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Sectoral Dimensions of Poland`s Investment Development Path Revisited,

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SECTORAL DIMENSIONS OF POLAND'S INVESTMENT DEVELOPMENT PATH REVISITED

ABSTRACT

The purpose of the present paper is to determine the changes of the sector and industry structure of FDI and to confront the observed patterns with the hypotheses or predictions derived from the IDP model. At the heart of the IDP model lies the concept of net outward investment (NOI). The NOI position (NOIP), broken down by the main sectors and component industries of the Polish economy, is analyzed for the period of 1996-2016. We develop a conceptual framework of the sectoral shifts in the composition of NOIP along its different stages. Subsequently, our panel regression analysis indicates that the relative share of a sector in inward and outward FDI stocks is positively related to its level of technological intensity and its level of service intensity.

INTRODUCTION

This paper revisits the important but often neglected issue of the changing sector and industry composition of FDI inflows and outflows over the consecutive stages of the investment development path (IDP). The IDP concept has been used as a research framework in numerous studies of the dynamic relationship between FDI and economic development. However, very few of those studies did specifically address the research problem undertaken in this paper. The previous study on this issue, also focused on Poland, requires both an update in terms of the period covered, as well as a fresh look and extended (improved) research methodology.

The purpose of the present paper is to determine the changes of the sector and industry structure of FDI and to confront the observed patterns with the hypotheses or predictions derived from the IDP model. At the heart of the IDP model lies the concept of net outward investment (NOI)¹. The NOI position (NOIP), broken down by the main sectors and component industries of the Polish economy, is analyzed for the period of 1996-2016.

The data sets used in this study were compiled from the database of the National Bank of Poland, which in 1997 started to collect FDI inflow and outflow statistics broken-down by sectors and industries (earlier only aggregate FDI information was collected by the said bank). This, in turn, determined the period covered by the present study. Coincidentally, the beginning of the studied period (1996), marks Poland's transition to stage 2 of her IDP (Gorynia et al., 2007). Thus, the present study focuses on stage 2 and the beginning of stage 3 and attempts to present a relatively comprehensive analysis of the shifts in sector and industry composition of both inward and outward FDI stock, and the resulting sector and industry NOIP.

The authors commence with a literature review and a conceptual (theoretical) framework that guides their research. This is followed by a methodology section and both descriptive and econometric analysis of the changes in the NOIP of the sectors and industries

¹ NOI is the difference between gross outward foreign direct investment stock and gross inward foreign direct investment stock for a given time period, in this case one year.

under study. The paper concludes by presenting the main findings and both policy and theoretical implications stemming there from.

LITERATURE REVIEW AND CONCEPTUAL DEVELOPMENT

The origins of the concept of IDP date back to 1979 when J. Dunning presented the concept's basic tenets at a conference on multinational enterprises in Honolulu (Dunning and Narula, 1996). Since then the IDP concept has been refined and extended several times, with most significant revisions contained in Dunning (1986), Dunning and Narula (1994, 1996 and 2002) and Narula and Dunning (2010). Several other authors have made contributions to the development of this concept, including Lall (1996), and Durán and Úbeda (2001 and 2005).

According to the basic IDP proposition, the inward and outward investment position of a country is tied with its economic development. Changes in the volume and structure of FDI lead to different values in the country's NOIP, calculated as a difference between outward FDI and inward FDI stock. The changing NOI passes through 5 stages intrinsically related to the country's economic development (for the most recent description of these stages, see Dunning and Narula, 2002).² Summary characteristics of the five stages are presented in Table 1.

Parallel to its conceptual development, numerous empirical studies have been conducted to test the validity of the IDP model. The literature review reveals two main strands in these empirical studies. One strand represents multi-country studies using cross-section analysis (see e.g. Durán and Úbeda, 2001 and 2005; Boudier-Bensebaa, 2008). The other strand of studies 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. The latter studies are longitudinal in nature (see e.g. Clegg, 1996; Buckley and Castro, 1998; Barry

² In its original version (Dunning 1981), the path had four stages. The fifth stage was added in Dunning and Narula (1996).

et al., 2003; Bellak, 2001; Gorynia et al., 2007; Maşca and Văidean, 2010; Verma and Brenan, 2011; Ferencikova and Ferencikova, 2012).

Dunning and Narula (1996, p. 22 and 24-25) argue that a cross-section analysis across countries has severe limitations and can only be treated as a surrogate for longitudinal studies. As the IDP is essentially a dynamic concept and every IDP is idiosyncratic and country specific, it can be best analyzed on a country-by-country basis. This view is echoed by Durán and Úbeda (2001). They argue that “the speed and direction of movements along the various phases of IDP depend on a set of factors that influence the economic structure of a country and the type of investment it makes and receives” (ibid, p. 9). These factors include: presence of natural resources; geographic and cultural distance; size of a country; its economic system or development model and its government policy. Furthermore, the use of GDP as a proxy for development does not take into account the changes of the economic structure of a country that progresses through the consecutive stages of the IDP.

The IDP model implies systematic changes in the industry structure that parallel the changes in the NOIP. And yet, as Barry et al. (2003) point out, the IDP model is largely silent on the sector and industry destinations of FDI inflows and outflows (ibid., p. 347). Likewise, in IDP empirical studies the issue of the sector/industry structure of FDI that evolves when a country moves from one stage of its IDP to another is rarely investigated, and even in these rare cases the sector/industry level analysis is usually rudimentary or supplementary to the main topic of macroeconomic analysis of a country’s movement along its IDP trajectory. Only a handful of studies were identified that devote more than cursory attention to the evolving sector and industry structure of FDI in the context of IDP. Several of them are contained in the book edited by Dunning and Narula (eds., 1996), including contributions by: Clegg, Graham, Akoorie, Calderón, Mortimore and Peres, van Hoesel, Kumar, and Zhang and Van Den Bulcke. Some sectoral/industrial analysis of inbound and outbound FDI is also found in the studies by

Twomey (2000) of the Canadian experience with the IDP, by Bellak (2001) of Austria's IDP and by Barry, Georg and McDowell (2003) on Irish IDP and Ferencikova and Ferencikova (2012) on Slovakia's outward FDI and IDP. Twomey's study is noteworthy, as it takes a very long-term perspective, investigating Canada's IDP over the twentieth century and compares the Canadian experience with that of several other countries, both developed and developing.

The studies that specifically address the issue of sector and industry structure of IDP are those of Gorynia et al. (2008 and 2009). These studies, conducted for Poland and covering the years 1996-2005 and 1996-2006, clearly point to the eroding dominance of manufacturing sector and the growing importance of services in both inward and outward FDI. More importantly, the authors observe a rising share of capital- and knowledge-intensive industries while Poland moves over Stage 2 of her IDP. Since Gorynia et al.'s studies do not cover more recent years and more advanced IDP stages, they point to the need to further extend this research endeavour and to take it to the next level. The present paper attempts to do so by undertaking a new study which covers a much longer time period (up to 2016).

The empirical studies reviewed above point to certain important shifts in sector and industry composition of both inward and outward investment taking place when a country progresses from one stage of its IDP to another. These shifts are partly consistent with the deductive predictions derived from Dunning (1997), Dunning and Narula (2002), Dunning and Lundan (2008) and Narula and Dunning (2010), and summarised in Table 1. At the same time, it is evident that the said shifts are far from being uniform across countries. Clearly, country-specific factors (idiosyncrasies) play an important role in shaping the sector and industry patterns of FDI. For example, in the case of New Zealand the historic reforms initiated by the government in 1984 led to a dramatic increase in the inflows of non-resource based FDI, particularly into the banking sector (Akoorie, 1996). Likewise, India's and China's economic liberalisation policies induced the changing structure of inward and outward FDI (Kumar, 1996;

Zhang and Van Den Bulcke, 1996). And Taiwan's dramatically changing sectoral distribution of inward and outward FDI can be linked to that country's rapid industrialisation (van Hoesel, 1996). Some studies point even to paradoxes, such as the "renaissance" of the manufacturing sector as an FDI destination in the US observed by Graham (1996, p. 91). It can be argued that Dunning's predictions regarding sector/industry investment patterns in relation to a country's IDP may not always find confirmation in empirical studies. It is therefore pertinent to test the predictions through rigorous studies, which are focused on the issue of sector/industry changes in inward and outward FDI over the consecutive stages of the IDP model. This is especially true for countries of Central and Eastern Europe where the IDP path can take an unusual shape due to these countries very specific historical and political context. As Narula and Guimón (2010) point out: "The shape and characteristics of the IDP in the CEECs are heavily influenced by the transition from socialism to capitalism taking place during the 1990s and the subsequent accession into the EU of many of these countries in the mid-2000s".

The conceptual framework that the authors use in this research is set out in Table 1. The IDP stages and their characteristics are linked to sector and industry composition of inward and outward FDI in each stage (although stages 4 and 5 are combined as being similar in terms of the structure of FDI). The framework predicts a certain evolution of the sector and industry structure as a country moves through the consecutive stages of its IDP. This evolution is marked by a shift from natural- and labour-intensive industries towards more capital-intensive and then innovation-driven and knowledge- and service-intensive industries within which FDI predominantly occurs. The framework is based on deductive reasoning, as presented in Dunning's and his co-authors' relevant works. The subsequent sections of the paper contain a number of hypotheses derived from this conceptual framework and present both descriptive and econometric analysis to test them.

