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# **SECTORAL DIMENSIONS OF POLAND'S INVESTMENT DEVELOPMENT PATH REVISITED**

**Marian Gorynia, Jan Nowak, Piotr Trąpczyński, Radosław Wolniak**

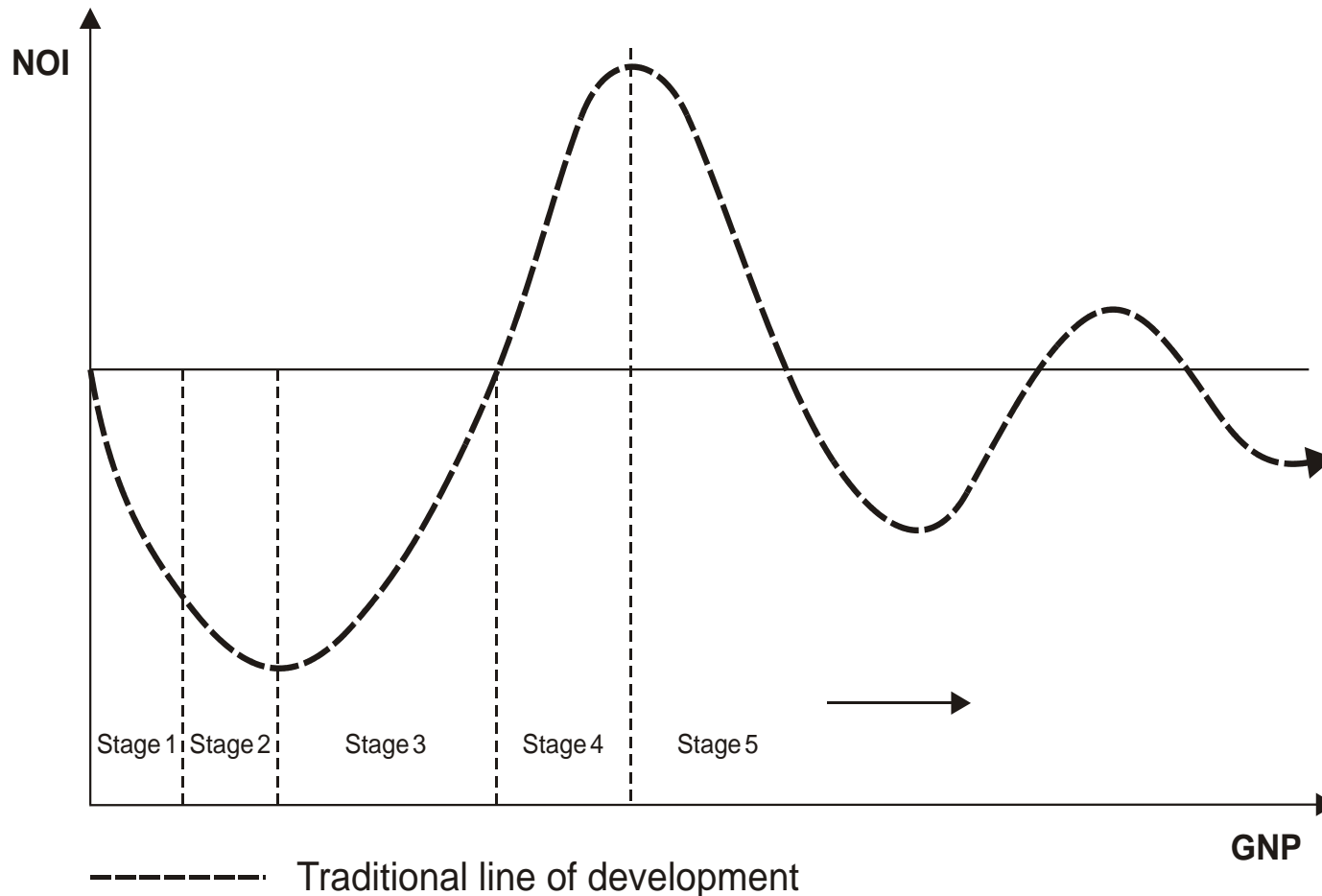
Submission to the European International Business Academy (EIBA) 44rd Annual  
Conference

Poznań, 14 December 2018

# Research Context

1. Macroeconomic competitiveness and foreign direct investment (FDI) as important aspects of international business research
2. Relevance for transition of the economies of Central and Eastern Europe
3. Gradual liberalisation process in the CEE region including
  - legal regulations concerning the inflow of foreign direct investments
  - liberalisation of foreign trade and principles of currency convertibility
  - privatisation of state-owned enterprises

# Investment Development Path (IDP)



*Note: Not drawn to scale - for illustrative purposes only*

Source: Dunning and Narula, 2002, p. 139.

