



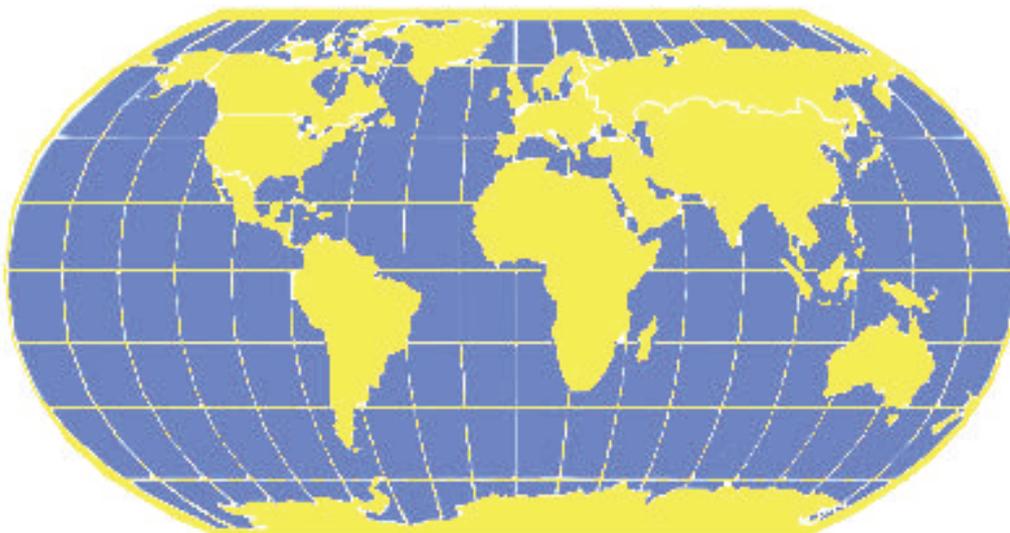
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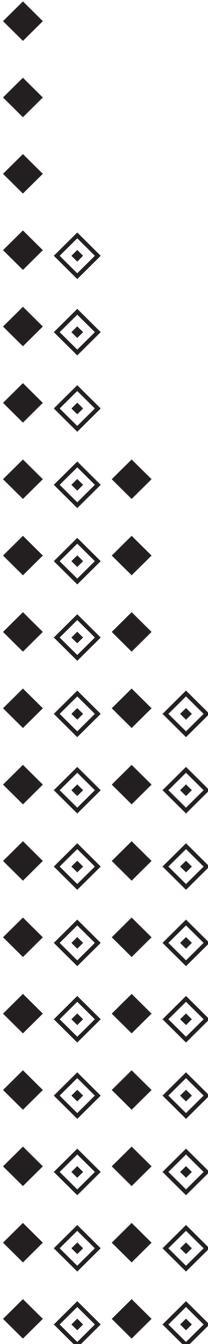
INTERNATIONAL MANAGEMENT DEVELOPMENT RESEARCH YEARBOOK

SHARED RESPONSIBILITIES: MANAGEMENT CHALLENGES IN AN ENVIRONMENT OF INCREASING GLOBAL CONCERNS

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Poland's Investment Development Path: In Search of a Synthesis

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This study is a synthesis of the authors' research on the investment development path (IDP) concept as applied to Poland and investigated from the point of view its general trajectory as well as geographic and industry/sector idiosyncrasies. Collected data cover a time span ranging from the beginning of the country's transition to a market led system until 2006. All those three points of view provide grounds for specific economic policy recommendations. The major challenge is to sustain substantial FDI inflows and at the same time spur outward FDI outflows to much higher levels.

Introduction

The present paper is an attempt to develop a synthesis of the authors' multi-stage research conducted over the last two years. According to the main premise of this study, an analysis of the overall IDP of a country should be supplemented by specific studies focusing on the geographic and sectoral/industrial patterns of FDI in order to reveal the relationships between the overall net outward investment position (NOIP) and NOIPs with respect to individual countries or group of countries, as well as within individual sectors and industries of the said country. Such a holistic treatment of the IDP issue allows for a deeper understanding of the underpinnings of a given IDP trajectory and allows for the formulation of more meaningful and workable policy recommendations. Thus the purpose of this synthesis is to provide findings and conclusions based on a multifaceted analysis of Poland's FDI situation, within the framework of the Dunning's IDP paradigm, and use those findings and conclusions to both refine Dunning's model and offer policy recommendations.

Conceptual Framework

The concept of IDP was first proposed by J. Dunning in the early eighties (Dunning, 1981). Since then it has been refined and extended several times, with most significant modifications contained in Dunning (1986), and Dunning and Narula (1994, 1996, 2002). Several other authors have made contributions to the development of this concept, including Lall (1996), and Durán and Úbeda (2001, 2005).