During the period under study Poland arguably is passing through stage 2 and entering stage 3 of her IDP (Majewska and Buszkowska, 2014; Gorynia et al., 2016). Therefore, the subsequent analyses shall predominantly refer to these two stages.

To summarize the logic of the model in Table 1, we propose the following set of research hypotheses with regard to the changing sectoral structure in the interplay of inward and outward FDI:

Hypothesis 1a: The relative share of a sector in inward FDI stocks is positively related to its level of technological intensity.

Hypothesis 1b: The relative share of a sector in inward FDI stocks is positively related to its service intensity.

Hypothesis 2a: The relative share of a sector in outward FDI stocks is positively related to its level of technological intensity.

Hypothesis 2b: The relative share of a sector in outward FDI stocks is positively related to its service intensity.

***** Table 1 about here *****

RESEARCH DESIGN

In order to address the research objectives of the paper and empirically verify the hypotheses formulated above, we recur to multiple regression analysis in order to test the sectoral patterns of IDP of a mid-range CEE economy of Poland. The timeframe for the analysis spans the period 1996-2016, which covers the beginning of the system transformation in the CEE region and Poland's accession to the European Union (EU), which can be regarded as evidence of advancing institutional alignment with the more developed economies. For the panel data analysis to investigate the overall relationships across the sample, the panel spanned 12 years for 18 industry sectors, therefore leading to a sample of 234 year-observations. While

the panel regression is supposed to shed light on overall trends, their specific reasons are subsequently explored by means of a descriptive analysis, spanning the complete available period of 1996-2016 (see Tables 4-9 and Graphs 1-3 for details).

Our dependent variable in the regression analysis are the shares of particular sectors of the Polish economy in both outward FDI and inward FDI stocks, based on data derived from the National Bank of Poland, 1997–2017. The independent variables pertain to the characteristics of the sectors, namely services (non-manufacturing) vs. manufacturing and the level of technological intensity. While the former is a binary categorization (1 for non-manufacturing or services) based on national industry codes (PKD), the latter relies on the OECD categorization of technological intensity for manufacturing sectors and Eurostat typology of knowledge-intensive services. In order to unify manufacturing and non-manufacturing scales, low-technology industries and less-knowledge intensive service sectors were assigned 1, while knowledge-intensive services and mid to high-tech industrial sectors were coded as 2. The correlation matrix for the variables under study is provided in Table 2.

***** Table 2 about here *****

In line with our research objectives, due to the continuous nature of the dependent variable, OLS regression analyses using the SPSS 24 software package were applied to the share of each sector in inward and outward FDI stocks of Poland. In order to ascertain the appropriateness of all OLS multiple regression models, several assumptions had to be validated. Firstly, before running the regressions, several statistical checks (correlation analysis, independent sample tests) were conducted in order to detect multicollinearity between the explanatory variables, as well as to provide an initial understanding of the relationships between dependent and independent variables (see Table 2). As regards the panel data regression specifically, a fixed-effect model was used. From a conceptual point of view, since individual effects are linked to industry-specific characteristics, they can be assumed to be deterministic

and non-random. From a statistical perspective, a fixed effect model seems more appropriate since the inward and outward FDI shares are examined for sectors which are not randomly drawn from a larger population but belong to a predetermined sample. Additionally, from an econometric perspective, the Hausman specification test led to the rejection of the use of a random effect model in favour of a fixed-effect model.

***** Table 3 about here *****

RESULTS

Panel regression results

Table 3 reports the findings of the regression analysis. Model 1 indicates that the coefficients of the parameters of technological intensity and manufacturing character are both positive and statistically significant at $p < 0.001$, hence providing support for H1a and H1b that the share of a given sector in inward FDI is positively related to its technological intensity and non-manufacturing character.

Likewise, Model 2 indicates that the coefficients of the parameters of technological intensity and manufacturing character are both positive and statistically significant at $p < 0.001$, hence providing support for H2a and H2b that the share of a given sector in outward FDI is positively related to its technological intensity and service intensity (non-manufacturing character).

Descriptive analysis results

While the above regression analysis captures overall patterns related to industry characteristics in an aggregated manner, it does not shed light on the specific sectoral peculiarities and their underlying reasons. These are discussed in the ensuing sections.

Analysis of sectoral NOI positions

Bearing in mind the normative shape of the IDP curve according to the original Dunning model and applying it to what can be seen in Graph 1 the general observation can be made that the overall NOIP as well as the NOIP for the manufacturing and services sectors were all past IDP stage 1 and well into or at the end of IDP stage 2. Also, starting from 1999 until 2016 (see Tables 4 and 5), the rising negative NOIP values for services were of higher magnitude than for manufacturing. This was mainly accounted for by the higher stocks of incoming FDI in the service sector compared with manufacturing, also starting from 1999 (see Tables 6-7). This then shows that the Polish market for services was more attractive to foreign investors than the market for manufactured products. According to the third observation the gap between the IDP curve for services and that for manufacturing was widening throughout the investigated period attesting to the higher attractiveness of services than of manufacturing. In 1999 ratio of NOIP for services to NOIP for manufacturing was 142.7% whereas in 2016 it reached 190.5%. This reflected the higher ratio of incoming FDI stocks for services to manufacturing of 142.4% in 1999 and 213% (much higher) in 2016. In 2016 the current value of the inward FDI stock for services was 131.5 billion USD and for manufacturing only 61.7 billion USD. From 1996 to 2016 (the whole investigated period) the share of services in total inward FDI stocks rose from 34% to a dominating 57.9%. At the same time the share of manufacturing in total inward FDI stocks declined from 40.4% (initially higher than for services) to 27.2% respectively.

***** Table 4 about here *****

***** Table 5 about here *****

***** Graph 1 about here *****

The situation in outgoing FDI stocks was somewhat different (see Tables 8-9). From 1999 until 2003 the FDI stocks for services and manufacturing fluctuated: when one-year services stocks were higher than those for manufacturing during another year the situation was

reversed. This changed in 2004 when Poland accessed the European Union as full member. From that memorable year onwards, the stocks of outward FDI for services were consistently higher than for manufacturing. The dominant drive accounting for this change, lying behind Poland's accession, was of course the promise of unfettered access to the vast market of the EU. In fact, in 2005 the ratio of outward FDI stock in services to outward FDI stock in manufacturing was 159% whereas in 2016 it reached a much higher level of 334.9%. In absolute terms in 2016 the outward FDI stock for services was equal to 32.19 billion USD and for manufacturing only 9.6 billion USD. These numbers point to the unequivocal higher competitiveness of service firms investing out of Poland than of those engaged in the manufacturing sector as their main line of business. Moreover from 1996 to the last year on record, 2016, the share in total outward FDI stocks for services rose from 45.3% to 55.7%. During the same time period the share for outward FDI stocks for manufacturing rose but only from 13.2% to 16.6%. When both these relative shares are compared with those for inward FDI stocks it becomes obvious that as far as FDI is concerned, Poland, during the almost three decades under investigation, has become a very service-oriented economy.

***** Table 6 about here *****

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***** Table 9 about here *****

NOI positions of the main service sector industries

The NOIPs of all the main (selected) service industries recorded fluctuations within the general falling trend (i.e. increasing negative NOIP values) during the investigated period. The leading industry up to 2014 in those negative NOIP values was financial intermediation but from 2015 onwards real estate, R&D and business activities became the leader. This change

was likely a reflection of the surge of outsourcing functions being located by multinational firms in Poland. On the outward FDI stock side financial intermediation, meaning in practice banks and insurance companies, witnessed: a/for three consecutive years (2013-2016) increases in such stock values, and b/ during the last two years (2015-2016) of the investigated period more foreign expansion than real estate, R&D and business activities (see Table 8).

As for trade and repairs, and transports and communication both these industries recorded uninterrupted growth of their negative NOIPs: the former throughout the studied time period and the latter from 2008 onward. These trends were due to the constant increase in inward FDI stocks of trade and repairs attributable to the unending lure of Poland's large interior market for expansion of foreign multinational retail chains and, on the other hand, due to the marked disinvestment recorded for transports and communication, continuing for 12 out of the 21 investigated years. What was worrying for the competitiveness of transports and communication was the absence for the last four years of outward FDI.

The NOIP for hotels and restaurants was fluctuating with a decline in the negative values for this industry decreasing for the last two years on record. What should also be noted were the much lower NOIP values in absolute terms versus all the other investigated service industries, indicating that this industry was much less attractive for foreign investors and showing less outward expansion activity.

***** Graph 2 about here *****

***** Graph 3 about here *****

NOI positions of the main manufacturing sector industries

The whole of the manufacturing sector showed continuous rise in its negative NOIP values with the exception of the year 2009 when a slight decrease appeared due to most probably the aftermath of the 2007-2008 global economic slowdown. Among its constituent

industries the highest negative NOIP values were recorded for motor vehicles and transport equipment, and also for chemical, rubber and plastic products. Both these industries showed fluctuations in these values, with the last two years pointing to the former as the leader.

Food products were third in the rank with a constant rise of negative NOIP values except for the year 2010 when the decrease was the result of lower inward FDI stock due again to recession in the global economy, although outward FDI stock was rising uninterrupted from 2002 to 2012.

