

# **Incentives to Attract FDI: Evidence from the Łódź Province**



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# Incentives to Attract FDI: Evidence from the Łódź Province

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# Preface

Internationalisation is surely one of the major processes observed in contemporary global economy. It happens when, for instance, enterprises establish diverse cross-border relationships with their counterparts in other countries, starting usually with relatively simple forms, such as exports and then progressing to much more advanced ones. These more advanced forms include foreign direct investment (FDI) seen as a reflection of activities pursued by multinational enterprises (MNE) (Johanson, Vahlne, 1997; Markusen, 1984; 1997; Marinov, Marinova, eds., 2012; Trąpczyński, 2013; Buczkowski et al., 2015; Alfaro, Chauvin, 2017).

Multinational enterprises are looking for optimum locations in almost all countries and regions across the world which are politically and economically safe. A foreign investor is interested, above all, in finding a concrete location where he would be able to bring the project to a successful end. With this knowledge in mind, countries and constituent parts thereof try to attract foreign investors using public resources for this purpose (Świerkocki, ed., 2011).

The history of research studies conducted by economists, experts in management, international economics, and international business in pursuit of understanding factors that impact location choices of enterprises with foreign capital (EFC) is a long-standing one. Nielsen, Asmussen, and Weatherall (2017) made an overview of 153 studies devoted to determinants of location choices made by MNEs and published in renowned scientific journals over the period 1976–2015.<sup>1</sup> Apparently, their authors focused predominantly on the relationship between location choices and some attributes of host country economy, e.g., the size of its domestic market, quality of institutional framework, CIT rate, salaries and wages, infrastructure or human capital resources. More than half of these studies (52%) concerned the microeconomic level,<sup>2</sup> however, only in seven cases (5%) the authors used primary data. A handful of studies were devoted exclusively to investment incentives, e.g., Head and Ries (1996) as well as Meyer and Nguyen (2005) examined the role played by special economic zones or, like Oman (2000), tax allowances in making investment location decision.

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1 Most of them in *Journal of International Business Studies* (26), *International Business Review* (11), and *Strategic Management Journal* (8).

2 The majority of studies focused on enterprises which invest in China.

Incentive schemes offered to potential foreign direct investors continue to stir heated debates amongst academics and experts (see, e.g., Aggarwal, 2012; Johnson, Toledano et al., 2013; Jensen, Winiarczyk, 2014; Tavares-Lehmann et al., eds., 2016; World Investment Report, 2010–2019). The *Columbia Center on Sustainable Investment*<sup>3</sup> headed by Sauvant (Columbia University, USA) conducts regular studies in this area. The subject also often comes back at international conferences organised by high profile, prestigious organisations bringing together economists and representatives of international business (such as, e.g., AIB, EIBA, EAMSA, EEFS).<sup>4</sup> One of the latest publications in Polish subject-matter literature fully devoted to investment incentives was a book on incentive schemes available to domestic companies investing in other countries (Wiliński, 2013). Studies in this field have also been conducted for several years by a team of researchers from the University of Lodz headed by Świerkocki (Dorożyński, Świerkocki, Urbaniak, 2014; 2015a,b; 2017a,b,c; 2018a,b).

Business environment institutions (BEI), including public bodies at different levels of administrative division (national, regional, and local), have an important role to play in attracting (and retaining) foreign investors. To this end, they use economic policy instruments (incentives) available at their level of competence, dependent on binding regulations and available resources. Obviously, the authorities have a choice and may refrain from doing anything, but they may also actively engage in efforts aimed to attract the interest of those who have capital in a specific location. In this second case, they should be guided primarily by economic (effectiveness) or social (mitigating disproportions) reasons to deliver tangible benefits to the host country (region). These reasons can be connected with, inter alia, creating new jobs, inflow of new technologies, implementing new business management methods, additional revenue from exports, possibilities of closer cooperation between local entrepreneurs with EFC (subcontracting, supplies, services) or with changes in the structures of the economy (Blomström, Globerman, Kokko, 1999; Carkovic, Levine, 2002a,b; Alfaro, 2003; Fortanier, 2007).

Most governments actively compete for investors offering them, e.g., fiscal, financial, regulatory, and technical and information incentives (Cass, 2007; James, 2009a,b; Harding, Javorcik, 2011; Tavares-Lehmann et al., eds., 2016; World Investment Report, 2017–2019). However, using incentives to attract (and retain) enterprises with foreign capital cannot be *a priori* considered economically justified, as it is connected with incurring costs which, in some circumstances, may exceed expected returns (James, 2009a; Tuomi, 2012). Such operations

3 A Joint Center of Columbia Law School and The Earth Institute, Columbia University.

4 AIB – Academy of International Business (<https://aib.msu.edu/>), EIBA – European International Business Academy (<http://www.eiba.org/r/home>; accessed: May 2020), EAMSA – Euro-Asia Management Studies Association (<http://www.eamsa.org/index.php>; accessed: May 2020), EEFS – European Economics and Finance Society (<http://www.eefs-eu.org/>; accessed: May 2020).



may raise doubts not only because economic operators are being subsidised, which means that a government interferes with the market, but because of the selective nature of granted aid (pursuant to Art. 107.1 TFEU selectivity is one of the reasons why State aid can be prohibited). At the same time, it is commonly known that despite restrictions imposed on the Member States by virtue of the EU competition law, public institutions in the EU Member States rather widely avail themselves of diverse subsidy schemes addressed to enterprises, including foreign investors (Ghauri, Oxelheim, eds., 2004; Ambroziak, 2012; 2015; Pisapia, 2014; Politaj, 2014).

Over recent years the point of gravity in FDIs in Poland shifted towards outwards investments (Gorynia, Nowak, Wolniak, 2010; Wiliński, 2013; Karaszewski, ed., 2013; Karaszewski, Jaworek, 2016; Gorynia et al., 2013a; 2013b, 2014; 2015a; 2015b; Buczkowski et al., 2015; Dzikowska, Gorynia, Jankowska, ed., 2016). This can be explained by, inter alia, investment development path theory and its stage at which Poland currently has found itself (Kola, Kuzel, 2007; Gorynia, Nowak, Wolniak, 2009). Nevertheless, being aware of great importance of incoming foreign investment to the host country economy, launching studies on investment incentives seems to be a fully justified step.