**Objective:**  
*determine the changes of the sectoral structure of FDI along consecutive stages of IDP*

**Contribution:**  
*development of the IDP methodology understanding of idiosyncratic nature of IDP of a country, with focus on sectoral shifts*

# IDP Stages and the Sectoral Structure: A Framework

Stages of IDP	Characteristics	Sector/Industry Structure
<b>Stage 1: Natural resource- and labour-intensive based</b>	<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>
<b>Stage 2: Capital investment driven</b>	<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 &amp; 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>

# IDP Stages and the Sectoral Structure: A Framework

<p><b>Stage 3: Innovation driven</b></p>	<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.</p> <p>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>
<p><b>Stages 4 and 5: Knowledge and service intensive</b></p>	<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&amp;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>

# Hypotheses

**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.

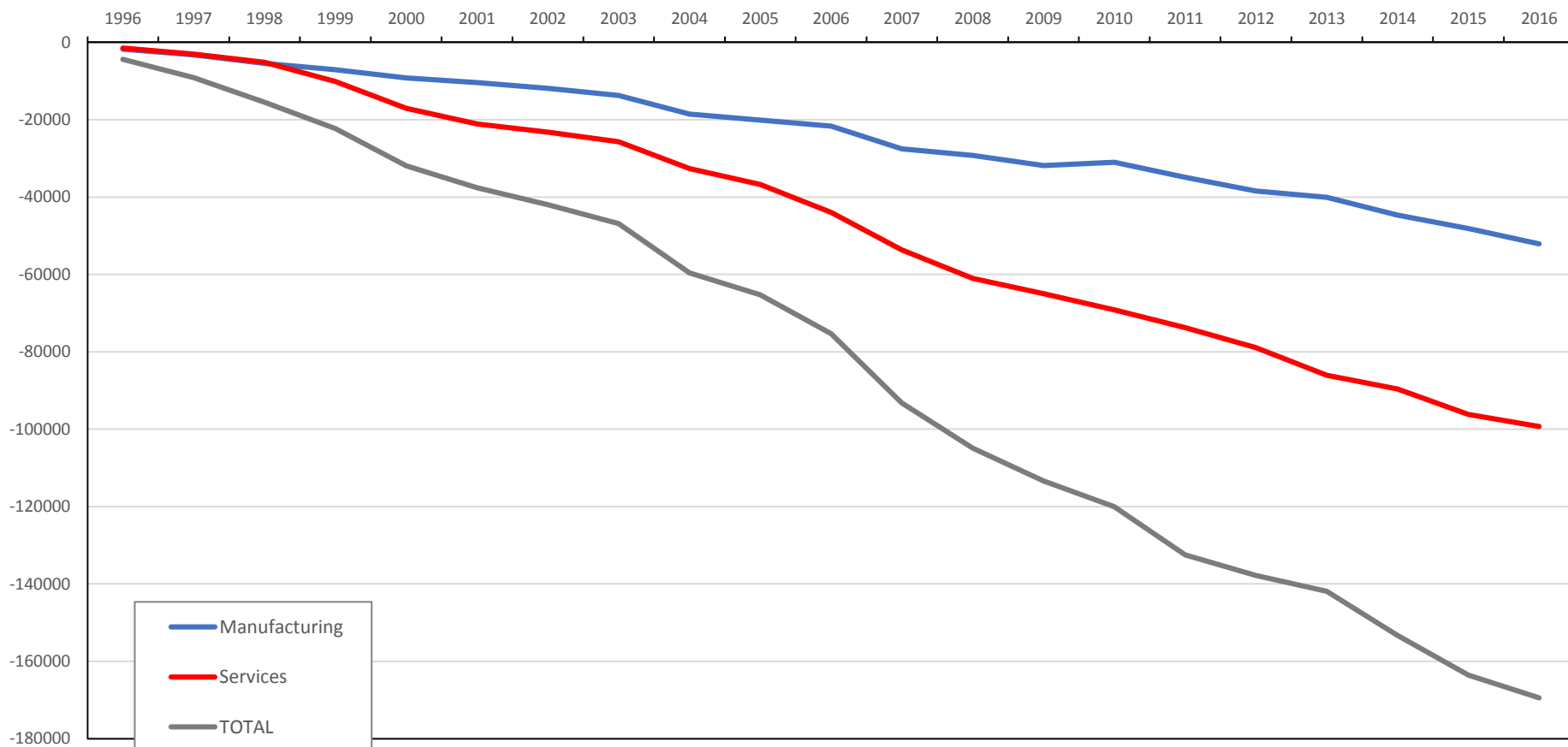
**Hypothesis 2b:** The relative share of a sector in outward FDI stocks is positively related to its service intensity.