The last of the analyzed industries of the manufacturing sector was wood, publishing and printing. In 2016 it had the lowest negative NOIP value of -2.3 billion USD among all the selected manufacturing sector industries and throughout the analyzed time period the said value exhibited constant fluctuations. These were due to few fluctuations in inward FDI stock and many more in outward FDI stock including numerous cases of disinvestment. This situation would indicate that the perceived risk of operating in this industry seemed to be high for firms from Poland wanting to enter foreign markets.

Industries' positioning on the IDP trajectory

One of the key issues in this study has been the attempt to identify which industries of the Polish economy are in what stage or point in that stage on the model IDP trajectory. This is important since it is a reflection of the international competitiveness of the given industry and indirectly of firms expanding abroad from that industry, and also because it provides certain guidelines for possible economic policy changes.

In such a context looking at Tables 4 and 5 as well as Graphs 2 and 3, and focusing on 2016, the last year for which data were available, within the service sector, hotels and restaurants seemed to be closest to the end of IDP stage 2 and/or the beginning of IDP stage 3. However, their absolute NOIP values (as earlier observed) were the lowest among all the

analyzed industries and their change in 2016 over 2015 was only 48%. This might be an indication that this industry was still undervalued by existing and potential investors, and its internationalization potential was only in the course of being initially explored. Next in line was trade and repairs, which also showed a declining rate of negative NOIP growth, thus likewise pointing to its positioning at the end of IDP stage 2 or at the very beginning of IDP stage 3, with a year to year growth of 102.1% in 2016 compared with 111.9% in 2015. Then real estate, R&D and business activities should be mentioned, with a slowdown in the growth of its negative NOIP from 127% in 2015 to 103.6% in 2016. This can also be construed as a sign of this industry moving towards the end of its IDP stage 2. A slightly slower slowdown was recorded for transports and communication, with its negative NOIP having grown from 2015 to 2016 only 104.5% but this trend was observable since 2014 pointing to sustained movement towards the end of IDP stage 2. Indicating movement in quite the opposite direction was financial intermediation, which recorded in 2015 a growth of its negative NOIP of 89% (versus 2014) but in 2016 the said growth rose to 103.7%. Thus, it seemed to remain entrenched in its IDP stage 2 as of 2016, although since 2013 its NOIP movement was in line with the previously described service industries, moving steadily towards their IDP stage 3.

As far as the manufacturing sector is concerned the most visible thrust towards the beginning of IDP stage 3 was observed in the case of wood, publishing and printing. Its year to year NOIP growth rate declined from 162.3% in 2014 to only 75% in 2016. For chemical, rubber and plastic products the year to year NOIP percentage change fluctuated constantly, however for the last two years these changes were below 100% of the previous year thus pointing towards a possible advance to the end of the industry's IDP stage 2. The opposite, ascending negative NOIP tendency was visible in motor vehicles and transport equipment, with a year to year NOIP growth of 114.8% and in food products with its NOIP growing 120.5% in 2016. In both these industries the yearly registered growth rate also grew compared with 2015

indicating a continuing trend away from IDP stage 3 and proceeding on the descending path of stage 2.

If all the above changes are viewed now from the perspective of technology, capital and knowledge intensity and their joint influence on the competitiveness of the investigated industries and thus on the movement on their respective sectoral IDP trajectories the following observations can be made. The service industries, as an industry sector, by their nature, being less intensive in their use of these factors were paradoxically closer to the end of this sector's IDP stage 2. Inside this sector the desired movement towards IDP stage 3 was spread in reverse order to each constituent industry's endowment of knowledge and/or high technology, and/or capital, ranging from the top positioned but least endowed hotels and restaurants to the estimated most endowed, at the bottom of the list, financial intermediation.

The manufacturing sector, on the other hand, using more intensively the above cited factors, exhibited a less clear tendency. Half of the analyzed manufacturing industries (wood, publishing and printing plus chemical, rubber and plastic products) did move towards the end of their IDP stage 2, whereas the other two (food products plus motor vehicles and transport equipment) seemed to pursue their stay and prolong the duration of their IDP stage 2. What appeared curious was that inside those two groups there was a mix of industries with a high as well as and low endowment of knowledge and/or high technology, and/or capital. Thus, in the first group food products and in the second group wood, publishing and printing, could be classified as relatively low intensive with respect to those factors whereas motor vehicles and transport equipment in the first group and chemical, rubber and plastic products in the second group could fall into the high endowed category. One explanation of this duality might reside in the continuing appeal and lure of Poland's large internal market for the two industries in the second group which was leading to still more investment flowing in than flowing out of the country.

Outside the analyzed structure of the Polish economy lies the baffling issue of the role of those industries that have been hidden under the statistical heading of “remaining, unclassified”. Firstly, it should be stressed that the share of that sector’s NOIP (negative value) in 1996 in total NOIP value was 24.3% whereas in 2016 it went down to 4% but reaching a staggering positive value of 6.64 billion USD. This sector thus showed an evolution, in terms of its IDP trajectory, moving to its highest registered negative NOI value already in 1998, indicating positioning in its IDP stage 2, then showing a minimal negative NOIP of 21.9 million USD, meaning positioning in the later part of its IDP stage 3, then one year later registering already a positive NOI value which meant entry into IDP stage 4. Thereafter the NOI values remained positive with the exception of the year 2009, what was probably due to the aftermath of the economic slowdown of 2007. These positive values fluctuated and then for the last three years remained stable, indicating (according to Dunning’s original IDP paradigm) positioning on the final IDP stage 5. On this upward move along its IDP trajectory there was a sudden surge of NOI value in 2013 of almost 11 times its value from the previous year. This was due to a high disinvestment in inward FDI stock, in 2013, of 4.6 billion USD which continued for the remaining three years but at a slightly lower level. At the same time (since 2014) outward FDI stock remained stable at a level of 2.1 billion USD. Discovering and probing into the identity of the industries classified in this sector would definitely shed more light about their extraordinary competitiveness potential and performance, because paradoxically, at face value, it seems to be the most competitive one, in the light of available albeit scant in-depth evidence.

DISCUSSION AND CONCLUSIONS

The key findings of this study are compared here with those conducted in a similar research project in 2007 and covering the period from 1996 to 2005. The first two findings of the earlier study are corroborated by the present one. Thus, firstly the value of Poland’s outward

FDI stock was markedly smaller than that of her inward FDI stock. The share of outward to inward FDI stock in 1996 was only 1.2% but in 2016 it had gone up to 25.4%. This asymmetry reflected the still existing and marked disparity between the competitiveness of domestic Polish firms and their foreign competitors. Secondly, the said disparity could be observed in the negative NOI values: in relatively high technology and/or knowledge, and/or capital-intensive industries the said negative NOI values were highest. In relatively lower technology and/or knowledge intensive, and/or light industries the respective negative NOI values were lowest.

In both studies it was observed that in the manufacturing sector as well as in services and in the remaining and unclassified category the year to year percentage change of NOI values would increase, usually two years before Poland's accession to the EU in 2004 as full member, and then that or one year later they would slow down considerably. This phenomenon could be due to the thrust of outward investing firms from Poland made to obtain first mover advantages and/or consolidate and sustain earlier acquired market shares.

Both studies also noted that starting from 1999 services became the leading sector with respect to the highest negative NOI values, replacing manufacturing up to that year. This was replicated by the same proportions in inward FDI stock, also from 1999 and in outward FDI stock, in this case continuously from 2004 onwards. The starting point of 2004 for domination of services in outward investment was probably due the investing firms attempting to secure initial advantage connected with access to the wider EU market via the aforementioned Poland's accession to the EU that year.

The present study, extending the investigated time period beyond 2005 found that most industries were moving towards the end of stage 2 on their IDP trajectories or could be even said to be at the very beginning of stage 3. Only a minority were classified as deepening or extending their stay in their IDP stage 2. Those that were pushing ahead were usually not the most capital, knowledge or technology intensive. There remained however the unexplained

issue of the mysterious outlier, the “remaining and unclassified” sector with its observed evolution having tentatively gone through all the IDP stages including the last stage 5, which in Dunning’s original model was reserved for mature, developed economies, which remain still separated from Poland by a wide development gap.

The previous referenced study on the same set of issues stressed the necessity to shift the focus of economic policy measures from attracting and facilitating inward FDI to supporting and facilitating outward expansion of Polish firms, including foreign production via FDI. The current appraisal of this guideline is generally positive, i.e. many initiatives undertaken for the past few years, at various levels of government business interface create an image and perception of government actively engaged in assisting Polish firms in their internationalization process.³

Pursuing further the issue of support for Polish firms contemplating or trying to enter foreign markets, or already operating abroad and attempting to extend their global reach, the question of selectivity should be raised, as an approach designed to increase the quality and effectiveness of such support. Perhaps, in this context, measures should be designed and addressed with a more specific focus. Firstly, to aid and/or assist firms in those industries which are closest, according to this study, to the end of their IDP stage 2 or beginning of stage 3. Such measures/instruments could include created asset upgrading programs allowing such firms to acquire and absorb a combination of the crucial factors generating international competitive potential, i.e. state of the art technologies, knowledge and know-how, capital, and marketing expertise. The reduction or elimination of the relative deficiencies of those factors in firms from the said industries could improve their competitive performance and, from the point of view of this study, speed up the movement of their industries upward on their IDP trajectories. This recommendation applies first of all to the Polish service sector firms.

³ For a more detailed elaboration of the latest accomplishments and further suggestions in this area see M. Gorynia et al., 2015.