Research studies conducted globally to date, also in Poland, do not let to unambiguously evaluate the effectiveness of incentives in attracting (and retaining) foreign investors. Most of their results, however, entitle to draw a conclusion that incentives, compared to other factors, played a secondary role in making location choices. In particular, doubts surround studies conducted at regional and local levels which so far have been relatively rare and usually carried out on small samples or using the *case study* methodology (see, e.g., Morisset, Pirnia, 2002; Stawicka, 2008; 2015; James, 2009a,b; Róžański, 2010; Świerkocki, ed., 2011; Dorożyński, Świerkocki, Urbaniak, 2014; 2015a; 2015b; 2017b; 2018a; Tavares-Lehmann et al., eds., 2016; Karaszewski, ed., 2016).

Ambiguous and sometimes even contradictory conclusions are, in my opinion, the fundamental reason why in-depth studies on the effects of incentives targeting foreign investors, especially at regional and local levels, should be conducted. Obviously, there is a shortage of empirical studies in this field, in particular in Poland. Although many researchers have been dealing with the subject (e.g., Wysokińska, Witkowska, 2004; Majewska, 2006; Słomińska, 2007; Stawicka, 2008; 2015; Róžański, 2010; Wiliński, 2013; Pastusiak et al., 2016; Karaszewski, ed., 2016), they tackled it mostly at the margins of other considerations on, e.g., investment attractiveness of Poland and its regions, special economic zones, and reasons driving the FDI. This explains why we need research focused on incentive schemes targeting foreign direct investors.

The subject of this publication goes beyond the borders of just one discipline and draws from the achievements of international economics and management sciences. Having the terminology framework proposed by Gorynia (2012) in mind and the scope of conducted studies (in which micro analyses prevail),

one should assume that it positions itself closer to international business than to international economics.<sup>5</sup>

This work has been drafted from a multidimensional perspective. It fits within two main theoretical trends, i.e., location theories and eclectic theory of international production (eclectic paradigm) but also makes references to aspects of economic policy, mainly microeconomic industrial policy, understood as state intervention vis-à-vis enterprises. Industrial policy instruments can be used to achieve various goals, such as, e.g., impact market structures, promote innovations, or facilitate the adaptation of economic operators to changes in their environment. They can also, and this is the subject of this publication, impact international activities of enterprises by deploying, e.g., tax allowances, subsidies, loans, and guarantees.

The principal scientific goal of the study is to evaluate the role of incentives offered to foreign direct investors by assessing their effects understood as investors' responses to these incentives. The study adopted investor perspective.

Subject-matter literature on many occasions tried to come up with a definition of investment incentives. In the study conducted by UNCTAD (1996) they are defined as tangible benefits offered by governments to enterprises or groups of enterprises to coerce them into specific type of behaviour. Authors of OECD report (2003) presented them as resources expected to impact the scope, location, and field of activity of foreign investors by influencing costs and risks of the project. Considering the goal of this publication, from the viewpoint of host country instruments, a narrower definition proposed by Thomas (2007), according to which investment incentives are instruments that impact location choices seems accurate. Their goal can be either to attract new investment or to retain the already existing ones.

Literature review was used to select five basic categories of incentives for incoming investment (financial, fiscal, regulatory, information and technical, and in-kind support). A similar catalogue of instruments was distinguished for outward foreign investment (financial, fiscal, regulatory, information and technical, and risk mitigating measures) (Sauvant, 2008; Johnson, Toledano et al., 2013; Tavares-Lehmann et al., eds., 2016).

The following research questions were formulated with regard to the main goal:

Q<sub>1</sub>: What is the impact of investment incentives on location choices made by enterprises with foreign capital?

Q<sub>2</sub>: Do the characteristics of enterprises differentiate the impact of investment incentives on location choices?

Q<sub>3</sub>: What is the role of business environment institutions in location choices?

Answers to these questions will help in addressing opinions which challenge the rationale behind offering incentive schemes to foreign investors, as well as

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5 Gorynia argues that international economics deals with national economy (macro) while international business focuses on enterprises engaged in international economic operations (micro level) (Gorynia, 2012).

views that support active policy in this field. They will also broaden the existing knowledge about reasons for location choices made by EFCs (theoretical approach) and give recommendations to those who hold public resources (practical approach). The work is theoretical and cognitive by nature. Results of studies can also be used to improve the institutional and legal contexts of support offered to foreign investors in Poland.

The overview of theory and empirical studies together with the above formulated goals and research questions have led to the adoption of the following three hypotheses:

H<sub>1</sub>: Host country measures impact location choices of foreign investors but they are not the factors of primary importance. As demonstrated by, *inter alia*, Morisset and Pirnia (2000) Blömstrom and Kokko (2003), Moran (2005), Javorcik and Spatareanu (2008), Klemm and Van Parys (2012), and Freund and Moran (2017), investment incentives can rarely be found amongst key determinants of location choices, such as costs of labour, market size, quality of infrastructure, and economic and political stability. However, when potential locations exhibit similar fundamental traits, incentives may prejudice about the choice of investment location (Oman, 2000; Biggs, 2007). Likewise, many other studies carried out mainly in developing countries and compared by James (2009; 2013) and Tuomi (2012) demonstrated that investment incentives were of secondary importance for location decisions made by businesses with foreign capital.

H<sub>2</sub>: The role of reasons behind location choices of enterprises with foreign capital, including the impact of incentives, is a derivative of investor characteristics, i.e., the size of an enterprise, its business profile, innovation, exports activities, and type of investment (Dunning, Lundan, 2008; Strange et al., 2009; Nielsen, Asmussen, Weatherall, 2017).

H<sub>3</sub>: The quality of business environment institutions in the host country is an important determinant of location choices made by foreign investors and the effectiveness of support offered to them. Some researchers argue that there is a directly proportional relationship between the quality of institutional performance and FDI inflows, see, e.g., Pournarakis, Varsakelis, 2002; Globerman, Shapiro, 2003; Fabry, Zeghni, 2006; Daude, Stein, 2007; Nielsen, Asmussen, Weatherall, 2017.