# Methodology

- Panel data for 12 years (1996-2016) for 18 industry sector, 234 year-observations
- Dependent variable: shares of particular sectors of the Polish economy in both outward FDI and inward FDI stocks
- independent variables pertain to the characteristics of the sectors, namely services (non-manufacturing) vs. manufacturing and the level of technological intensity
- OLS regression analyses using the SPSS 24 software package

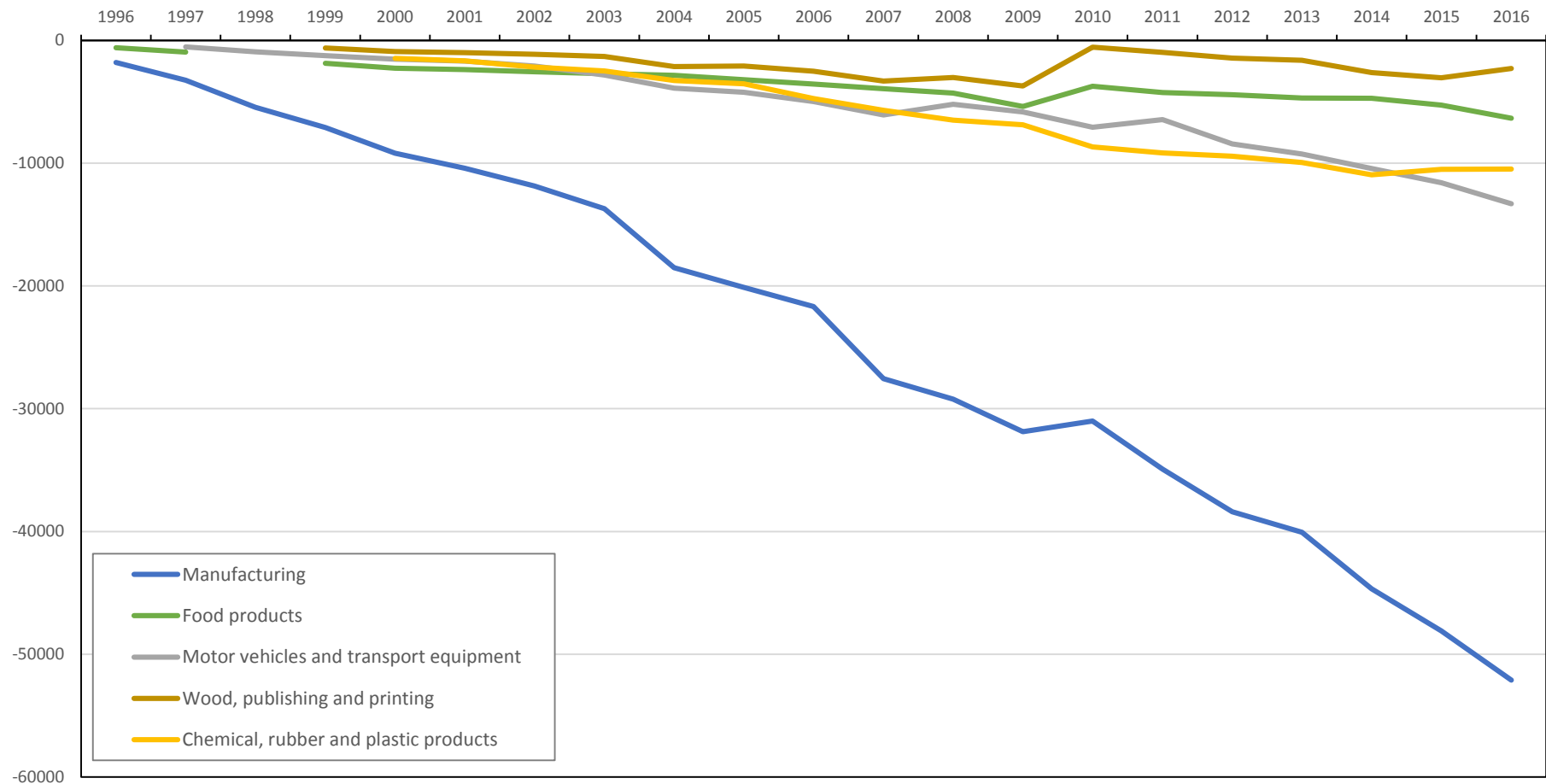


# NOI Positions of Poland's Main Sectors



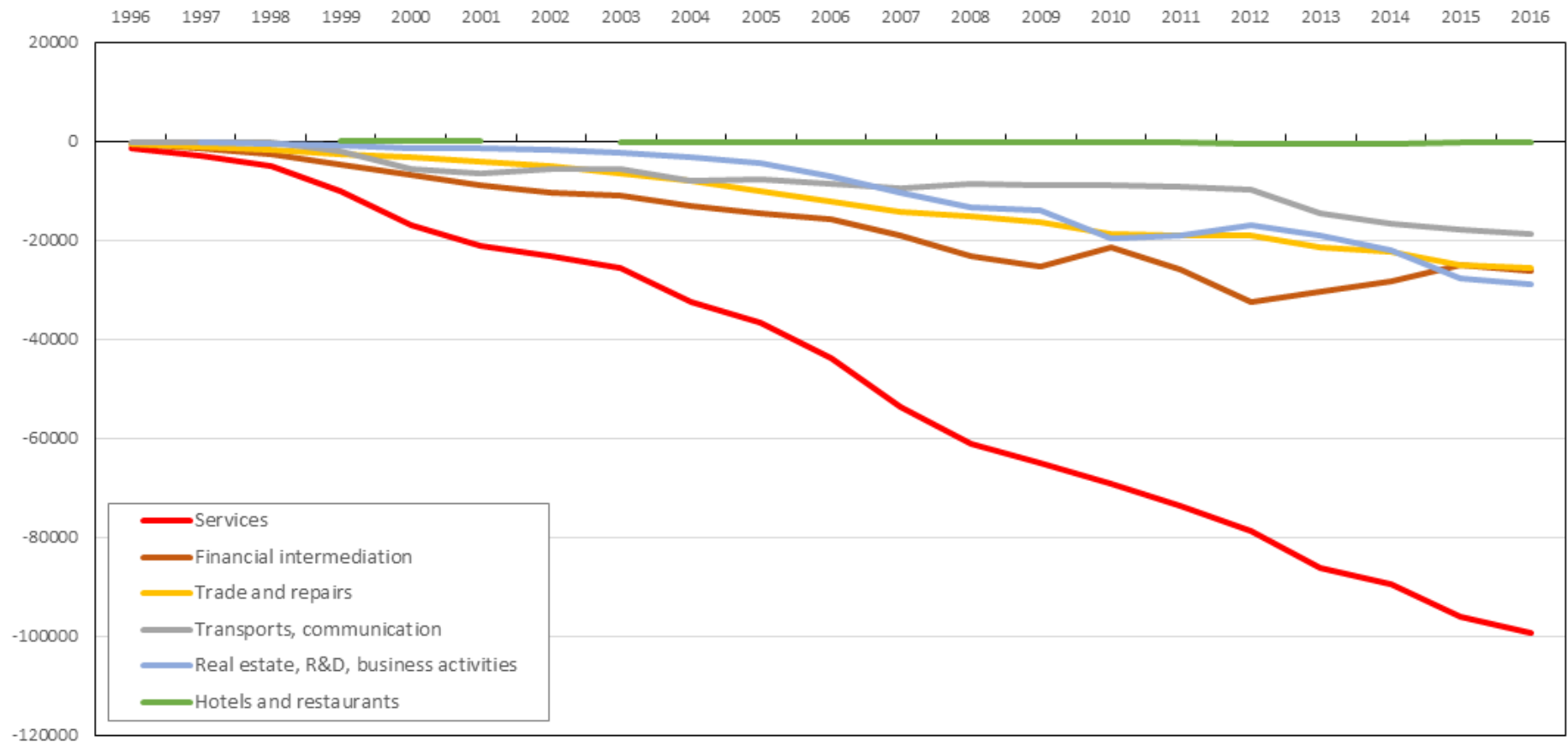
**NOI Positions of Poland's Main Sectors/Industries and of the Whole Polish Economy, 1996-2016, in Million USD**

# NOI Positions of Poland's Main Sectors



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

# NOI Positions of Poland's Main Sectors



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

# Regression findings

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

**The relative share of a sector in IFDI and OFDI stocks is positively related to its level of technological intensity and its level of service intensity**

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

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

# Policy Implications

- Already visible shift of 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
- Necessity to 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
- This could include measures upgrading the firms' innovativeness and overall competitiveness
- Need for financial support to knowledge-intensive sectors
- Need for cooperation support for SMEs in foreign markets
- At least partly government financed programs necessary to:
  - sustain a positive image of Polish products on foreign markets,
  - or attempt to change a negative image of such products (usually much more difficult to accomplish)

**Thank you for your attention!**

**Marian Gorynia, Jan Nowak, Piotr Trąpczyński, Radosław Wolniak**

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