion, compared with US\$8.3 billion in 1996, providing an increase of 34 percent. Thereby the growth rate of these firms was significantly higher than that recorded a year earlier (20.3 percent, Durka ed. 1998). In 1998, the total value of exports by companies with foreign participation exceeded US\$13.5 billion, compared with US\$11.0 billion in 1997, generating this time an increase of 22.1 percent. Although the growth rate of exports by these enterprises slowed down following the 34 percent rise recorded in 1997, it still had a decisive effect on the overall growth rate of Polish exports of 9.6 percent in 1998. After a decline by 9.3 percent in 1997, exports by enterprises with exclusively Polish equity practically stagnated in 1998, rising by only 0.1 percent (Durka ed. 1999).

Looking at the trends in foreign trade of foreign-owned firms operating in Poland it should be emphasized that both their exports and imports went up. In 1999, the total value of exports by companies with foreign participation amounted to US\$14.1 billion compared with US\$13.5 billion in

TABLE 4. Exports by Companies with Foreign Participation and Polish-Owned Firms in the Years 1994-2004

<b>Specification</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
<i>Export value (in million USD)</i>											
Companies with foreign participation	4303.0	6871.2	8267.7	11077.4	13527.9	14134.0	17777.0	19327.8	22341.2	30871.5	41849.0
Polish owned firms	12937.1	16023.7	16172.1	14673.9	14701.0	13273.4	13874.2	16764.4	18668.5	22705.4	31932.2
Poland's total exports	17240.1	22894.9	24439.8	25751.3	28229.9	27407.4	31651.2	36092.2	41009.8	53576.9	73781.2
<i>Change on the previous year (in million USD)</i>											
Companies with foreign participation		2568.2	1396.5	2809.7	2450.5	606.1	3643.0	2815.1	3013.4	7917.8	10977.5
Polish owned firms		3086.6	148.4	-1498.2	27.1	-1427.6	600.8	1625.9	1902.4	4649.3	9226.3
Poland's total exports		5654.8	1544.9	1311.5	2477.6	-821.5	4243.8	4440.9	4917.6	12567.1	20204.3
<i>Change on the previous year (%)</i>											
Companies with foreign participation		59.7	20.3	33.9	22.1	4.5	25.8	17.0	15.6	34.5	35.6
Polish owned firms		23.9	0.9	-9.3	0.1	-9.7	4.5	10.7	11.4	25.7	40.6
Poland's total exports		32.8	6.7	5.4	9.6	-2.9	15.5	14.0	13.6	30.6	37.7
<i>Percentage shares in Poland's exports</i>											
Companies with foreign participation	25.0	30.0	33.8	43.0	47.9	51.6	56.2	53.6	54.5	57.6	56.7
Polish owned firms	75.0	70.0	66.2	57.0	52.1	48.4	43.8	46.4	45.5	42.3	43.3
Poland's total exports	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Author compiled table from data obtained from: Durka (ed.) (1998, 1999, 2000, 2001, 2002, 2003, 2004 and 2005).

1998, giving an increase of 4.5 percent. Thus the growth rate of exports by these enterprises slowed down dramatically in comparison to 1998 or 1997. This indicated that firms with foreign participation operating in Poland had also suffered from deteriorating sales effectiveness in foreign markets and the dire consequences of the Russian crisis. Nevertheless, these firms recorded a faster growth rate in exports than Polish-owned companies. This reconfirmed the higher quality and higher level of international competitiveness of foreign MNEs, which was already apparent in the previous years. The use of foreign distribution channels and state-of-the-art marketing techniques also influenced this trend (Durka ed. 2000).

In the following period firms with foreign participation consolidated their position in Poland's exports. Their share rose from 51.6 percent in 1999 to 56.2 percent in 2000 and their export volume in 2000 went up as well. The growth rate of exports outpaced almost eightfold that of imports. In 2000, the total value of exports by companies with foreign participation amounted to US\$17.8 billion, compared with US\$14.1 billion in 1999, which gave an increase of 25.8 percent. The growth rate of exports by these firms approached the high figures recorded in 1998 (22.1 percent) or in 1997 (39.0 percent). This trend brought into focus the question whether these firms were entering the anticipated "export harvest" period. It seems that to some extent this increase was an indication of growing specialization of these entities and of enhanced stimulation of exports through intra firm cooperation with other MNE subsidiaries. On the other hand, the increase in exports by foreign firms was also attributable to the declining growth rate of domestic demand in Poland. As in previous years, in 2000, foreign firms recorded a faster growth rate in exports than domestic Polish companies (Durka ed. 2001).