To achieve the adopted goals and validate the above hypotheses, domestic and foreign subject-matter literature in economics, management, and law was used as a foundation for original empirical studies carried out on a group of 201 enterprises with foreign capital. These studies were supplemented with a number of analyses of primary and secondary sources (Tab. P1).<sup>6</sup>

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6 Several databases were used in the study, *inter alia*: (1) REGON register kept by the Statistics Poland of enterprises with foreign capital in the Łódź region; (2) System Providing Data on State Aid operated by the Office of Competition and Consumer Protection; (3) unpublished data of the Ministry of Development concerning special economic zones.

The structure of the book has been dictated by the adopted goal, hypotheses, and research questions. It consists of an introduction, conclusion, and two principal substantive parts. The first substantive part discusses theoretical aspects underpinning the logic of providing aid to foreign investors. The second one, which is empirical, includes studies conducted to find out about the importance of incentives to foreign investors.

The first part aims to assess the rationale behind offering incentives and support to foreign investors in the light of theory and empirical studies. Considerations start with explaining why enterprises decide to expand their operations abroad. Then, FDI motives are presented in a structured way at macro- and microeconomic levels with references made to, inter alia, international trade theory and the theory of foreign direct investment. Next, empirical studies are reviewed to evaluate FDI effects from the perspective of the host economy. Their results, however, are ambiguous although opinions highlighting positive effects prevail, in particular with regard to host economies. The evaluation of FDI net effect provides foundations for further considerations on the rationale behind offering incentive schemes to economic entities with foreign capital. First, a synthetic overview of determinants of location choices is presented to explain what drives multinational enterprises in their searches for an optimum business location. Second, results of empirical studies are compared to assess foreign investors' sensitivity to incentives. Apparently, incentives were not decisive for investors' choices.

**Table P1.** Operationalisation of research hypotheses

Symbol	Questions and hypotheses	Key variables	Measuring method
1	2	3	4
Q1: What is the impact of investment incentives on location choices made by enterprises with foreign capital?			
H <sub>1</sub>	H <sub>1</sub> : Host country measures impact location choices of foreign investors but they are not the factors of primary importance.	a) role of location choice factors (6 groups <sup>*</sup> and 41 factors); b) impact of incentives on investment decision (5 groups <sup>**</sup> and 15 forms of incentives); c) State aid use by Polish foreign investors from Łódź province.	a, b) assessment based on the distribution of answers, rankings, and descriptive statistics from 201 direct interviews with EFCs in Łódź province; c) number of events, value, form, and target of State aid for 201 EFC based on SUDOP <sup>***</sup> .

1	2	3	4
Q <sub>2</sub> : Do the characteristics of enterprises differentiate the impact of investment incentives on location choices?			
H <sub>2</sub>	The role of reasons behind location choices of enterprises with foreign capital, including the impact of incentives, is a derivative of investor characteristics, i.e., the size of an enterprise, its business profile, innovation, exports activities, and type of investment	a) differentiation across reasons for location choices made by EFC from Łódź province based on 5 features <sup>***</sup> ; b) differentiation in the impact of investment incentives for EFC in the Łódź province based on 5 features <sup>***</sup> .	a, b) assessment based on the distribution of answers, descriptive statistics, and Mann-Whitney test for the results of 201 direct interviews with EFC in Łódź province.
Q <sub>3</sub> : What is the role of business environment institutions in location choices?			
H <sub>3</sub>	The quality of business environment institutions in the host country is an important determinant of location choices made by foreign investors and the effectiveness of support offered to them.	a) relationship between reasons behind location choices and the impact of investment incentives and the use of State aid by the EFCs; b) impact of institutions on location choices; c) investor relations with the administration in the region; d) aid offered by institutions to investors in post-investment stage.	a) statistical evaluation of relationships carried out using the eta coefficient based on 201 direct interviews with EFCs from the Łódzkie province and SUDOP <sup>****</sup> ; b, c, d) evaluation based on the distribution of answers and descriptive statistics from 201 direct interviews with EFCs in the Łódź province.

<sup>\*</sup> Costs of production, human resources, economic potential of the province, relationships with administration, infrastructure, other.

<sup>\*\*</sup> Financial, fiscal, regulatory, information and technical, in-kind support.

<sup>\*\*\*</sup> Enterprise size, type of investment, exports, innovation, business profile.

<sup>\*\*\*\*</sup> Abbreviation for the Polish name of the System Providing Data on State Aid (Office of Competition and Consumer Protection).

**Source:** author's own compilation.

The second part (Chapters 2 and 3) is the empirical part of the publication. The lack of regularly collected statistical data on the use of investment incentives in Poland turned out to be the main problem here. Therefore, a decision was made to use the material collected from original questionnaire-based studies as the main source of data. The studies were conducted in the Łódzkie province<sup>7</sup> as a case study. As maintained by Wach (2012), the choice of a single province to exemplify

7 PL: województwo, the highest tier of administrative division in Poland, a region.

the phenomenon that one wishes to investigate does not undermine the credibility of research studies especially since Poland is a homogenous country which allows generalising the results of studies and extend them to the entire population of enterprises with foreign capital. Similar assumptions were adopted by, e.g., Kłysik-Uryszek (2010), Starzyńska (2012), Wach (2012), Buczkowski et al. (2015), Karaszewski (ed., 2016). The author is fully aware that this methodology imposes some limitations on the study connected with, e.g., how respondents perceive and evaluate observed phenomena. Nevertheless, that was the only way to acquire detailed empirical evidence. In order to ensure its credibility, appropriate methods were used when preparing, carrying out and analysing the results of direct studies. For example, the questionnaire contained many trap questions,<sup>8</sup> interviewers were trained in the subject-matter and got acquainted with questionnaire content, their performance was subject to individual and cross control measures. The reliability of the measurement validated with Cronbach's  $\alpha$  coefficient was satisfactory. In addition, field studies were supplemented with secondary data on, e.g., the use of State aid by EFCs.<sup>9</sup>

The chapters 2 and 3 discuss results of an original questionnaire-based study conducted in 2017. The study was motivated by the wish to identify reasons behind location choices and to examine the role of incentives in location decisions made by the largest foreign investors in the Łódzkie province. Quantitative PAPI (*Paper and Pen Personal Interview*) method was used. The study was conducted on a sample of 201 enterprises, representing ca. 30% of their total population. Response analysis covered the distribution of responses, but also deployed statistical measures and tests (e.g., Mann-Whitney test). Apparently, cost-related factors exerted the biggest impact on EFCs' location decisions and most respondents (82%) declared that the absence of State aid schemes would not have influenced their investment location decision. Groups of incentives played different roles. In-kind support provided in the form of accompanying infrastructure was the most important to EFCs from Łódzkie province.