According to the basic IDP proposition, the inward and outward investment position of a country is connected with its economic development. Changes in the volume and structure of FDI lead to different values in the country's NOIP, defined as the difference between gross outward direct investment stock and gross inward direct investment stock. The changing NOIP passes through 5 stages intrinsically related to the country's economic development, measured by its GNP.

Parallel to its conceptual development, numerous empirical studies have been undertaken to test the validity of the IDP model. There are two main strands in these empirical studies: one represents multi-country studies using cross-section analysis. The other strand focuses on one country's NOIP either vis-à-vis all countries of the world or countries (world regions) that represent the main destinations for FDI as well as the main source of FDI [1].

Although the classic analysis of IDP concentrates on the relationship between a country's GNP or GDP and its NOI position in order to determine and predict the IDP stages, it is apparent that parallel to the IDP dynamics there are important changes occurring in both the geographic and industrial composition of inward and outward FDI when the country moves through its IDP stages. Therefore, the two aspects of the IDP – geographic and industrial – seem to deserve more attention. And yet it is difficult to derive detailed prescriptions or predictions regarding the relationships between the IDP stages and the geographic and industrial composition of FDI from either the Dunning's model or empirical studies that have been undertaken in order to test that model. Therefore, this study focuses on those relationships.

Dunning's model is largely silent on the geographic patterns of inward and outward FDI in relation to the IDP. There seems to be a tacit agreement in existing literature that a country according to the IDP model is at a given point in time at only one stage of its IDP. However, it may be, at the same time, at quite different stages of its NOIP with respect to individual countries and/or regions. Thus it is possible to identify separate NOIP paths with different geographic destinations and sources of FDI, and different NOIPs indicating different stages on those paths. Those propositions have of course a significant bearing on the

geographic implications of existing and desirable economic policy instruments and policies.

In Stage 1, the geographic patterns of FDI are straightforward. Obviously, inward FDI comes from countries at higher stages in their IDP and outward FDI is virtually non-existent. In Stage 2, the relevance and importance of the geographic patterns of FDI increase. According to Dunning and Narula (2002, p. 241), “Outward direct investment emerges at this stage. This may be either of a market-seeking or trade related type in adjacent territories, or of a strategic asset-seeking type in developed countries. The former will be characteristically undertaken in countries that are either further back on their IDP than the home country, or, when the acquisition of created assets is the prime motive, these are likely to be directed towards countries further along the path”. Although these two authors are silent on the geographic patterns of inward FDI in Stage 2, it can be implied that such investment will continue to originate mostly in countries at higher stages of their IDP. In Stage 3, it is predicted that outward FDI will be directed more towards countries at lower stages in their IDP than those ahead of the home country (Dunning & Narula, 2002). When a country moves to Stage 4 of its IDP, the nature and geographic patterns of FDI change quite substantially. Inward FDI is “[...] increasingly sequential and directed towards rationalized and asset-seeking investment by firms from other Stage 4 countries” (Dunning & Narula, 2002, p. 143). Outward FDI, on the other hand, is increasingly directed to countries at lower stages and to a large degree takes the form of moving operations, which domestically lose competitiveness, to off-shore locations (*ibid.*). It is noteworthy at this juncture that in Stage 4 more and more FDI will be conducted within multinational corporations. Finally, a country being in Stage 5 will receive FDI from both countries at lower stages in their IDP and countries being in the same Stage 5. The former will be of market-seeking and knowledge-seeking nature and the latter will be associated with the rationalization of value-adding chains among the Triad countries and will reflect a high propensity for cross-border alliances, mergers and acquisitions. By the same token, outward investment will be directed to both groups of countries. Also, inbound and outbound investment will be complementary to each other (Dunning & Narula, 2002).

Similarly to geographic patterns, certain general predictions regarding the shifts in sector/industry composition and nature of FDI parallel to the IDP stages can be derived from Dunning (1997) and Dunning and Narula (2002). In Stage 1, inflows of FDI are directed towards labour-intensive manufacturing and the primary product sectors, such as mining and agriculture. Outward FDI is negligible or non-existent because “the O-specific advantages of domestic firms are few and far between” (Dunning and Narula, 2002, p. 140). In Stage 2, inward FDI is predicted to remain largely in natural-resource-intensive sectors. However, it is supplemented by forward vertical integration into