Secondly, in this same conceptual framework, assistance and support should be offered to firms in those industries, especially in the manufacturing sector, which are already classified as technology and/or know-how and/or knowledge and/or capital intensive. In this case the size criterion should be key in allocating funds and other assistance components of support programs, since still it is the small and/or medium sized Polish firm that faces the biggest challenges in this field.

Thirdly, in the context of supporting small and/or medium sized Polish firms just embarking on their internationalization paths or further extending their initial foreign operations to other countries and regions, the issue of government support for inter-firm cooperation should be stressed. Firstly, through education and thereafter by concrete financial and material support tools the idea of such cooperation, ranging from just simple exporting to the more complex forms like foreign investment via joint-venture formation, should be actively promoted. This is in line with received literature that business or strategic alliance formation is an important element of current competition structures and strategies in many international markets.

Last (but not least) is the issue of addressing the country of origin or country image effect that influences the perception and consequently the willingness to buy Polish products abroad. This important marketing concept has so far generally received little or no attention from government but strangely also from business in Poland. Thus, to remedy this deficiency government programs should be introduced that would firstly explore, then identify, implement and monitor all aspects of country image formation and change. Such programs, because they are focused on influencing buyer attitudes towards products, are normally long term oriented and therefore usually quite expensive. This is why they should be at least partly government financed. Their objective should be twofold: to sustain a positive image of Polish products on

foreign markets, if it does exist, or attempt to change a negative image to a positive one (which is of course in most cases much more difficult to accomplish).

REFERENCES

Akoorie, M. (1996). New Zealand: The Development of a Resource-rich Economy. In J.H. Dunning and R. Narula (eds.), *Foreign Direct Investment and Governments*, London and New York: Routledge, 174-206.

Barry, F., Goerg, H. and McDowell, A. (2003). Outward FDI and the Investment Development Path of a Late-Industrializing Economy: Evidence from Ireland, *Regional Studies*, 37(4), 341-349.

Bellak, C. (2001). The Austrian Investment Development Path, *Transnational Corporations*, 10(2), 68-107.

Boudier-Bensebaa, F. (2008). FDI-assisted development in the light of the investment development path paradigm: Evidence from Central and Eastern European countries, *Transnational Corporations*, 17(1), 37-67.

Buckley, P.J. and Castro, F.B. (1998). The Investment Development Path: the Case of Portugal. *Transnational Corporations*, 7(1), 1-15.

Calderón, A., Mortimore, M. and Peres, W. (1996). Mexico: Foreign Investment as a Source of International Competitiveness. In J.H. Dunning and R. Narula (eds.), *Foreign Direct Investment and Governments*, London and New York: Routledge, 240-279.

Clegg, J. (1996). The United Kingdom: a Par Excellence Two-Way Direct Investor. In J.H. Dunning and R. Narula (eds.), *Foreign Direct Investment and Governments*, London and New York: Routledge, 42-77.

Dunning, J.H. (1981). Explaining the International Direct Investment Position of Countries: Towards a Dynamic or Developmental Approach, *Weltwirtschaftliches Archiv*, 117, 30-64.

Dunning, J.H. (1986). The Investment Development Cycle Revisited, *Weltwirtschaftliches Archiv*, 122, 667-677.

Dunning, J.H. (1997). *Alliance Capitalism and Global Business*. London and New York: Routledge.

Dunning, J.H. and Narula, R. (1994). Transpacific Direct Investment and the Investment Development Path: The Record Assessed. *Essays in International Business*, 10, 1-69.

Dunning, J.H. and Narula, R. (1996). The Investment Development Path Revisited: Some Emerging Issues. In J.H. Dunning and R. Narula (eds.), *Foreign Direct Investment and Governments: Catalysts for Economic Restructuring*, London and New York: Routledge, 1-41.

Dunning, J.H. and Narula, R. (eds.) (1996). *Foreign Direct Investment and Governments: Catalysts for Economic Restructuring*, London and New York: Routledge.

Dunning, J.H. and Narula R. (2002). The Investment Development Path Revisited. In J.H. Dunning, *Theories and Paradigms of International Business Activity. The Selected Essays of John H. Dunning, Volume 1*, Cheltenham, UK and Northampton, MA: Edward Elgar, 138-172.

Dunning, J.H. and Lundan, S.M. (2008). *Multinational Enterprises and the Global Economy*. 2nd Edition, Cheltenham, UK: Edward Elgar.

Durán, J.J. and Úbeda, F. (2001). The Investment Development Path: a New Empirical Approach. *Transnational Corporations*, 10 (2), 1-34.

Durán, J.J. and Úbeda, F. (2005). The Investment Development Path of Newly Developed Countries. *International Journal of the Economics of Business*, 12(1), 123-137.

Ferencikova, S. Sr. and Ferencikova, S. Jr. (2012). Outward Investment Flows and the Development Path. The Case of Slovakia, *East European Economics*, 50(2), 85-111.

Fonesca, M.R., Mendonça, A. and Passos, J. (2016). The Paradigm of the Investment Development Path: Does It Hold for Portugal? Evidence for the Period 1990-2011. *Working Paper* no. 139, Lisbon School of Economics and Management.

Gorynia, M., Nowak, J. and R. Wolniak (2007). Poland and Its Investment Path, *Eastern European Economics*, 45 (2), 52-74.

Gorynia, M., Nowak, J. and Wolniak, S. (2008). Poland's Investment Development Path and Industry Structure of FDI Inflows and Outflows. *Journal of East-West Business*, 15(2), 189-212.

Gorynia, M., Nowak, J. and Wolniak, S. (2009). Poland's Investment Development Path: In Search of a Synthesis. *International Journal of Economic Policy in Emerging Economies*, 2(2), 153-174.

Gorynia, M., Nowak, J. Trąpczyński, P. and Wolniak, R. (2015). Should Governments Support Outward FDI? The Case of Poland. In S. Marinova (ed.), *Institutional Impacts on Firm Internationalization*, New York: Palgrave Macmillan, 120-145.

Gorynia, M., Nowak, J. Trąpczyński, P. and Wolniak, R. (2016). EU Countries from Central and Eastern Europe, and the Investment Development Path Model: A New Assessment.

A competitive paper presented at the European International Business Academy (EIBA) 42nd Annual Conference, Vienna, Austria, December 2-4.

Graham, E.M. (1996). The United States: Some Musings on its Investment Development Path. In: J.H. Dunning and R. Narula (eds.), *Foreign Direct Investment and Governments: Catalysts for Economic Restructuring*, London and New York: Routledge, 78-100.

Kumar, N. (1996). India: Industrialization, Liberalization, and Inward and Outward Foreign Direct Investment. In J.H. Dunning and R. Narula (eds.), *Foreign Direct Investment and Governments*, London and New York: Routledge, 348-379.

Lall, S. (1996). The Investment Development Path: Some Conclusions. In J.H. Dunning and R. Narula (eds.), *Foreign Direct Investment and Governments: Catalysts for Economic Restructuring*, London and New York: Routledge, 423-441.

Majewska, M. and Buszkowska, E. (2014). The Changes in the Position of Poland on Its Investment Development Path: The Results of the Empirical Analysis. *Optimum. Studia Economiczne*, 5 (71), 159-171.

Maşca, S.G. and Văidean, V.L. (2010). Outward FDI and the Investment Development Path in Romania, *Young Economists Journal*, 1(15S), 27-38.

Narula, R. and Guimón, J. (2010). The investment development path in a globalised world: implications for Eastern Europe. *Eastern Journal of European Studies*, 1(2), 5-19.

Narula, R. and Dunning, J.H. (2010), Multinational enterprises, development and globalisation: Some clarifications and a research agenda, *Oxford Development Studies*, 38(3), 263-287.

Van Hoesel, R. (1996). Taiwan: Foreign Direct Investment and the Transformation of the Economy. In J.H. Dunning and R. Narula (eds.), *Foreign Direct Investment and Governments*, London and New York: Routledge, 280-315.

Verma, R. and Brennan, L. (2011). The investment development path theory: evidence from India, *International Journal of Emerging Markets*, 6 (1), 74-89.

Zhang, H.-Y. and Van Den Bulcke, D. (1996). China: Rapid Changes in the Investment Development Path. In J.H. Dunning and R. Narula (eds.), *Foreign Direct Investment and Governments*, London and New York: Routledge, 380-422.