The final section of Chapter 3 validates and deepens conclusions formulated based on the questionnaire-based interviews. To this end, the use of State aid by foreign investors was examined based on the System of Providing Data on State Aid

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8 Trap questions are intended to validate respondent answers and identify respondents who do not answer honestly. To some extent, trap questions help in eliminating the latter from the study. As to the content, these questions concur with other questions from the questionnaire but differ in form and expression. Contradictory answers suggest a respondent does not answer honestly which also disqualifies the rest of her/his answers.

9 The first open access State aid database was launched in Poland in 2016. It was financed with the EU resources within the framework of the Operational Programme Technical Assistance (National Coherence Strategy 2007–2013). Unfortunately, it does not have a proper functionality that would allow to directly elicit data for economic operators with foreign capital as a separate category. To do it one needs to check data for each enterprise separately.

(Polish abbr. SUDOP)<sup>10</sup> of the Office of Competition and Consumer Protection in Warsaw. The study was conducted on the same sample of 201 EFCs which participated in direct interviews. The report on granted State aid generated using the SHRIMP application<sup>11</sup> was validated for each EFC. Apparently, in real life many more enterprises benefited from various State aid measures compared to what was declared in the questionnaires (65% and 31% respectively). The comparison enabled further studies intended to evaluate the relationship between reasons behind location choices and the use of State aid by the EFCs and between the impact of investment incentives and the use of State aid by the EFCs. In both cases, the eta coefficient was used as a statistical measure of association. Obtained results confirmed a statistically significant relationship between using State aid by foreign investors and the impact of factors behind location choices or investment incentives.

The final part of the publication provides an overview of conclusions and a summary of considerations which recapture the findings of empirical studies that answer research questions and validate research hypotheses. Conclusions also contain recommendations addressed to public administration in Poland and proposals for future directions of research.

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10 <https://sudop.uokik.gov.pl/home> (accessed: September 2018).

11 <https://shrimp.uokik.gov.pl/> (accessed: September 2018).





## Chapter 1

# What do theory and empirical studies teach us about supporting foreign investors

### 1.1. Foreign direct investment as a way to business internationalisation

In contemporary economy enterprises have increasingly more opportunities to allocate capital with a view to gain global competitive advantage. Foreign direct investment (FDI) flows originating from developed as well as developing countries grow dynamically as investors are becoming more and more active in seeking optimal location for their capital. In 1980 the value of global FDI flows amounted to USD 54 bn, ten years later it was USD 208 bn and in 2017 it reached USD 1.52 trillion. Growing FDI flows went hand in hand with increasing competition between the economies of host countries which were adopting regulations intended to encourage capital inflows. By the end of 2017, more than 3k international investment agreements were signed globally,<sup>12</sup> out of which almost 90% after 1990. About 80% of regulations adopted over that period favoured international capital flows (Karaszewski, Jaworek, 2016; Demir, Duan, 2018; OECD, 2018; World Investment Report, 2017–2019).

To an enterprise expansion to foreign markets always means getting increasingly more engaged in operating at international level and leads to the distribution of activities across different locations. FDI represent a specific type of international capital flows. They are made to acquire a lasting long-term control over a foreign entity. This is how affiliates are established in other countries turning the parent company into a multinational enterprise (MNE). FDI flows are viewed as the most advanced but at the same time the most risky form of internationalisation of enterprises (e.g., OECD, 1999; 2008; Gorynia, 2008; Fonfara, ed., 2009; Witek-Hajduk, 2010; Obłój, Wąsowska, 2010; Cieślik J., 2010; 2011a; Marinov, Marinova,

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<sup>12</sup> At the end of 2017, 3, 322 international agreements were signed including 2, 946 bilateral agreements known as BITs (*Bilateral Investment Treaties*) and 376 Treaties with Investment Provisions, (TIPs) (World Investment Report, 2018).

eds., 2012; Wach, 2012; Przybylska, 2013; Jarosiński, 2013; Trąpczyński, 2013; Karaszewski, Jaworek, 2016; Alfaro, Chauvin, 2017).

FDI motives, premises, and effects to host and home economies have been discussed theoretically and examined empirically for several dozen years on grounds of economics and international business (e.g., Markusen, 1995; Blomström, Kokko, 1998; Hanson, 2001; Alfaro, Rodríguez-Clare, 2004; Navaretti, Venables, eds., 2004; Görg, Greenaway, 2004; Lipsey, 2004; Moran, 2007; Caves, 2007; Alfaro, Kalemli-Ozcan, Sayek, 2009; Harrison, Rodríguez-Clare, 2010; Yeaple, 2013; Foley, Manova, 2014; Antràs, Yeaple, 2014; Alfaro, 2015; 2017; Alfaro, Chen, 2016).

### **1.1.1. Internationalisation and foreign direct investment: overview of definitions**

Since the early 1970s internationalisation of enterprises has been the subject of numerous theoretical and empirical studies. Theoretical considerations initially focused predominantly on large enterprises from North America and Europe. Later they gradually covered other parts of the world and smaller companies (Dana, Etemad, Wright, 1999). As argued by, inter alia, Zorska (2007), Witek-Hajduk (2010), and Jarosiński (2013) it is hard to find one universal and commonly approved definition of internationalisation. In the world literature we can come across the following below discussed definitions of internationalisation.