labour-intensive production in light, relatively low-technology manufacturing. Outward FDI, fuelled by the newly-acquired O-specific advantages of domestic firms, will be concentrated mostly in the production of semi-skilled and moderately knowledge-intensive consumer goods. As mentioned before, it will be either of a market-seeking or trade-related type, undertaken in adjacent territories, particularly in countries at lower stages in their IDP. In Stage 3, the comparative advantage of labour-intensive production will deteriorate as a result of rising domestic wages. This, in turn, will stimulate inward FDI to flow to technology-intensive manufacturing and other industries capable of delivering higher value added locally. Motives for such inward FDI will shift towards efficiency seeking production and, to some extent, towards strategic-asset acquisition. Outbound FDI will be driven by market-seeking strategies (directed more to countries at lower stages in their IDP) and strategic asset pursuit in other Stage 3 or Stage 4 countries to protect or upgrade advantages of domestic (investing) firms. In a country entering Stage 4, production processes and products will be state of the art and foreign investment will be made in capital- rather than labour-intensive production by firms seeking strategic assets and rationalising their value-adding activities across national borders. Accordingly, a country’s L-specific advantages will be mostly or entirely based on created assets. Outward FDI will be motivated by the necessity to maintain firms’ competitive advantage by moving operations, which lose competitiveness domestically, to countries in lower stages in their IDP. Finally, in Stage 5, which attracts most of Dunning’s (1997) and Dunning and Narula’s (2002) attention and analysis, indications of industry or sector preferences of inbound or outbound FDI are mostly concealed in assertions that Stage 5 highly developed, Triad countries show a marked convergence of their economic structures and that FDI in both directions is increasingly of created asset and efficiency-seeking nature, with greater emphasis on growth via strategic alliances, as well as mergers and acquisitions.

There is hardly an abundance of studies that devote more than cursory attention to the evolving industrial/sectoral structure of FDI in the context of IDP. Nevertheless existing research does point to certain important shifts in sectoral and industrial composition of inward and outward investment taking place when a country progresses from one stage of its IDP to another. However, it is evident that these shifts are far from being uniform across countries. Clearly country-specific factors (idiosyncrasies) play an important role in shaping the sectoral and industrial patterns of FDI.

One of the shortcomings of Dunning’s model is the lack of clear indication of the changes in relative importance of services versus manufacturing sectors when a country moves along its IDP. Also a general conclusion from the existing empirical studies is that the manufacturing sector remains strong, and in many cases dominant, particularly in FDI inflows, throughout Stages 2, 3 and 4, although there is a clear shift from resource-intensive to labour-

intensive to technology- and knowledge-intensive manufacturing.

The Trajectory of Poland's IDP, 1990-2006

In order to identify the stages of Poland's IDP since the beginning of the country's transition to a market economy, data presented in Table 1 were examined. The most important indicator of the nature of IDP trajectory is the NOIP. For the entire period under study that NOI position was negative and constantly deteriorating [2]. This change in the NOIP is typical of Stage 1 and also, up to a point, of Stage 2. However, another important indicator is the absolute amount of both FDI inflows and outflows. Taking into account both indicators, one can conclude that Poland was in Stage 1 roughly in the first half of the nineties and entered Stage 2 in the second part of that decade. Clear indicators of entering the latter stage were: (a) a substantial increase in FDI inflows and (b) a slowdown of the NOIP deterioration.

When a country approaches Stage 3, the growth of FDI inflows slows down and that of FDI outflows accelerates, thus the two FDI stocks, inward and outward, start to converge. Dunning's model uses the relationship between NOI and GNP to draw the IDP trajectory. During the first two stages the NOI falls, in Stage 2 at a slower rate, then it levels out when a country enters Stage 3. Several researchers (see for ex. Bellak, 2001) have used NOI per capita and GNP/GDP per capita instead of these two variables' absolute values to plot the IDP. Among other reasons, per capita figures allow for making comparisons between countries.

As for the NOI per capita ratio in Poland there was a precipitous decline which corresponded in time to the first decade of the studied period. The continuing fall was interrupted by a brief flattening of the said ratio, which occurred in 2005. This sudden change in 2005 might have indicated an imminent transition from Stage 2 to Stage 3. However, the following year the ratio fell again. Nonetheless, there were other symptoms pointing out that Poland was approaching Stage 3. In both 2005 and 2006 there was a surge in FDI outflows from Poland and in both these years FDI outward stock doubled on average. On the other hand there was also a sudden surge in FDI inflows in 2006 (amounting to almost 20 billion dollars) which prevented the analysed ratio from levelling off.

Thus, in spite of the fact that there are discernible symptoms of Poland's possible transition to Stage 3, it is premature to conclude that such a transition will occur soon. A time frame of at least three more years is necessary for making a more conclusive statement.