TABLES AND FIGURES

Table 1. IDP Stages and the Sector/Industry Structure of Inward and Outward FDI –

A Conceptual Framework

Stages of IDP	Characteristics	Sector/Industry Structure
<i>Stage 1:</i> Natural resource- and labour-intensive based	<p>Countries in this stage derive international competitive advantage mainly from their possession of natural resources and abundance of low-cost labour.</p> <p>The NOI position is negative and its negative value is increasing due to the growth in inward FDI, flowing mostly to take advantage of the country's natural assets, at negligible outward FDI levels.</p>	<p>Inward FDI (IFDI) is likely to be attracted to the primary product sector and to labour-intensive manufacturing, such as mining, agribusiness, fishing and textiles. Outward FDI (OFDI), if existing, is of trade-supporting and/or asset-seeking kind.</p>
<i>Stage 2:</i> Capital investment driven	<p>A country's competitive advantage gradually shifts from resource-based and low-cost labour industries towards capital intensive sectors.</p> <p>Rapidly growing IFDI, accompanied by a slow growth in OFDI, contribute to increasing negative values of NOI. As OFDI growth accelerates, the NOI stops to deteriorate at the end of stage 2.</p>	<p>IFDI shifts from resource-based and labour-intensive industries towards capital-intensive industry segments, such as basic chemicals, iron & steel, shipbuilding and mechanical engineering activities. IFDI also flows to moderately knowledge-intensive consumer goods (clothing, leather goods, processed foods, electric appliances).</p> <p>OFDI flows mainly to other stage 2 countries and is of resource- and market-seeking kind.</p> <p>The predominance of investment in natural resources and in manufacturing gradually erodes, while investment in services gains in importance.</p>

Stage 3: Innovation driven	<p>OFDI is growing faster than IFDI. NOI negative values decrease to zero. A country begins to resemble a developed one in terms of income and industrial structure.</p> <p>The stage is marked by a shift of emphasis from capital investment to innovation-driven growth. Indigenous firms begin to generate their own O advantages, which they exploit first through exports and then OFDI.</p>	<p>IFDI flows to industries supplying more sophisticated products and requiring more skilled labour. It helps the host country to restructure its activities away from natural resource intensive industries towards innovation-intensive sectors, including services. OFDI, in addition to resource- and market-seeking motives, is geared towards efficiency- and strategic assets-seeking ones (seeking technology, brand names and management skills). It is focused on mass-produced differentiated consumer goods and service investment, e.g. in banking and construction.</p>
Stages 4 and 5: Knowledge and service intensive	<p>Countries record high levels of both IFDI and OFDI. The NOI first grows significantly above zero (stage 4) and then fluctuates around the zero level (stage 5). Substantial intra-firm and intra-industry FDI takes place, revolving around created assets. Ownership advantages of indigenous firms match those of other developed countries. There is an increased role of M&As and business alliances.</p>	<p>Inward FDI becomes increasingly efficiency- and strategic asset-seeking. Both IFDI and OFDI focus on investment in knowledge-intensive sectors, e.g. ICT, biotechnology, nanotechnology, and high value-added services, e.g. consulting.</p>

Source: Authors' own conceptualization based on: Dunning (1997), Dunning and Narula (2002), Dunning and Lundan (2008), and Narula and Dunning (2010).

Table 2. Correlation Matrix for Key Variables

	1	2	3	4	5
1. IFDI share	1				
2. OFDI share	.738 ^{***}	1			
3. NOIP	-0.466 ^{***}	-.230 ^{***}	1		
4. Technological intensity	0.061	.077	.012	1	
5. Service	0.392 ^{***}	.268 ^{***}	-.173 ^{**}	-.570 ^{***}	1

*** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; [†] $p < 0.10$; $N = 100$.

Table 3. Panel Regression Models (Standardized β)

	Model 1 IFDI share	Model 2 OFDI share
Technological intensity	0.42 ^{***} (0.82)	0.34 ^{***} (1.15)
Service	0.63 ^{***} (0.79)	0.46 ^{***} (1.13)
Year	0.03 (0.09)	-0.01 (0.12)
Adj. R ²	0.265	0.139
Std. error	5.02	7.07
F	28.97 ^{***}	13.5 ^{***}
N	234	234

Standard errors in parentheses. *** $p < 0.001$; ** $p < 0.01$; * $p < 0.05$; [†] $p < 0.10$; #Panel data for 18 sectors and 12 years ($N = 234$).

Source: Authors' calculations based on SPSS 24 software package.

Table 4. The Sector/Industry NOIP for Poland, 1996-2016, in Million USD at Current Prices

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Manufacturing, of which:	-1793.4	-3239.3	-5436.3	-7090.4	-9183.1	-10407.1	-11869.4	-13714.0	-18519.4	-20124.7	-21682.2	-27561.6	-29217.0	-31883.6	-31007.0	-34916.2	-38401.5	-40074.4	-44675.0	-48110.9	-52120.0
<i>Food products</i>	-588.6	-940.0		-1859.0	-2269.4	-2377.6	-2542.4	-2702.5	-2848.9	-3200.6	-3552.6	-3927.8	-4281.8	-5373.6	-3729.4	-4237.3	-4425.8	-4682.7	-4703.6	-5265.7	-6343.4
<i>Motor vehicles and transport equipment</i>		-536.2	-938.2	-1233.3	-1534.5	-1684.9	-2095.2	-2811.8	-3884.6	-4227.3	-4985.6	-6075.4	-5203.2	-5818.6	-7068.2	-6449.5	-8436.8	-9243.4	-10432.4	-11597.7	-13312.2
<i>Wood, publishing and printing</i>				-626.7	-910.8	-993.8	-1119.8	-1313.3	-2124.2	-2092.5	-2515.2	-3305.7	-3017.6	-3711.9	-546.2	-973.0	-1429.3	-1612.1	-2616.0	-3041.7	-2280.4
<i>Chemical, rubber and plastic products</i>					-1469.9	-1659.1	-2180.7	-2490.8	-3267.4	-3540.3	-4730.6	-5681.0	-6497.0	-6871.6	-8680.2	-9154.2	-9424.6	-9952.5	-10938.8	-10492.3	-10482.6
Services, of which:	-1493.4	-3059.2	-5150.1	-10120.9	-17049.0	-21129.8	-23224.0	-25672.6	-32603.7	-36742.0	-43975.4	-53629.7	-61027.5	-64981.9	-69185.7	-73726.8	-78891.8	-86101.6	-89640.5	-96184.5	-99278.7
<i>Financial intermediation</i>	-596.2	-1467.1	-2524.8	-4676.8	-6693.9	-8855.0	-10452.5	-11017.0	-13149.4	-14455.4	-15799.0	-19027.3	-23233.1	-25238.9	-21405.9	-25990.6	-32551.8	-30521.6	-28277.0	-25167.9	-26095.2
<i>Trade and repairs</i>	-591.7	-1007.7	-1838.2	-2629.4	-3378.4	-4215.4	-5074.7	-6496.6	-7899.4	-10070.7	-12121.2	-14333.9	-15185.7	-16516.3	-18660.5	-19045.2	-19114.2	-21600.2	-22312.0	-24969.5	-25493.5
<i>Transports, communication</i>	-147.0	-198.3	-194.7	-1915.5	-5555.8	-6580.8	-5721.6	-5608.8	-8037.8	-7628.4	-8703.8	-9507.7	-8758.7	-9000.6	-9057.9	-9294.8	-9746.7	-14532.8	-16665.6	-17892.9	-18695.3
<i>Real estate, R&D, business activities</i>		-394.4	-594.9	-877.0	-1314.5	-1400.4	-1863.6	-2400.5	-3383.6	-4422.9	-7140.9	-10404.2	-13529.7	-13869.0	-19701.1	-19007.5	-16985.6	-19012.8	-21928.6	-27855.4	-28850.2
<i>Hotels and restaurants</i>		8.3		-19.1	-103.5	-75.2		-147.7	-131.6	-162.7	-208.6	-354.7	-318.4	-355.2	-358.4	-386.8	-491.6	-432.3	-455.4	-296.8	-142.4
Other	-52.3	-90.3	-237.5	-432.7	-1008.0	-1402.0	-2321.6	-2964.5	-3921.7	-3847.0	-5189.4	-7317.6	-9922.3	-11249.8	-16097.3	-19827.5	-16288.3	-16235.1	-20875.1	-21168.8	-19919.2
Remaining, unclassified	-1069.2	-2772.2	-4649.8			-21.9	106.2	119.0	111.7		267.4	65.6	6.2	-532.2	995.4	712.1	480.3	5229.9	6640.8	6640.8	6640.8
TOTAL	-4408.4	-9161.0	-15473.7	-22300.7	-31898.1	-37617.6	-41965.6	-46888.8	-59589.9	-65266.9	-75320.2	-93183.9	-104901.2	-113388.1	-120035.2	-132499.0	-137841.9	-141921.8	-153290.4	-163564.0	-169417.7

Source: Authors' calculations based on National Bank of Poland, 1996-2017.