Johanson and Vahlne (1977) saw it as a process in which firms gradually increase their international involvement through decisions resulting from the acquisition, integration, and use of knowledge about foreign markets. In 2009 they expanded the above definition with networking. According to them, internationalisation should be viewed as a multilateral business network development process but also as an effect of position-building activities aimed to enhance a firm's position within a network and to maintain or foster its market position.

Calof and Beamish (1995) described internationalisation as a process of adjusting a company's operations, including strategy and resources, to the international environment. Their approach encompasses both, an increased involvement of a company in foreign markets as well as a decision to reduce such involvement or even to completely discontinue it, i.e., to de-internationalise. Benito and Welch (1997) defined de-internationalisation as any voluntary or forced action that reduces a company's engagement in or exposure to current cross-border activities. In extreme cases, de-internationalisation may mean a total withdrawal of a company from foreign markets, usually, however, it describes partial limitation of such activities (Trąpczyński, 2013).

Yip (2004) understands internationalisation as a cross-border expansion of a company that adapts to foreign market needs. As a result, we get a multinational enterprise pursuing different business strategies in different countries.

Peng and Meyer (2011) defined internationalisation as engaging company's resources in foreign markets while accumulating knowledge acquired through experience. At the same time, they see it as a decision-making process gradually reducing the uncertainties surrounding given foreign markets.

According to Hollensen (2011), internationalisation is simply about carrying out business activities worldwide and it is a tool that helps to boost sales (of goods and services) by improving the competitiveness and giving better access to resources, markets, and technologies.

In Polish subject-matter literature definitions of internationalisation can be found in, inter alia: Rymarczyk (2004), Nowakowski (ed., 2005), Fonfara (ed., 2009), Witek-Hajduk (2010), and Pierścioneck (2011). Rymarczyk's approach is the widest as his definition views any type of activity in foreign markets as a reflection of internationalisation. Thus, internationalisation is a long-term process during which a domestic enterprise gets transformed into an international player. That, in turn, requires engaging appropriate resources, including financial ones, as well as having knowledge and adequate development strategy. All these factors impact the intensity of transformations taking place in a company, their scope and format. Traditional approach to internationalisation rests on economies of scale and usually considers large companies.

Foreign expansion advances through internationalisation which enhances a company's engagement in international operations and leads to its spatial growth at a global scale. Foreign expansion takes diverse forms; the simplest of them are export (direct or indirect), barter trade, outward processing, and transit trade. More complex forms include collaboration modes, e.g., licensing, franchising, or management agreements. The most advanced form of internationalisation is foreign direct investment (Wach, 2012).<sup>13</sup>

The above-mentioned strategies differ with, e.g., the degree of risk involved, flexibility or the scale of potential benefits. Amongst different forms of internationalisation, FDI bear the highest risk. At the same time, they offer the biggest development possibilities to companies, guarantee relatively high level of control over engaged assets and profits. For this reason, ever smaller and little experienced companies decide to expand abroad through FDI (Fonfara et al., 2000; Jaworek, Szałucka, 2010; Przybylska, 2013; Karaszewski, ed., 2013; Karaszewski, Jaworek, 2016).

Literature is filled with different models of internationalisation. Precursor research in this area was carried out in Uppsala. Back in 1975 Johanson and Wiedersheim-Paul presented a stage (sequential) model of internationalisation

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13 Wach (2012) proposes the following hierarchy of internationalisation forms by their advancement: (1) export forms: indirect export, direct export, cooperative export; (2) contractual forms: assembly contracts, management agreements, turn-key investment, subcontracting, licensing, franchising, cooperative alliances; (3) investment forms: foreign affiliate, *joint venture* company (partly dependent), daughter company (totally dependent).

later developed by Johanson and Vahlne (1977). They identified four basic stages of internationalisation:

- 1) irregular export activities;
- 2) exports through independent agents;
- 3) establishment of an overseas sales subsidiary;
- 4) regular overseas manufacturing units.

Since that time, the model has been expanded and modified many times. Root (1987) drew attention to an internationalisation path (also stage-wise) alternative to the Uppsala model: licensing, *joint-venture*, independent business. In practice, however, firms' internationalisation does not always evolve in line with these mechanisms. As observed by, among others, Buckley, Sparkes, and Mirza (1987) quite often a transition to the next stage does not mean a company discontinues its efforts undertaken at the previous stage. Thus, diverse activities exercised in foreign markets may be seen as complementary. Moreover, according to Gorynia (2007: 75) internationalisation does not have to unroll sequentially. Increasingly more often 'leapfrogging' over some stages can be observed. In addition, business internationalisation does not have to be a slow process. Nowadays, the phenomenon of *born globals* is often highlighted (Jarosiński, 2013). Precursor research in this area was conducted by Oviatt and McDougall who coined the term *international new venture* and introduced it into literature (Oviatt, McDougall, 1994; 2005).

As already mentioned, FDIs are a specific type of international capital flows undertaken to exercise a long-term control over a company based abroad. They can either be used to lay the foundations for independent economic operators (*greenfield* investment) or to take control over an existing company (international mergers and acquisitions). Within the *greenfield* investment category, we can distinguish *joint ventures* where a new entity is created together with a domestic partner. Thus, internationalisation can be seen as a multilateral process of business network development. This format is typical of developing or in-transition economies. By engaging into such cooperative formats, foreign investors can reduce the risk of failure resulting from their lack of knowledge about the local market while domestic partners get access to finance, knowledge and technology unattainable in their home countries.

On the other hand, among mergers and acquisitions we should mention *brownfield* investment projects.<sup>14</sup> Their goal is to modernise an acquired company and transform it into a competitive business through expansion, exchange of equipment and technology, often also human resources, and the change of product range. In countries which experienced systemic transformation, like Poland, *brownfield* investment projects were often connected with the privatisation of State-owned enterprises (the process was very intensive in the 1990s and in the first decade of the 21<sup>st</sup> century).

14 This is not the only typology discussed in literature. For broader presentation of FDI classification see M. Gorynia (ed.), *Strategie firm polskich wobec ekspansji inwestorów zagranicznych*, PWE, Warszawa, pp. 49–51.