In light of the above analysis, conclusions reached in the authors' previous research (Gorynia, Nowak & Wolniak, 2007) stating that Poland was unquestionably at the end of Stage 2 of her IDP, moving into Stage 3, have not

Table 1. Poland's FDI Inward and Outward Stock, NOIP, NOIP per capita, and GDP per capita, 1990-2006

Years	FDI Inward Stock, millions of USD	FDI Outward Stock, millions of USD	NOIP	NOIP per capita, USD	GDP per capita ^(a) , USD
1990	109	95	-14	-0.4	1547
1991	425	88	-337	-8.9	1998
1992	1370	101	-1269	-33.3	2198
1993	2307	198	-2109	-63.6	2232
1994	3789	461	-3328	-87.3	3057
1995	7843	539	-7304	-191.7	3086
1996	11463	735	-10728	-281.6	3484
1997	14587	678	-13909	-365.1	3702
1998	22461	1165	-21296	-559.4	4068
1999	26075	1024	-25051	-657.5	4014
2000	34227	1018	-33209	-871.4	4110
2001	41247	1156	-40091	-1049.5	4746
2002	48320	1457	-46863	-1226.8	4944
2003	57877	2145	-55732	-1462.8	5486
2004	86623	3274	-83349	-2181.9	6610
2005	90711	6279	-84432	-2216.1	7944
2006	124530	16288	-108242	-2841.0	8940

^(a) According to official exchange rates

Source: UNCTAD and GUS, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007.

been confirmed by the latest available data and thereby must be revised. There are no new, clear signs showing movement towards Stage 3 yet. Thus there appears to be a slight departure in Poland's IDP from the ideal trajectory construed in Dunning's original IDP model. Three reasons may explain this difference. Firstly, Poland's capacity of absorbing FDI has grown due to accession to the European Union in 2004. Secondly, in spite of growing labour costs and other FDI disincentives, the attracting pull of the large domestic market has prevailed. Thirdly, the relatively dynamic growth of outward FDI has been generating investment levels still much below those recorded as inward FDI.

Hypotheses

Based on the literature review and recognising that Poland is still in Stage 2 of her IDP, as determined in the preceding section, the following main hypotheses regarding the country's FDI geographic patterns in the evolving NOIP may be formulated:

H 1: Inward FDI will predominantly originate in developed countries, being at higher stages on their IDP, with which Poland will have a NOIP that is negative and deteriorating, albeit at a decreasing rate.

H 2: Outward FDI will be predominantly directed to adjacent territories, with market-seeking investment going to countries which are further back on their IDP, and asset-seeking investment directed towards countries further along the path.

H 3: Poland will be in Stage 2 in her IDP with the developed economies, whereas at the same time she will be in Stage 4 with the countries that are at a lower level of development than Poland.

In spite of the idiosyncrasies in the situation of individual countries, the following hypotheses can be formulated with respect to Poland's IDP and sectoral/industrial composition of FDI. These hypotheses also refer to Stage 2 of the IDP.

H 4: The importance of natural resource-intensive industries of the manufacturing sector in inbound FDI will be gradually eroded by the growing importance of labour-intensive production in light, relatively low-technology manufacturing.

H 5: Outbound FDI will be concentrated mostly in the production of semi-skilled and moderately knowledge-intensive consumer goods.

H 6: In spite of the growing importance of the services sector, the manufacturing sector will remain the dominant destination of FDI inflows and outflows.

The following two sections will focus first on the geographic and then on sector and industry patterns of Poland's NOIP, thus testing the above-stated hypotheses.

Geographic Patterns of NOI Position, 1996-2006

This section attempts to incorporate the geographic analysis of FDI into the classic IDP model. Table 2 presents the relevant information on Poland's NOIP vis-à-vis

the world, the Triad countries, Poland's neighbours and her main trading partners in CEE, and China (representing here the group of large emerging markets). Table 3, on the other hand, details geographic information on Poland's NOIP with Germany and the individual CEE countries covered by this analysis.

As was evident in the preceding sections, Poland's NOIP with all countries (world total) was consistently negative. It is obvious that this global NOIP was largely determined by FDI inflows from and outflows to the Triad countries, with which Poland's NOIP was deteriorating throughout the period under investigation. Within the Triad, the highest negative NOIP values were recorded for the European Union (EU), followed by USA and Japan. These data indicate that with the Triad, considered as the world's most developed economic area, Poland was firmly in the second stage of her IDP, reflecting on one hand the pull of her large internal market and a growing economy, and on the other hand the weak competitive position of Polish firms as demonstrated by their limited outward FDI destined for the Triad region, with the exception of EU-15 member states in recent years (in 2006 more than 5 billion USD was invested by Polish firms in the EU – National Bank of Poland, 2007). In particular, Germany has traditionally been a main destination of Polish outbound FDI within the EU-15. Poland's NOIP vis-à-vis Germany showed also slightly different dynamics compared to those for the Triad as a whole. Certainly, the rate of decline in NOI with the Triad was higher than that for Germany. At the same time, it is discernible that the rate of declining NOIP with the Triad showed some signs of abating. These findings thus largely confirm Hypothesis 1.