Table 5. Percentage Change in Sector/Industry NOIP over Previous Year

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Manufacturing, of which	180.6	167.8	130.4	129.5	113.3	114.1	115.5	135.0	108.7	107.7	127.1	106.0	109.1	97.3	112.6	110.0	104.4	111.5	107.7	108.3	
<i>Food products</i>	159.7			122.1	104.8	106.9	106.3	105.4	112.3	111.0	110.6	109.0	125.5	69.4	113.6	104.4	105.8	100.4	111.9	120.5	
<i>Motor vehicles and transport equipment</i>		175.0	131.5	124.4	109.8	124.4	134.2	138.2	108.8	117.9	121.9	85.6	111.8	121.5	91.2	130.8	109.6	112.9	111.2	114.8	
<i>Wood, publishing and printing</i>				145.3	109.1	112.7	117.3	161.7	98.5	120.2	131.4	91.3	123.0	14.7	178.1	146.9	112.8	162.3	116.3	75.0	
<i>Chemical, rubber and plastic products</i>					112.9	131.4	114.2	131.2	108.4	133.6	120.1	114.4	105.8	126.3	105.5	103.0	105.6	109.9	95.9	99.9	
Services, of which:	204.9	168.3	196.5	168.5	123.9	109.9	110.5	127.0	112.7	119.7	122.0	113.8	106.5	106.5	106.6	107.0	109.1	104.1	107.3	103.2	
<i>Financial intermediation</i>	246.1	172.1	185.2	143.1	132.3	118.0	105.4	119.4	109.9	109.3	120.4	122.1	108.6	84.8	121.4	125.2	93.8	92.6	89.0	103.7	
<i>Trade and repairs</i>	170.3	182.4	143.0	128.5	124.8	120.4	128.0	121.6	127.5	120.4	118.3	105.9	108.8	113.0	102.1	100.4	113.0	103.3	111.9	102.1	
<i>Transports, communication</i>	135.0	98.2	983.7	290.0	118.5	86.9	98.0	143.3	94.9	114.1	109.2	92.1	102.8	100.6	102.6	104.9	149.1	114.7	107.4	104.5	
<i>Real estate, R&D, business activities</i>		150.8	147.4	149.9	106.5	133.1	128.8	141.0	130.7	161.5	145.7	130.0	102.5	142.1	96.5	89.4	111.9	115.3	127.0	103.6	
<i>Hotels and restaurants</i>				541.6	72.7			89.1	123.7	128.2	170.0	89.8	111.6	100.9	107.9	127.1	87.9	105.3	65.2	48.0	
Other	172.4	263.1	182.2	233.0	139.1	165.6	127.7	132.3	98.1	134.9	141.0	135.6	113.4	143.1	123.2	82.2	99.7	128.6	101.4	94.1	
Remaining, unclassified	259.3	167.7				-484.9	112.1	93.9				24.5	9.5	-8583.9	-187.0	71.5	67.4	1088.9	127.0	100.0	100.0
TOTAL	207.8	168.9	144.1	143.0	117.9	111.6	111.7	127.1	109.5	115.4	123.7	112.6	108.1	105.9	110.4	104.0	103.0	108.0	106.7	103.6	

Source: Authors' calculations based on National Bank of Poland, 1996-2017.

Table 6. Industry Structure of Inward FDI Stocks in Poland, 1996-2016, in Million USD at Current Prices

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Manufacturing, of which	1800.4	3255.3	5522.3	7172.9	9277.1	10465.2	11930.5	14012.9	19016.3	21539.2	26003.5	32777.2	34884.0	39633.6	40273.8	45478.1	49071.6	50864.0	54538.2	57693.7	61730.6
<i>Food products</i>	591.6	944.0	1693.3	1859.4	2270.0	2379.5	2546.3	2708.9	2910.9	3402.7	3774.9	4188.4	4708.9	7098.0	5831.8	6534.6	6788.2	7007.8	7040.3	7505.3	8565.8
<i>Motor vehicles and transport equipment</i>	347.0	537.2	1003.2	1294.8	1597.2	1693.7	2102.0	2844.6	3980.1	4376.8	5172.4	6291.4	5622.7	6382.5	7713.1	7808.5	10057.5	10998.8	12331.1	13562.6	14972.6
<i>Wood, publishing and printing</i>	9.6	226.2	387.7	627.3	912.7	1001.4	1133.7	1251.6	2073.4	2129.5	2561.0	3356.3	3194.6	3875.7	783.6	1278.5	1435.0	1465.7	2542.4	3027.6	2507.3
<i>Chemical, rubber and plastic products</i>	258.9	545.4	853.0	1171.6	1477.0	1665.5	2184.3	2482.0	3263.1	3579.8	4939.3	5995.2	6763.2	7298.1	9550.7	10255.2	10961.5	11519.2	12156.8	11795.7	11816.1
Services, of which:	1517.4	3090.2	5190.1	10210.7	17140.5	21112.9	23269.9	25772.2	33393.7	39762.9	52238.1	65120.6	74819.5	81357.4	89352.3	98652.5	101529.5	105516.1	112224.5	122425.5	131467.3
<i>Financial intermediation</i>	603.2	1479.1	2539.8	4749.1	6738.8	8794.6	10462.2	11025.8	13544.3	16534.5	18659.0	22094.0	26560.7	28804.5	27505.6	32226.9	37156.5	35885.6	35847.6	37523.1	38580.9
<i>Trade and repairs</i>	606.7	1029.7	1844.2	2630.4	3385.8	4198.6	5040.9	6486.1	8125.8	10567.0	13607.3	16502.6	18696.4	19929.3	23161.4	24358.5	25372.5	27883.0	28637.8	31521.6	33037.6
<i>Transports, communication</i>	149.0	197.3	201.7	1931.6	5583.7	6617.2	5761.4	5589.3	8020.1	7600.1	8702.8	9524.8	8768.3	8995.1	8567.5	9079.4	9992.6	13405.6	15478.8	16343.9	18683.4
<i>Real estate, R&D, business activities</i>	156.0	395.4	609.9	879.5	1327.7	1426.3	1895.8	2523.3	3571.7	4899.0	11061.1	16643.5	20469.5	23269.3	29753.5	32517.3	28338.0	27714.8	31604.7	36341.7	40466.1
<i>Hotels and restaurants</i>	2.6	-11.3	-5.5	20.0	104.6	76.2	109.7	147.7	131.9	162.4	208.0	355.8	324.7	359.3	364.4	470.5	670.0	627.2	655.6	695.2	699.3
Other	54.3	97.3	251.5	431.4	1010.7	1460.9	2353.0	2990.9	3981.8	4165.3	6042.5	8777.6	11685.1	13561.5	19068.2	25310.1	24927.5	26953.2	30768.1	32680.1	33528.1
Remaining, unclassified	1089.2	2816.2	4923.8	4930.8		18.8	82.4	83.4	83.8		125.4	346.1	360.9	895.1	626.1	499.3	470.6	-4600.2	-4531.6	-4531.6	-4531.6
TOTAL	4461.4	9259.0	15887.7	22745.7	32359.1	37988.6	42566.6	47790.1	61406.4	70482.0	89424.1	112036.1	126764.1	140462.2	154335.0	174954.6	181013.8	183747.7	198013.9	213282.3	227209.0

Source: Authors' calculations based on National Bank of Poland, 1997-2017.

Table 7. Industry Structure of Percentage Shares of Inward FDI Stocks in Poland, 1996-2016

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Manufacturing, of which	40.4	35.2	34.8	31.5	28.7	27.5	28.0	29.3	31.0	30.6	29.1	29.3	27.5	28.2	26.1	26.0	27.1	27.7	27.5	27.1	27.2
<i>Food products</i>	13.3	10.2	10.7	8.2	7.0	6.3	6.0	5.7	4.7	4.8	4.2	3.7	3.7	5.1	3.8	3.7	3.8	3.8	3.6	3.5	3.8
<i>Motor vehicles and transport equipment</i>	7.8	5.8	6.3	5.7	4.9	4.5	4.9	6.0	6.5	6.2	5.8	5.6	4.4	4.5	5.0	4.5	5.6	6.0	6.2	6.4	6.6
<i>Wood, publishing and printing</i>	0.2	2.4	2.4	2.8	2.8	2.6	2.7	2.6	3.4	3.0	2.9	3.0	2.5	2.8	0.5	0.7	0.8	0.8	1.3	1.4	1.1
<i>Chemical, rubber and plastic products</i>	5.8	5.9	5.4	5.2	4.6	4.4	5.1	5.2	5.3	5.1	5.5	5.4	5.3	5.2	6.2	5.9	6.1	6.3	6.1	5.5	5.2
Services, of which:	34.0	33.4	32.7	44.9	53.0	55.6	54.7	53.9	54.4	56.4	58.4	58.1	59.0	57.9	57.9	56.4	56.1	57.4	56.7	57.4	57.9
<i>Financial intermediation</i>	13.5	16.0	16.0	20.9	20.8	23.2	24.6	23.1	22.1	23.5	20.9	19.7	21.0	20.5	17.8	18.4	20.5	19.5	18.1	17.6	17.0
<i>Trade and repairs</i>	13.6	11.1	11.6	11.6	10.5	11.1	11.8	13.6	13.2	15.0	15.2	14.7	14.7	14.2	15.0	13.9	14.0	15.2	14.5	14.8	14.5
<i>Transports, communication</i>	3.3	2.1	1.3	8.5	17.3	17.4	13.5	11.7	13.1	10.8	9.7	8.5	6.9	6.4	5.6	5.2	5.5	7.3	7.8	7.7	8.2
<i>Real estate, R&D, business activities</i>	3.5	4.3	3.8	3.9	4.1	3.8	4.5	5.3	5.8	7.0	12.4	14.9	16.1	16.6	19.3	18.6	15.7	15.1	16.0	17.0	17.8
<i>Hotels and restaurants</i>	0.1	-0.1	0.0	0.1	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.3	0.4	0.3	0.3	0.3	0.3
Other	1.2	1.1	1.6	1.9	3.1	3.8	5.5	6.3	6.5	5.9	6.8	7.8	9.2	9.7	12.4	14.5	13.8	14.7	15.5	15.3	14.8
Remaining, unclassified	24.4	30.4	31.0	21.7		0.0	0.2	0.2	0.1		0.1	0.3	0.3	0.6	0.4	0.3	0.3	-2.5	-2.3	-2.1	-2.0
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: Minus (-) sign signifies disinvestment/withdrawal of capital to investor's home country. Percentage shares may not add up to 100 because of rounding.

Source: Authors' calculations based on National Bank of Poland, 1997-2017.