A transaction executed by a foreign entity in the host country is considered an FDI when investment is made into a company's equity. The threshold value in this case is 10% of shares or stock. This is the requirement which helps in distinguishing between foreign direct investment and portfolio investment or cross-border provision of services.<sup>15</sup>

The concept of FDI covers also subsequent capital flows between the investing company and the entity in the host country, such as reinvested earnings, net purchases (purchases less sales) of company's shares by the direct investor, debt instruments, and internal loans from the direct investor. Apart from that, foreign direct investor's engagement in the direct investment enterprise may also include: membership in Supervisory Board, participation in management process, material inter-company transactions, interchange of managerial personnel, provision of knowledge and technology, and provision of long-term loans at lower than existing market rates (OECD, 1999).

The importance of foreign direct investment can be measured with the size of its flows, i.e., with the value of flows in subsequent years as well as stocks of foreign direct investment, that is with the sum of investment flows cumulated in the period covered by the survey. In statistics, FDI flows are reported separately for inward and outward direct investment while FDI stocks are usually accounted for in nominal values and in relation to GDP (Świerkocki, 2011; Zielińska-Głębocka, 2012).

### **1.1.2. Reasons behind making foreign direct investment**

Economists and international business researchers give diverse answers as to why enterprises decide to launch overseas manufacturing operations by making a direct investment in a foreign country. Literature offers a number of theories that attempt to explain why foreign direct investment flows take place at macro- and microeconomic levels.

In macroeconomic perspective we can distinguish four main reasons for FDI: market imbalances, distortions resulting from the operations of domestic and international institutions, imperfect market structures, and market failure (Witkowska, 1996).

Distortions may take the form of, e.g., big differences in factor prices between countries, barriers to trade, high costs of transport which reduce the profitability of trade but also instable and unpredictable business policy in a given country, which justifies why entrepreneurs are looking for new markets where they can sell or manufacture their products. These factors may encourage enterprises to engage in a foreign direct investment exercise. They also help reap potential benefits of business presence in different markets and improved efficiency of a company achieved through

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<sup>15</sup> For more see OECD (1999), pp. 9, 21–22.

reduced costs of manufacturing and distribution, bigger geographical coverage, higher sales, lower risk, and geographical diversification of business (Kłysik-Uryszek, 2010).

Studies based on international trade theories are important and helpful in explaining reasons behind FDI. In accordance with neoclassical school of economics built around the idea of perfect competition, owners of capital care for maximising the value of shares that they hold which grows mainly as a result of an enterprise being profitable in the long-run. By the same token, it does not matter whether a production investment project has been located at home or abroad (Dunning, Lundan, 2008). International capital flows are triggered by relative differences in relative factor endowments between countries and usually run from capital-rich to capital-poorer countries (MacDougall, 1960; Kemp, 1962). Thus, in accordance with the neoclassical concept, differences in factor prices between countries motivate companies to locate production where factors are relatively cheap. Production optimisation leads to the creation of multinational enterprises whose subsidiaries scattered across different countries specialise in individual production stages (the so-called vertical investment). Helpman (1984) was a precursor of research on vertically integrated enterprises.

Under such circumstances, when barriers to trade restrict international exchange of goods while high costs of transport have made trade an unprofitable business, enterprises will develop horizontal FDIs. They will invest in independent manufacturing plants delivering their products to strictly identified markets. The idea of horizontal foreign investment was first proposed by Markusen (1984). Research in this field was further advanced by, among others, Brainard (1997) and Markusen and Venables (2000). In their later works, Markusen (2002) and Yeaple (2003) were trying to combine the two approaches and claimed that an enterprise may gain advantage from integrating horizontally and vertically, as well as from investing in developing countries to cut costs and in developed countries to boost sales. An important input into research on internationalisation from trade theory perspective was made by Melitz (2003) and his model further developed by Helpman, Melitz, and Yeaple (2004), which considers differences in productivity between enterprises. Hence, one may conclude that the most efficient companies undertake FDI to expand their operations abroad. The less productive ones will continue as exporters while the rest will remain domestic players only.

Amongst other macroeconomic theories that seek to explain foreign direct investment we can find Aliber's currency area theory (1970), Kojima's theory of relative changes in costs of labour and capital (1973), and Dunning's investment position theory (1973).

There is also a plethora of microeconomic foreign direct investment theories. Their authors were, *inter alia*, seeking to provide responses to questions about FDI determinants, factors that impact location decisions or advantages critical for an enterprise success in foreign markets, e.g., Hymer's theory of ownership advantage (1960), Knickerbocker's oligopolistic reaction theory (1973), internalisation

theory formulated by Buckley and Casson (1976), and transaction cost theory of Williamson (1985).

The above-mentioned concepts are not the only ones that seek to explain why enterprises expand internationally. The mid-1970s witnessed the launching of studies on sequential (stage-wise, phase) internationalisation. Surely, the Uppsala model which describes incremental firm's engagement with international markets was the best known approach (Johanson, Wiedersheim-Paul, 1975; Johanson, Vahlne, 1977). It was developed by some authors (e.g., Czinkota, 1982; Cavusgil, 1984) and criticised by others (e.g., Reid, 1983; Andersen, 1993). Concepts that are calling into question the sequential nature of internationalisation emerged in response to the weaknesses of the Uppsala model. They have been formulated to explain how and why enterprises skip some stages and, having no international experience, get engaged simultaneously with many foreign markets practicing different internationalisation formats. In literature, such firms are most frequently referred to as *born global*, *global start-ups*, *international new ventures* (Oviatt, McDougall, 1994; Andersson, Viktor, 2003; Sharma, Blomstermo, 2003). Internationalisation process can be described using network models, in which internationalisation motives and methods largely depend on the relationships amongst actors within a business network. In accordance with this approach, firms gain experience in international markets through contacts (relations) with other firms but also with consumers, suppliers, subcontractors, distributors, and competitors operating within the network (Johanson, Mattsson, 1988; Johanson, Vahlne, 2009).<sup>16</sup>

J. H. Dunning's eclectic theory of international production brings together micro- and macroeconomic approaches. According to it, a firm's decision to invest abroad is conditioned by enjoying three types of advantages (the so-called OLI paradigm):

- 1) ownership advantages;
- 2) internalization advantages;
- 3) location advantages.