An interesting evolution of NOIP can be observed with respect to neighbouring, CEE transition countries. Between 1996 and 2002, the NOI value for this group of countries was negative, but starting from 2003 it became

Table 2. NOIP of Poland with the World, Triad Countries, EU, CEE Transition Economies and China (in millions of USD), 1996-2006

Years	World, total	USA	Japan	EU-15	Triad, total	CEE Neighbours	China
1996	-4108.6	-450.9	-7.5	-3472.0	-3930.4	-9.5	1.4
1997	-8862.1	-1128.3	-14.0	-7083.7	-8226.0	-19.9	4.6
1998	-15161.7	-1901.5	-117.4	-12065.6	-14084.5	-37.4	4.4
1999	-21990.5	-1487.8	-115.1	-18247.1	-19850.0	-22.6	3.4
2000	-31586.8	-1812.8	-153.7	-27175.1	-29141.6	-37.9	-1.0
2001	-37302.4	-2387.7	-192.3	-32555.8	-35135.8	-55.3	-1.4
2002	-41641.2	-2857.5	-0.4	-36642.8	-39500.7	-39.4	0.6
2003	-46654.8	-3443.5	-179.5	-40001.6	-43624.6	140.3	-11.6
2004	-59419.8	-3593.9	-387.1	-51612.4	-55593.4	832.1	-11.9
2005	-65547.0	-4305.3	-689.6	-58793.6	-63788.5	1002.8	-47.9
2006	-75600.3	-4701.3	-1000.2	-70102.5	-75804.0	4401.6	-57.7

Source: NBP, 2000, 2001, 2002, 2003, 2004, 2005, 2006, and 2007.

Table 3. NOIP of Poland with Germany and the Neighbouring Transitional Economies of CEE (in millions of USD)

Years	Germany	Belarus	Czech Republic	Baltic Republics	Hungary	Russia	Ukraine
1996	-1080.8	-0.2	-13.4	1.3	-0.4	-2.8	6.0
1997	-2041.5	0.0	-30.0	1.3	-3.5	0.0	12.3
1998	-3466.4	0.7	-38.1	2.7	-14.2	-3.1	14.6
1999	-4631.8	1.3	-37.1	5.8	-12.0	0.6	18.8
2000	-5583.3	1.6	-31.2	5.8	-9.0	-20.3	15.2
2001	-6645.8	2.5	-23.0	8.7	-15.2	-51.8	23.5
2002	-7227.4	0.5	-10.4	9.2	-83.0	-5.6	49.9
2003	-7357.0	4.8	22.9	17.3	-124.2	107.5	112.0
2004	-8655.7	9.3	68.2	26.3	-312.0	902.1	138.2
2005	-10615.5	13.8	603.0	41.0	-83.3	994.8	36.4
2006	-13919.1	27.3	679.8	2396.5	-136.7	1100.8	333.9

Source: NBP, 2000, 2001, 2002, 2003, 2004, 2005, 2006, and 2007.

positive, showing rather impressive growth rates and reaching the value of 4.4 billion dollars in 2006. This clearly indicates that Poland had already entered Stage 4 of her IDP with the neighbouring transition economies treated as a group. However, this overall trend conceals important differences between the NOIP's of Poland vis-à-vis the individual countries of the CEE region. The appropriate data are presented in Table 3. As evidenced by this table, currently Poland has a positive NOIP with all the CEE neighbouring countries, except Hungary. It is also important to note that Poland's NOIP has evolved from a negative to a positive one with respect to the Czech Republic and Russia. The situation vis-à-vis the Czech Republic is interesting. The Czech Republic is considered to be more developed than Hungary and one would expect Poland to have more negative NOIP with the former than with the latter. This may indicate that Hungary is higher up the general IDP than countries with comparable level of GDP. Apparently, Hungarian companies are more competitive and more aggressive investors abroad than their regional counterparts. Thus the above findings tend to only partially confirm Hypotheses 2 and 3.