Table 8. Industry Structure of Outward FDI Stocks from Poland, 1996-2016, in Million USD at Current Prices

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Manufacturing; of which	7.0	16.0	86.0	82.5	94.0	58.1	61.1	298.9	496.9	1414.5	4321.3	5215.6	5667.0	7750.0	9266.8	10561.9	10670.1	10789.6	9863.2	9582.8	9610.6
<i>Food products</i>	3.0	4.0		0.4	0.6	1.9	3.9	6.4	62.0	202.1	222.3	260.6	427.1	1724.4	2102.4	2297.3	2362.4	2325.1	2336.7	2239.7	2222.4
<i>Motor vehicles and transport equipment</i>		1.0	65.0	61.5	62.7	8.8	6.8	32.8	95.5	149.5	186.8	216.0	419.5	563.9	644.9	1359.0	1620.7	1755.4	1898.7	1964.8	1660.5
<i>Wood, publishing and printing</i>				0.6	1.9	7.6	13.9	-61.7	-50.8	37.0	45.8	50.6	177.0	163.8	237.4	305.5	5.7	-146.4	-73.7	-14.1	227.0
<i>Chemical, rubber and plastic products</i>					7.1	6.4	3.6	-8.8	-4.3	39.5	208.7	314.2	266.2	426.5	870.5	1101.0	1536.9	1566.7	1218.0	1303.4	1333.5
Services, of which:	24.0	31.0	40.0	89.8	91.5	-16.9	45.9	99.6	790.0	3020.9	8262.7	11490.9	13792.0	16375.5	20166.6	24925.7	22637.7	19414.5	22584.0	26241.0	32188.6
<i>Financial intermediation</i>	7.0	12.0	15.0	72.3	44.9	-60.4	9.7	8.8	394.9	2079.1	2860.0	3066.7	3327.6	3565.6	6099.7	6236.3	4604.7	5364.0	7570.6	12355.2	12485.7
<i>Trade and repairs</i>	15.0	22.0	6.0	1.0	7.4	-16.8	-33.8	-10.5	226.4	496.3	1486.1	2168.7	3510.7	3413.0	4500.9	5313.3	6258.3	6282.8	6325.8	6552.1	7544.1
<i>Transports, communication</i>	2.0	-1.0	7.0	16.1	27.9	36.4	39.8	-19.5	-17.7	-28.3	-1.0	17.1	9.6	-5.5	-490.4	-215.4	245.9	-1127.2	-1186.7	-1549.0	-11.9
<i>Real estate, R&D, business activities</i>		1.0	15.0	2.5	13.2	25.9	32.2	122.8	188.1	476.1	3920.2	6239.3	6939.8	9400.3	10052.4	13509.8	11352.4	8702.0	9676.1	8486.2	11615.9
<i>Hotels and restaurants</i>		-3.0		0.9	1.1	1.0		0.0	0.3	-0.3	-0.6	1.1	6.3	4.1	6.0	83.7	178.4	194.9	200.2	398.4	556.8
Other	2.0	7.0	14.0	-1.3	2.7	58.9	31.4	26.4	60.1	318.3	853.1	1460.0	1762.8	2311.7	2970.9	5482.6	8639.2	10718.1	9893.1	11511.3	13608.9
Remaining, unclassified	20.0	44.0	274.0		-1.2	-3.1	188.6	202.4	195.5	187.4	392.8	411.7	367.1	362.9	1621.5	1211.4	950.9	629.7	2109.2	2109.2	2109.2
TOTAL	53.0	98.0	414.0	445.0	461.0	371.0	601.0	901.3	1816.5	5215.1	14103.9	18852.2	21862.9	27074.1	34299.8	42455.6	43171.9	41825.9	44723.5	49718.2	57791.3

Note: Minus (-) sign signifies disinvestment/withdrawal of capital to Poland.

Source: Authors' calculations based on National Bank of Poland, 1997-2017.

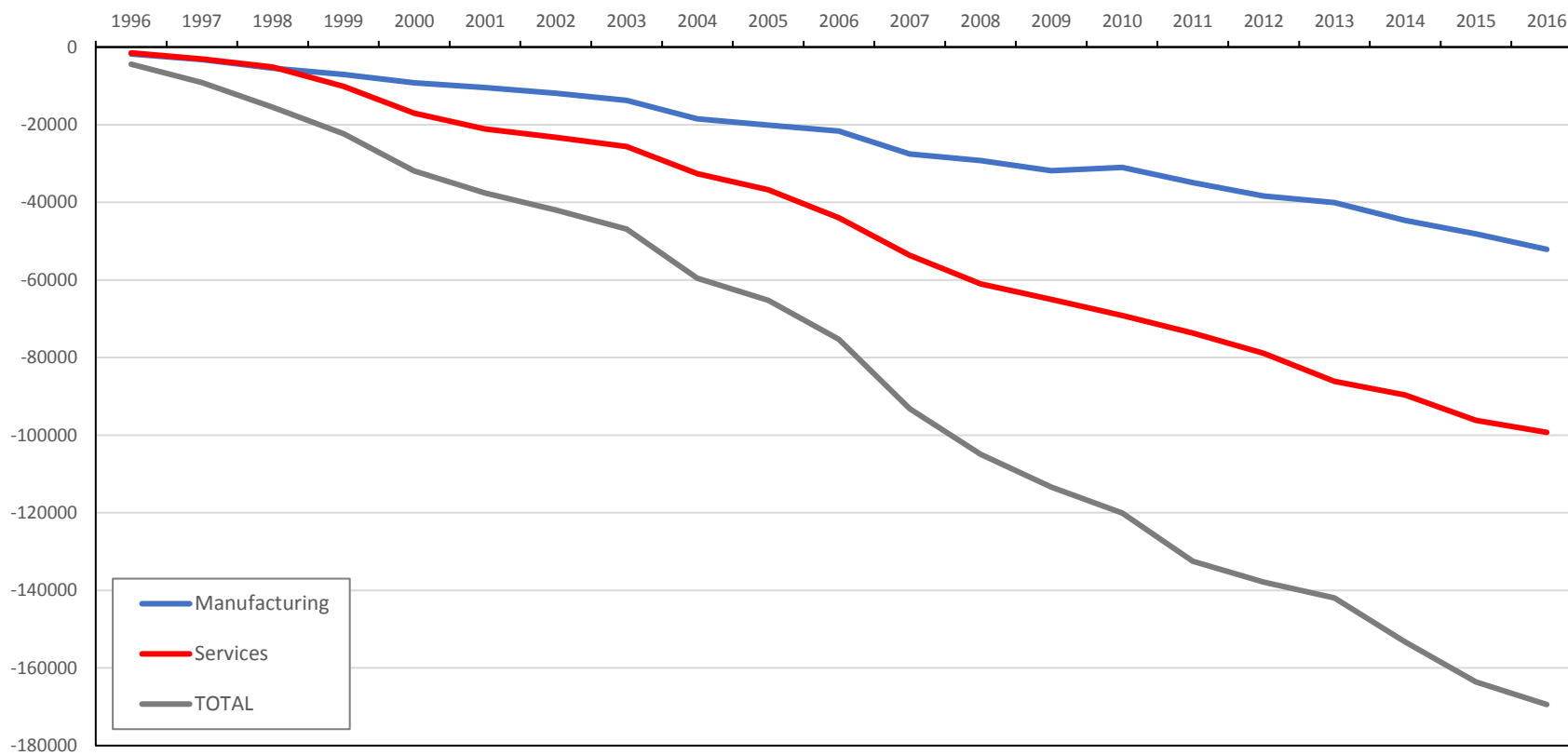
Table 9. Industry Structure of Percentage Shares of Outward FDI Stocks from Poland, 1996-2016

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Manufacturing, of which:	13.2	16.3	20.8	18.5	20.4	15.7	10.2	33.2	27.4	27.1	30.6	27.7	25.9	28.6	27.0	24.9	24.7	25.8	22.1	19.3	16.6
<i>Food products</i>	5.7	4.1		0.1	0.1	0.5	0.6	0.7	3.4	3.9	1.6	1.4	2.0	6.4	6.1	5.4	5.5	5.6	5.2	4.5	3.8
<i>Motor vehicles and transport equipment</i>		1.0	15.7	13.8	13.6	2.4	1.1	3.6	5.3	2.9	1.3	1.1	1.9	2.1	1.9	3.2	3.8	4.2	4.2	4.0	2.9
<i>Wood, publishing and printing</i>				0.1	0.4	2.0	2.3	-6.8	-2.8	0.7	0.3	0.3	0.8	0.6	0.7	0.7	0.0	-0.4	-0.2	0.0	0.4
<i>Chemical, rubber and plastic products</i>					1.5	1.7	0.6	-1.0	-0.2	0.8	1.5	1.7	1.2	1.6	2.5	2.6	3.6	3.7	2.7	2.6	2.3
Services, of which:	45.3	31.6	9.7	20.2	19.8	-4.6	7.6	11.1	43.5	57.9	58.6	61.0	63.1	60.5	58.8	58.7	52.4	46.4	50.5	52.8	55.7
<i>Financial intermediation</i>	13.2	12.2	3.6	16.2	9.7	-16.3	1.6	1.0	21.7	39.9	20.3	16.3	15.2	13.2	17.8	14.7	10.7	12.8	16.9	24.9	21.6
<i>Trade and repairs</i>	28.3	22.4	1.4	0.2	1.6	-4.5	-5.6	-1.2	12.5	9.5	10.5	11.5	16.1	12.6	13.1	12.5	14.5	15.0	14.1	13.2	13.1
<i>Transports, communication</i>	3.8	-1.0	1.7	3.6	6.1	9.8	6.6	-2.2	-1.0	-0.5	0.0	0.1	0.0	0.0	-1.4	-0.5	0.6	-2.7	-2.7	-3.1	0.0
<i>Real estate, R&D, business activities</i>		1.0	3.6	0.6	2.9	7.0	5.4	13.6	10.4	9.1	27.8	33.1	31.7	34.7	29.3	31.8	26.3	20.8	21.6	17.1	20.1
<i>Hotels and restaurants</i>		-3.1		0.2	0.2	0.3		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.4	0.5	0.4	0.8	1.0
Other	3.8	7.1	3.4	-0.3	0.6	15.9	5.2	2.9	3.3	6.1	6.0	7.7	8.1	8.5	8.7	12.9	20.0	25.6	22.1	23.2	23.5
Remaining, unclassified	37.7	44.9	66.2		-0.3	-0.8	31.4	22.5	10.8	3.6	2.8	2.2	1.7	1.3	4.7	2.9	2.2	1.5	4.7	4.2	3.6
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Note: Minus (-) sign signifies disinvestment/withdrawal of capital to Poland. Percentage shares may not add up to 100 because of rounding.