In 2001, foreign-owned firms exported commodities worth US\$19.3 billion, thus reaching a 53.5 percent share of Polish exports in general. In comparison to the year 2000 their export rate increased by 18.2 percent, compared with 9.8 percent for Polish-owned firms. This proves that foreign firms played a leading role in the process of export acceleration. The significant share of companies with foreign participation in Polish exports confirms the higher level of international competitiveness of those companies and their products, observed already in the previous years (Durka ed. 2002).

In 2002, foreign firms exported commodities worth US\$22.3 billion, 15.6 percent more than the previous year. For domestic Polish firms the growth rate was 11.4 percent. This in turn led to an increase in the

foreign firms share in Polish exports, reaching a level of 54.5 percent (Durka ed. 2003).

In 2003, another increase in MNEs exports was witnessed. The value of almost US\$31 billion represented an almost 35 percent growth over the previous year's value of exports. At the same time, Polish-owned firms' exports grew by around 25%. As a result, MNEs further strengthened their position as the dominant export earner, with the share of 57.6% of total exports.

The last year of the studied period, 2004, showed also a dramatic increase in exports by MNEs (almost 36%). However, Polish-owned firms' export performance was even more stellar. They generated close to US\$32 billion in export earnings, increasing these earnings by more than 40% on the previous year. During the period of study, 2004 was the first year when Polish firms' share in total exports did not decline. It stood at 43.3% compared with 42.3% in the previous year. This may be an indication of a change in the long ascent of MNEs as export earners in Poland or/and a sign of the strengthening competitive position of indigenous firms.

The superior export performance of MNE subsidiaries compared with that of Polish-owned firms has had one drawback relating to the net effect on Poland's trade balance. The said MNE subsidiaries showed a much higher import propensity than local firms. This import was predominantly supply-oriented and contributed to the increase of the perennial deficit in the country's trade balance. This negative trend was in part a reflection of the insufficient competitiveness of domestic Polish suppliers and subcontractors. Even if those local suppliers were in a position to make an offering compatible with MNE standards (especially in the quality area) and expectations or marginally better, they still ran a high risk of being rejected simply because MNEs maintained a strategic preference for their proven home country partners. This approach and preference was also a powerful demonstration of increasing MNE reliance on the conventional principles of relationship marketing.

### ***MULTINATIONAL ENTERPRISES AND TECHNOLOGY TRANSFER***

Growing links with the external environment have constituted one of the salient features of the transformation process of the Polish economy. One of the aims of an open approach adopted by the state in this field was to raise economic effectiveness by improving the technological

level of the products available to the Polish consumers. To achieve this, it was necessary to allow for the transfer of technologies from abroad since the possibilities of generating and implementing new technologies and innovations at home had proved to be inadequate.

Thus a very widely conceived transfer of technology into the Polish economy was encouraged in the form of simple imports of commodities, FDI, relocation of highly qualified personnel, license purchase, exchange of documentation not included in the license agreements, provision of technical services, managerial contracts, consulting, leasing, franchising, personnel training by foreign specialists and personal contacts with foreign specialists. Although it would be difficult to define empirically which of these forms has been of greatest significance, FDI appears to have played the most important role (Starzyk 1998, p. 258).

At the beginning of this decade, the technology and innovation gap that separated Poland from the highly industrialized countries was evidenced by the following factors (Jasinski 2001, p. 8):

- The number of domestic patents submitted was continually decreasing;
- The number of domestic patents granted was falling;
- The number of Polish inventions patented abroad was falling as well;
- The share of new and/or technologically advanced products in the industrial output was relatively low (as compared with developed countries) and showed a weak growth tendency;
- The share of high technology products in exports was relatively low as well.

Another factor contributing to the need for stimulating technology transfer was the feeble financial support of the state in technology creation and generally limited and insufficient state expenditures for research and development (Jasinski 2001, p. 12). A further argument justifying technology transfer to Poland emerged from a rather passive attitude of domestic firms to the issue of technological progress. Studies carried out on Polish industrial enterprises revealed the following features of their behavior regarding innovation (Jasinski 2000):

- Polish enterprises generally showed a small interest in technology transfer;
- Licenses purchased abroad played a very small role;
- The share of Polish enterprises in international transfer of technology was very modest;



- Polish firms were oriented towards purchasing, not selling new technologies and products.

Other studies conducted in Poland on the sample of 68 enterprises proved that, according to company executives, the quality of R&D personnel and outlays for R&D were perceived as relatively insignificant factors of the company's competitive potential (Gorynia 2000; Gorynia & Wolniak 2001).

Therefore, the three factors presented above (low innovativeness of the Polish economy, limited financial support of the state for research and development, and a passive attitude of Polish firms to technology transfer) provided sufficient justification to use all possible forms of technology transfer for improving the technological level and technology-based competitiveness of the economy as such. In those circumstances FDI by MNEs became the main channel of technology transfer into Poland.