An exceptional case is that of Poland's NOIP with the world's largest emerging market, i.e. China. After the positive, albeit rather small, values recorded between 1996 and 1999, Poland's NOIP with China systematically deteriorated and reached -60 million USD in 2006. Clearly, this trend is not consistent with Hypothesis 3 stated in the preceding section, and the underlying reasons deserve a more in-depth explanation. However, it should be noted that in absolute terms both Polish investment in China and China's investment in Poland are still relatively low.

Sectoral and Industrial Patterns of the NOIP, 1996-2006

It is evident from Appendix 1 that in the whole period for which the NOIP values have been calculated, only during two years (1997 and 1998) and in one industry (hotels and restaurants) did this measure have a positive sign (but very low absolute values). In all remaining years and industries the NOIP values were always negative. The manufacturing sector had the highest negative values of NOIP throughout the studied period, ending with a level of over -21.8 billion USD in 2006. This reflects the sector's importance and leading position in FDI flows in the Polish economy. At the same time, the calculations of the yearly growth rates demonstrate that the rate of negative growth of NOIP was decreasing, with a small counter trend registered in 2003 and 2004, thus providing another piece of evidence that Poland was at the end of stage 2 of her IDP.

Within the manufacturing sector, up to the end of 2002 the highest NOIP values were registered for food, beverages and tobacco: all falling into the light industry, relatively low technology and low knowledge intensive classification category. Thereafter came, with slight differences between them, motor vehicles and transport equipment as one grouping plus chemical and rubber products as the other, both in the relatively high technology, capital and knowledge intensive classification category. From 2003 on, one year before Poland's entry into the EU, a shift occurred with motor vehicles taking the lead and retaining it till the end (i.e. 2006), followed by chemical and rubber products, and the food, beverages and tobacco grouping. The lowest NOIP values were observed in wood, paper, publishing and printing - a branch falling also into the light industry category. The said negative NOIP values increased until the end of 2004, decreased in 2005 and again increased in 2006.

As Appendix 1 data indicate, the leading industries in the service sector were financial intermediation (in reality: banks and other financial institutions) and trade and repairs (meaning mainly investment by large distribution companies, especially on the retail level). Both those branches started with practically the same level of negative NOIP in 1996 and ended in 2006 with a NOIP of nearly -16 billion USD for financial intermediation and over -12 billion USD for trade and repairs, exhibiting consistent growth of their negative NOIP. However, noteworthy was the overall falling trend in their NOIP year to year growth rate, arguably indicating strengthening competitive advantage of Polish firms investing abroad.

Referring to the three hypotheses stated before, Hypothesis 4 is only partly confirmed by the above analysis. Indeed, there was a shift away from resource-intensive, light industries, such as food, beverages and wood. Instead, the manufacturing industries that emerged as the dominant ones in Poland's FDI, with the highest values of NOIP,

were relatively high technology, capital and knowledge-intensive: motor vehicles, transport equipment and chemicals. As for Hypothesis 5, it is evident that the dominant position among the manufacturing industries' outbound FDI was held by refined petroleum products, followed by metal and mechanical products, and food products. Therefore, Hypothesis 5 cannot really be confirmed. It is important to note in this context that relatively large amounts of outbound FDI have come from the financial intermediation sub-sector (until 2005, that sector's investment exceeded the manufacturing sector's investment abroad). Finally, Hypothesis 6 is not confirmed by the above analysis either. Although the manufacturing sector's position has remained relatively strong, the sector is not in a leading position any more, neither in FDI inflows nor in FDI outflows. It is the services sector (including financial intermediation, trade and repairs, transports and communication) that now accounts for the largest part of Poland's FDI.

Economic Policy Considerations

An important venue for improving country competitiveness lies in stimulating and accelerating the growth of small and medium sized firms in Poland. In this context, mergers and acquisitions as well as business alliances should be encouraged via, for example, fiscal instruments and a relaxation of antimonopoly legislation.

Firms, both domestic and foreign owned, should be allowed to receive support in expanding into foreign markets by outward FDI. This calls for indirect and direct financial state assistance in innovating and developing core company competencies which, embedded in new products and technologies, would facilitate them in generating sustainable firm specific ownership advantages abroad.

Stimulating outward FDI and thus moving to bridge the considerable gap between inward and outward FDI in Poland requires overcoming the idiosyncratic and the unfortunate nature of the strategy of most domestic Polish firms of focusing in their internationalisation on exporting and not on outward FDI. Strong policy stimuli reversing such approach by supporting outward FDI should address the following issues:

(a) The risk associated with cultural and institutional differences separating foreign markets from their Polish counterpart, determined by the length of psychic and institutional distance.

(b) The lack or paucity of financial, material, human capital and other knowledge-intensive resources, so prevalent in most Polish-owned SMEs.