As claimed by Dunning, they are complementary but there is also a synergy effect amongst them. Ownership advantages (O) are the pre-condition for a foreign direct investment. They come from, inter alia, firm's resources and skills, including patents, licenses, R&D, trademark, innovation, *know-how*, access to resources or information. Process internalization allows a firm to take advantages from, e.g.,

<sup>16</sup> Wach (2012) distinguished two fundamental groups of theories that explain internationalisation of firms, i.e., international trade theories and foreign direct investment theories. The first group includes, inter alia, neoclassical Heckscher-Ohlin theory, neo-factor theories, demand-supply, and neotechnological theories. The second one comprises: monopolistic advantage theory, internalisation theory, transaction cost theory, and eclectic theory of international production. In Polish-language literature diverse classifications of international trade and foreign direct investment theories can be found in, among others: Misala (2005), Witek-Hajduk (2010), Karasiewicz (2013), Buczkowski et al. (2015).



reduced costs of foreign transactions, lower cost of legal protection, financial flexibility connected with the use of transfer prices, and cross-subsidising their subsidiaries (I). Final component necessary to take a foreign investment decision consists in linking these advantages with assets offered by a specific location (L).

Thus, an FDI decision is made based on microeconomic resources of an enterprise and macroeconomic conditions in the home and host countries. The array of taxonomies of motives that drive firms to engage in FDI is rather impressive (Gorynia, Nowak, Wolniak, 2005; Franco, Rentocchini, Marzetti, 2010; Obłój, Wąsowska, 2012; Jaworek, 2013; Daszkiewicz, Wach, 2014; Belniak, 2015; Cuervo-Cazzura, Narula, 2015; Wach, 2016). Most probably, the most often quoted taxonomy is the one proposed by Dunning (2000). He identified four main groups of motives:

- 1) market seeking;
- 2) resource seeking;
- 3) efficiency seeking;
- 4) strategic asset seeking.

In his later works Dunning broadened the catalogue of motives (2003; 2004; 2006) drawing attention to the role of business environment and political circumstances in making a foreign investment decision. Together with Lundan they distinguished three additional types of investment, which cannot be explained by classical motives for foreign investment. These are escape investments, which consist in capital outflow from countries in which investment climate is unfavourable;<sup>17</sup> support investments, whose purpose is to support the activities of foreign affiliates, and passive investments, which do not meet the requirements listed in FDI definition (Dunning, Lundan, 2008).<sup>18</sup>

The above classification of motives is rather general and synthetic. Many authors conduct in-depth analyses focused on a selected group of FDI determinants (e.g., economic). Their works address predominantly: market size and the rate of its growth (Busse, Hefeker, 2007; Mottaleb, 2007; Anyanwu, 2012), costs of labour (Janicki, Wunnava, 2004; Bellak, Leibrecht, Riedl, 2008) and its quality (Carstensen, Toubal, 2004), taxes (Clausing, Dorobantu, 2005; Bellak, Leibrecht, 2007), possibilities

17 There are at least several reasons of 'escape', e.g., benefiting from investment incentives or avoiding high taxes. Escape may also mean an attempt to strip capital of its 'nationality' and make the so-called routing investments.

18 International business representatives increasingly more often point to other motives. An example can be talent-seeking motive, which gains in importance in the light of the so-called *industrial revolution 4.0*. The motive reflects itself in operations pursued by multinational enterprises. For example, Korean Samsung has so far (as at November 2018) created 35 foreign research units (e.g., in the US, Canada, United Kingdom, China, India, Japan, Russia, and Poland). At the same time, the company cooperates with the leading world universities (e.g., Massachusetts Institute of Technology), firms from IT industry (e.g., Intel), as well as scientists and experts (over 1,000 researchers in 11 laboratories) (based on the speech of Jaeyong Song, 4<sup>th</sup> Industrial Revolution and Its Impact on International Business, EAMSA Conference, HUFS, South Korea, 7–10.11.2018).



to operate in industrial and technology park (Guagliano, Riela, 2005), using other investment incentives (Owczarczuk, 2013), infrastructure (Botric, Skufljic, 2006), trade openness (Anyanwu, 2012; Asongu, Kodila-Tedika, 2015), political risk (Krifa-Schneider, Matei, 2010; Asongu, Kodila-Tedika, 2015), quality of institutional system (Bartels, Napolitano, Tissi, 2014), corruption (Castro, Nunes, 2013), and cultural proximity (Chou, Chen, Mai, 2011; Kłysik-Uryszek, Kuna-Marszałek, 2015).

In contrast to theoretical considerations, empirical studies of motives that drive enterprises to invest abroad are rather rare (Gorynia, Nowak, Wolniak, 2007). The list of foreign researchers dealing with these issues includes Franco, Rentocchini, Marzetti, 2010; Kudina and Jakubiak (2008a); Kaya (2014) or Drogendijk and Blomkvist (2013). In Poland, the problem has been approached from macroeconomic perspective by, e.g., Obłój and Wąsowska (2012), while its microeconomic aspects have been investigated, *inter alia*, by Hadryś (2011); Karaszewski et al. (2014); Buczkowski et al. (2015); Gorynia et al. (2015a; 2015b).

In Poland, studies conducted in enterprises were mainly explorative. They differed with thematic scope. Karaszewski (ed., 2013) and Buczkowski et al. (2015) meticulously identified several dozen motives and assessed their relevance. Using descriptive statistics, Gorynia et al. (2015a) identified the importance of motives based on Dunning's (2000) taxonomy and tried to discover relationships between them and stages of internationalisation. In turn, Gorynia et al. (2015b) examined relationships between FDI motives, features of enterprises, and location premises. All of the above studies were conducted on relatively small samples.

Results of studies demonstrate that MNEs which use advanced technological solutions or allocate big sums on R&D are more ready to engage with foreign markets (Braunerhjelm et al., 1996). Apparently, Markusen (1995) rightfully claims that there is a link between firm's internationalisation and a high proportion of intangible assets in the firm's total market value. Such economic operators prefer FDI as a format of their foreign expansion, especially when other (simpler) forms of foreign expansion offer limited possibilities to benefit from these advantages.