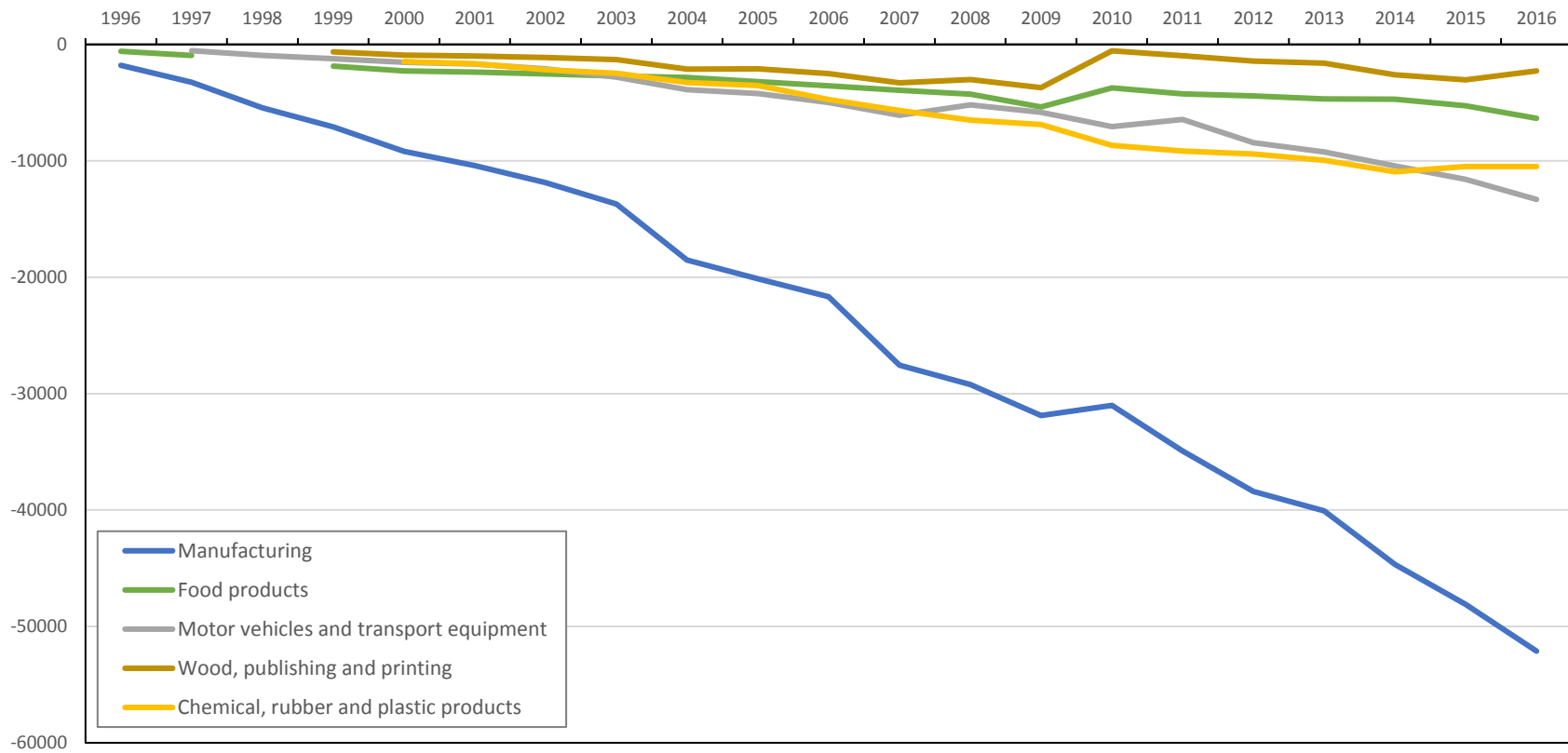
Source: Authors' calculations based on National Bank of Poland, 1997-2017.

Graph 1. NOI Positions of Poland's Main Sectors/Industries and of the Whole Polish Economy, 1996-2016, in Million USD



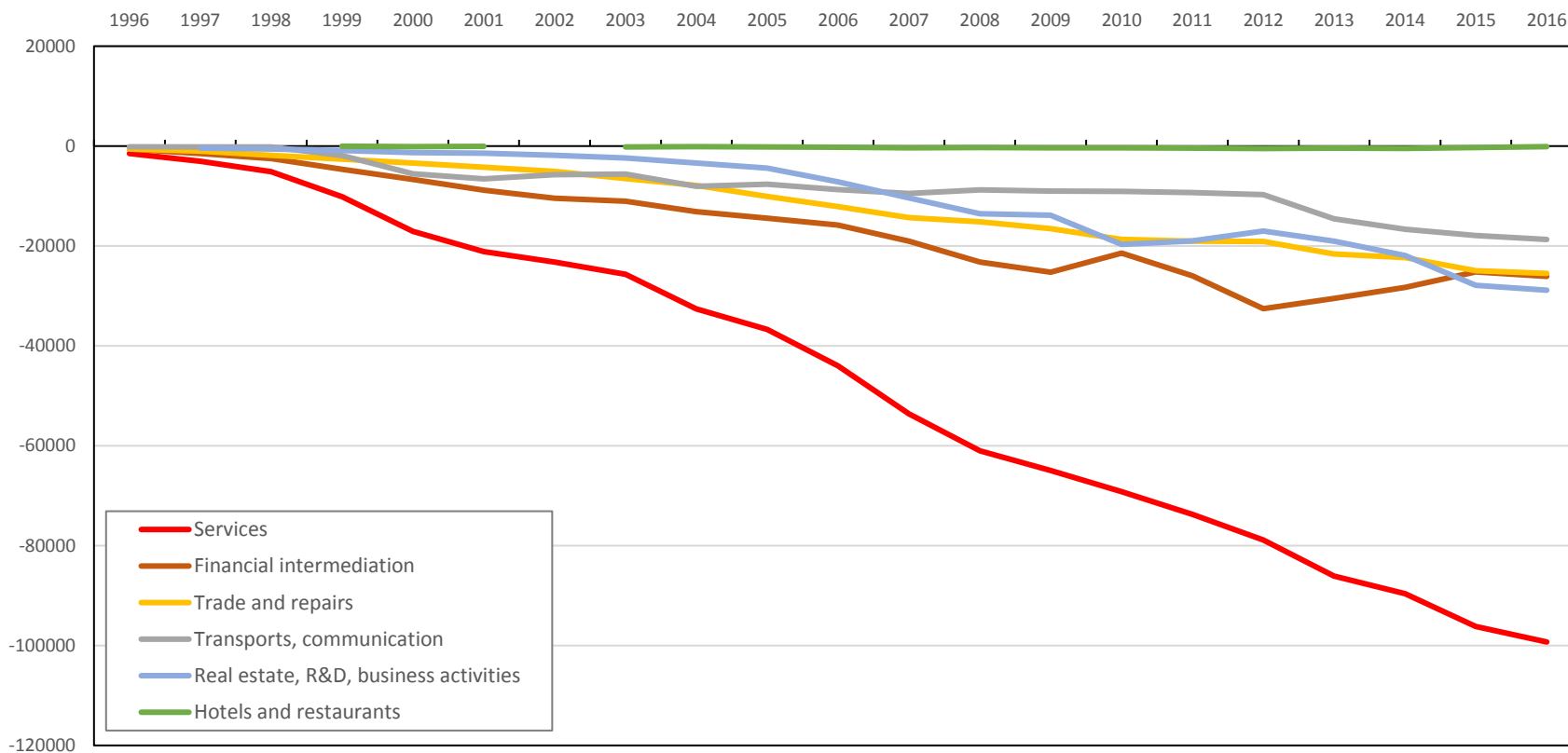
Source: Authors' calculations based on National Bank of Poland, 1997-2017.

Graph 2. NOI Positions for Poland's Manufacturing Sector and Its Main Component Industries, 1996-2016, in Million USD



Source: Authors' calculations based on National Bank of Poland, 1997-2017.

Graph 3. NOI Positions for Poland's Services Sector and Its Main Component Industries, 1996-2016, in Million USD



Source: Authors' calculations based on National Bank of Poland, 1997-2017.