(c) The now pressing need to educate Polish entrepreneurs/managers about the advantages of moving beyond the stage of exporting in their foreign market expansion, as well as about the costs and benefits of different forms of cooperation, especially business alliance formation.

(d) The necessity, via government promotion programs, to at least decrease the negative country of origin effect accompanying marketing efforts of many Polish products in foreign markets, especially in the services and industrial product categories, attempting to compete with local and global players with well known and established brands.

One inherent source of competitive weakness of domestic Polish firms lies in their difficulties in absorbing new technologies and innovations. To redress this deficiency, firms must have first of all access to sufficient funds. Financial and fiscal measures in this respect call for a wider and more intensive use of government guarantees, credit insurance schemes and, for the weakest, government subsidies, conditional however on reaching specific time bound performance targets. Furthermore, in the institutional dimension, the state should encourage formation of micro-regional clusters based on specific location bound advantages, enterprise incubators as well as technological parks for increased and easier high technology creation and diffusion. The market alternative for funding technology development should include state encouragement of venture capital and/or private equity investments via privatisation of state shareholdings in large companies in R&D intensive industries.

An important factor in sustaining FDI, both inward and outward, lies in policy measures targeting the FDI environment with the objective of lowering transaction costs. The main contributing factors in this sphere include:

(a) Creating an efficient legal system, especially in the sphere of contract execution and settlement of investment disputes in courts and via arbitration.

(b) Eliminating bureaucracy and "red tape" in establishing and expanding both green-field and brown-field operations.

(c) Developing material infrastructure by financing or co-financing the country wide network of motorways, railroads and regional airports.

Economic policy should also focus on outward FDI to Poland's less developed neighbours and partners as there it appears to be easier and/or quicker to discount the acquired competitive advantages of the ownership and internalisation categories.

In the sectoral/industry approach economic policy measures should embrace first of all technology upgrading and enhancing financing potential of firms directed towards the identified leaders: mechanical and metal products, the motor industry and petroleum, all within manufacturing sector, as well as financial intermediation, trade and repairs plus real estate within the services sector.

Conclusions

For the entire period of Poland's social and economic transformation process, the country's NOIP was negative

and deteriorating. This is indicative of Stages 1 and 2 of her IDP. Taking into consideration the dynamics of the NOIP, the absolute FDI inflows and outflows, the authors conclude that since the second half of the nineties Poland has been in Stage 2 of her IDP. Although there are certain symptoms indicating that the country may be approaching Stage 3, more years of IDP evolution need to be observed in the future to make conclusive statements about transition to Stage 3.

The geographic analysis of the NOIP conducted with reference to Stage 2 of the IDP revealed the following developments:

(a) Poland has been firmly in Stage 2 of her bilateral IDP with the Triad countries. Poland's position vis-à-vis the Triad largely determines her global NOIP standing. However Poland's outward investment directed towards the EU has increased substantially in recent years and this may indicate approaching Stage 3 with respect to this part of the Triad. In other parts of the Triad, Poland's investment is negligible, particularly in Japan. The dynamics of FDI relations with the Triad are largely consistent with the appropriate predictions derived from Dunning's model.

(b) Poland's NOIP vis-à-vis her neighbouring, CEE transition countries has been generally positive since 2002 (before it was negative). This position has been largely achieved through growing positive NOIP with Russia, the Baltic States, the Czech Republic and Ukraine, although the absolute NOIP values are usually not high. With these countries, Poland is already in Stage 4. On the other hand, Poland is in Stage 2 of her bilateral IDP with Hungary. These findings are only partially consistent with the predictions derived from Dunning's paradigm.

(c) Poland's NOIP with the largest emerging economy, China, changed from positive to negative and deteriorated during the period under study. However, the absolute (negative) value of NOIP is relatively low. This finding is inconsistent with the prediction based on Dunning's model.

Thus a peculiar trade off appears in the geographic breakdown of Poland's NOIP. Either there are high absolute values recorded of the NOIP with developed countries and unfortunately negative ones, signifying the dominance of inward versus outward FDI flows, or there are low absolute values of the NOIP with CEE countries but with a positive sign, indicating more FDI outflows from Poland than inflows. In the first case Poland remains in a position corresponding to Stage 2 in the IDP model and, in the second case, mainly in a position equivalent to Stage 4 in the said model. This second case also attests to the relative superiority of the Polish economy as compared with that of her CEE neighbours and at the same time delineates areas for further expansion to exploit the competitive advantage of firms investing out of Poland, expansion that is easier and quicker attainable than in the more competitive and saturated markets of developed countries.