The hypothesis that MNE FDI exerts a positive influence on the innovativeness of Polish firms is confirmed by both the aggregate data of the Central Statistical Office and by survey evidence. The surveys, carried out on a sample of 291 enterprises (126 firms with foreign capital, 165 firms with Polish capital) proved that firms with foreign capital were more willing to introduce new technological solutions than the domestic firms, although the discrepancy between the results for both groups was relatively small—6 percentage points (Weresa 2001). Access to the results of R&D and the use of new ideas implemented in the parent firm were identified as the most significant source of innovations for the foreign firms whereas domestic firms could only rely on whatever R&D they carried out themselves.

A new positive factor in the technology and R&D contribution of MNEs to the competitiveness of their host countries has been the establishment of company research centers in Poland. The following examples may be quoted in this context: In Bydgoszcz, at the telecommunications plant belonging to Lucent Technologies, the prestigious Bell Laboratory was established; In Cracow, ABB set up its research centre for the whole of Central Europe (and one of eight in the world); Delphi Automotive Systems was establishing a scientific research centre in Cracow; Siemens employed 500 telecom-software and systems-software engineers in its Wrocław R&D center; Philips' subsidiary in Pila was making significant investments in development and research on energy-saving bulbs; Ericsson was planning to build in Poland a research centre Cracow focused on systems and security management (Special Report: Central Europe 2005).

Furthermore, studies conducted by the Marketing Research Centre INDICATOR at the request of the Polish State Agency for Foreign Investments showed that the technology input in products manufactured by foreign firms was increasing. Majority of companies with foreign capital applied technologies not older than one year (63.4 percent). In 1997, the newest technologies were applied by 55.6 percent of the studied companies. At the same time the number of companies using technologies older than 10 years decreased from 20.3 percent in 1997 to 11.2 percent in the year 2000.

Foreign firms also made use of more modern machinery and equipment. Although in the years 1997 and 2000 almost the same number of these companies used one-year-old machinery and equipment (62.0 percent and 63.6 percent), currently a smaller number of them have been making use of equipment older than 5 years (in 1997–64.2 percent, in 2000–57.6 percent) and older than 10 years (22.9 percent and 13.0 percent). One-third (32.3 percent) of the companies with foreign capital also used various quality standards and procedures such as ISO 9001 (22.1 percent of this group of firms) and ISO 9002 (17.1 percent).

### *CONCLUSIONS*

The present study attempted to combine both the micro- and macro-economic perspectives, investigating Poland's export competitiveness as well as competitiveness of exporting firms: foreign-owned versus domestic. It generally followed the UNCTAD approach with respect to the multidimensional treatment of the "export competitiveness" construct, analyzing a range of competitiveness indicators. At the same time, it combined the typical approach identified in the literature review of comparatively analyzing export propensity of MNE subsidiaries and domestic firms.

The study also tried to demonstrate that Poland's export performance, as measured by international market-share gains and the export/GDP ratio, improved substantially throughout the period under consideration (since 1995). On the other hand, positive changes in commodity structure of exports could only be observed during the last seven years of that period, with the increasing share of machinery and transport equipment in total exports being the most significant evidence of those positive changes. This upgraded performance of Polish exports is linked to MNE activity. First, growing export market-shares are observed mostly in sectors which received a relatively high inflow

of FDI (e.g., automobile and related industries). Second, available statistics clearly demonstrate a much higher export intensity of companies with foreign participation as compared with Polish-owned enterprises. Moreover, foreign subsidiaries of MNEs show higher innovativeness, achieved mostly through technology transfer from their parent companies, leading to a significant upgrading of the host country's technological level. Thus, one can conclude that in line with most of previous research, this study confirms a substantial part of received theory that FDI undertaken by MNEs strengthens the competitive position of the host country in which it is made.

In this context, therefore, it appears that MNEs deserve praise and appreciation. However, the superior export performance of MNE subsidiaries has not succeeded in erasing a negative side effect on the balance of payments due to a higher import propensity of these subsidiaries as compared with Polish-owned firms. This problem is in part a reflection of the thus far insufficient competitiveness of Polish suppliers and subcontractors and is expected to be alleviated only in the long run once Polish firms' competitiveness in general is strengthened and becomes sustainable. Operations of MNEs have created problems and conflicts in other functional areas as well, but these usually complex and often controversial issues fall beyond the scope of the present study. One factor remains constant and should not be underestimated or omitted: MNEs will always care and provide for their own competitive position first and foremost and only thereafter "think" about the competitiveness of the host countries where they operate. This dual perspective and its implications for all concerned create a vast area for further research and scrutiny, especially in the CEE transitional economies.

#### NOTE

1. This review concentrates on the literature appearing 1990 onwards. An insightful survey of earlier studies can be found in Dunning (1993, pp. 404-408).

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Submitted: March 06

Revised: June 06

Accepted: August 06

doi:10.1300/J482v12n02\_03