The industry structure of Poland's NOIP showed that in both inward and outward FDI the dominance of the

manufacturing sector was being radically eroded by services. Inside services on the rise were the shares of the financial intermediation sector, composed mainly of banks, insurance companies and various types of investment funds, as well as of retail trade, focused on mass distribution in supermarkets, large discount stores and shopping malls. Also in both the manufacturing and services sectors the most dynamic were capital and knowledge intensive industries. In the context of industry structure Poland's IDP revealed a certain paradox. It seems to be present in the crucial role played by the growth of the modern manufacturing and service sectors in both prolonging Poland's stay in her IDP Stage 2 and at the same time in being the main motivating factor ultimately expected to move Poland into the more advanced Stage 3. Confronting the findings regarding the sector and industry structure of Poland's NOIP with the appropriate hypotheses derived from Dunning's IDP paradigm, the authors found little conformity between the two.

Finally, the role of economic policy in the IDP model as applied to Poland lies not in expecting or having growth of inward FDI slow down or even in decreasing inward FDI stock but in maintaining sustained growth in the said inward FDI and, at the same time, obtaining a much larger growth and absolute levels of outward FDI.

Notes

[1] Please see Gorynia, Nowak and Wolniak, 2006 for a review of these two strands of empirical studies.

[2] The negative sign of the NOIP reflects a larger amount of inward FDI as compared to outward FDI. The deteriorating nature of the NOIP, in turn, indicates a faster rate of growth of inward FDI stock than of outward FDI stock.

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Appendix 1.

The Sector/Industry NOIP of Poland, 1996–2006, in millions of USD

Sector/Industry	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Manufacturing,											
of which:	-1793.5	-3239.5	-5433.7	-7087.6	-9180.1	-10403.7	-11865.5	-13691.9	-18496.0	-20239.4	-21796.9
<i>motor vehicles and</i>											
<i>transport equipment</i>	-347.0	-536.2	-935.5	-1230.5	-1531.7	-1681.3	-2091.7	-2807.3	-3875.3	-4224.6	-4982.9
<i>chemical and rubber</i>											
<i>products</i>	-258.9	-545.4	-853.0	-1171.6	-1469.9	-1659.0	-2180.6	-2490.6	-3266.6	-3560.4	-4750.7
<i>food, beverages</i>											
<i>and tobacco</i>	-588.6	-940.0	-1689.3	-1855.0	-2265.5	-2373.6	-2538.3	-2698.6	-2851.8	-3218.8	-3570.8
<i>wood, paper, publish-</i>											
<i>ing and printing</i>	-9.6	-226.2	-387.7	-626.6	-910.8	-993.9	-1119.4	-1318.1	-2127.4	-2101.6	-2524.3
Financial											
intermediation	-596.2	-1467.3	-2524.8	-4680.0	-6697.7	-8857.3	-10446.9	-11011.6	-13191.2	-14653.6	-15997.2
Trade and repairs	-591.8	-1007.9	-1839.1	-2630.1	-3379.0	-4215.7	-5077.3	-6498.0	-7911.5	-10217.3	-12267.8
Transports,											
communication	-149.0	-198.3	-194.4	-1915.8	-5555.9	-6580.6	-5721.2	-5612.5	-8040.7	-7589.1	-8664.5
Real estate, IT, R&D,											
equipment lease	-156.0	-394.4	-594.3	-875.7	-1313.1	-1399.1	-1861.9	-2393.6	-3365.1	-4452.1	-7170.1
Electricity, gas and											
water	-4.8	-3.1	-38.7	-88.9	-442.0	-726.9	-1499.8	-1879.2	-2734.7	-2957.1	-3052.1
Construction	-45.8	-60.2	-155.5	-160.9	-316.0	-432.6	-508.0	-449.1	-626.7	-513.6	-925.1
Agriculture and fishing	-4.4	-9.3	-17.9	-76.3	-87.3	-96.2	-106.1	-147.9	-240.5	-292.7	-345.2
Hotels and restaurants	-2.6	8.3	2.5	-22.2	-106.5	-78.3	-111.8	-149.8	-131.9	-165.9	-211.8
Mining and quarrying	-7.8	-24.9	-26.6	-27.1	-52.0	-46.2	-53.7	-51.1	-82.1	-72.6	-53.8
Other services and											
not allocated	-1058.8	-2765.6	-4639.3	-4726.2	-4757.4	-4765.8	-4689.1	-4959.4	-4788.8	-4617.5	-4230.9
TOTAL	-4408.6	-9162.2	-15461.8	-22290.6	-31886.9	-37602.4	-41941.2	-46844.1	-59609.1	-65736.3	-75789.6

Source: Authors' calculations based on NBP, 1997–2007.