## **1.2. Foreign direct investment effect on the economy**

### **1.2.1. Host country economy**

In the light of empirical studies, the assessment of FDI effect on the economy of the host country is rather ambiguous (Blomström, Kokko, 1998; Lim, 2001; Pessoa, 2007; Wang, 2009), although most opinions about FDI impact are positive (Vissak,

Roolah, 2005). They highlight, above all, FDI effect on economic growth through capital flows as well as technology and knowledge transfers (Blomström, 1986; De Gregorio, 1992; Mody, Wang, 1997; Nair-Reichert, Weinhold, 2001; Lensink, Morrissey, 2006). Some researchers, however, draw attention to threats to, inter alia, the labour market and competition (Moran, 1999; Lipsey, Sjöholm, 2005; Moura, Forte, 2010; Kurtishi-Kastrati, 2013). Others do not see any link between FDI and economic growth in the host country (Haddad, Harrison, 1993; Grilli, Milesi-Ferretti, 1995; Javorcik, 2004).

**Table 1.1.** FDI impact on host country economy

No.	Factor	Impact	
		Positive	Negative
1.	Technology and <i>know-how</i> transfer	+	+
2.	Human capital development	+	+
3.	Integration with global market	+	+
4.	Intensified competition	+	+
5.	Growth of enterprises	+	
6.	Difficulties in delivering economic policies		+

**Source:** Moura, Forte, 2010.

FDI may exert positive and negative impact on the host country economy through technology and *know-how* transfer. Blomström and Kokko (1998) believe that product and process innovations are principal benefits brought in by multinational enterprises to the host country economy. MNEs often engage in innovative projects, which is why they are usually viewed as technologically more advanced. As claimed by Borensztein et al. (1998) and Ford, Rork, Elmslie (2008), foreign investors are responsible for most global R&D expenditure as well as for the dissemination of their effects through their subsidiaries and affiliates scattered across the globe.

Knowledge and technology transfers take place directly by launching new or improved production processes or indirectly through training courses, technical and technological support or the application of new materials, and components with a view to improve productivity (OECD, 2002). When generated by foreign investors, such transfers reduce the cost of implementing innovative solutions in local firms and, consequently, in the entire host economy. Moreover, knowledge and technology transfers boost productivity in local enterprises, which contributes to the overall economic growth of the host country (Saggi, 2002; Hermes, Lensink, 2003; Varamini, Vu, 2007).

On the other hand, studies demonstrate that technology transfer may adversely affect the host economy. First, foreign investors may wish to maintain

their technological advantage over local firms and thus refrain from transfers to technologies that are neither new nor innovative. Second, innovation in economy based solely on transfers made by the MNEs may make the country dependent on foreign investors and undermine local operators' creativity and readiness to generate their own original solutions. Over a longer timeframe, this might perpetuate the model of a country unable to put in place its own innovations, which can only imitate solutions already known in the market (Sen, 1998; Vissak, Roolaht, 2005).

In the host country economy FDI may exert an impact on human capital and on the labour market. Like in the case of knowledge and technology transfer, the effect can be positive or negative.

Establishing a subsidiary in the host country usually implies the creation of new jobs. Often foreign investment indirectly impacts the labour market in the host country by generating additional orders for domestic suppliers, subcontractors or business partners who also create new jobs.

Nevertheless, positive impact of a foreign direct investment is not limited to just creating new jobs. As shown by the results of studies, employees of enterprises run by a new owner may get access to direct forms of improving their skills, qualifications, and knowledge during professional training courses. They may also indirectly acquire new experiences by being involved and witnessing how new managerial or work organisation methods are applied in practice. Employees of foreign subsidiaries are also familiarised with production and management processes practiced in the parent firm (Loungani, Razin, 2001; Alfaro, Johnson, Robinson, 2004; De Mello, 1999; Ozturk, 2007). According to OECD, multinational enterprises invest more in human capital than domestic firms (OECD, 2002).

In addition, Hanson (2001) and Lim (2001) claim that employees who have gathered some knowledge and expertise in a multinational enterprise are often approached by domestic enterprises. Such transfers help in disseminating new work organisation, management, or production methods in the host economy. Some of these people decide to start their own businesses. All of these processes exert positive impact on the host country economy.

FDI inflows can also adversely affect the labour market. Usually multiple processes come into play in this case. MNEs are often innovative and technologically advanced which is why their demand for labour can be lower. Besides, a foreign investor who has taken over a local firm may want to rationalise (reduce) employment. Finally, foreign direct investment may squeeze local firms out of the market and, as a result, increase unemployment. Vissak and Roolaht (2005) also highlighted that the absence of R&D investment in the host country may, over a longer perspective, encourage well educated employees to look for a job abroad and trigger the outflow of highly qualified people.

FDI flows intensify host country's relations with global markets. Mencinger (2003) demonstrated that there is a relationship between FDI inflows and increased international trade flows. According to Blomström and Kokko (1998) as well as Zhang (2001a) experience from internationalisation boosts domestic enterprises'

activities in international markets. Local firms learn from the MNEs. Being a subcontractor or a supplier to the MNEs is often the first step in contemplating taking up export activities through the same distribution channels.

FDIs also exert an impact upon host country balance of payments but the assessment of its effects is clearly ambiguous. Some researchers point to negative impact to the host country's economy because MNE profits are mainly transferred abroad and over a medium or long-term the amount exceeds the value of the investment (OECD, 2002; Hansen, Rand, 2006; Ozturk, 2007). Negative effect can be intensified when a subsidiary in the host country is obliged to pay license fees and other charges for using intellectual property rights to the technology to the parent company (Sen, 1998).

Deterioration in the balance of payments can also be the effect of imports of goods and services to supply the subsidiary in the host country. For example, Mencinger (2003) proved that FDIs generate more imports than exports, which negatively affects the balance of payments. As has already been mentioned, it stems from the demand for products and raw materials often unavailable in required quality or quantities in the host country.

However, the opposite also happens when FDI flows exert a positive, long-term impact on the balance of payments. That is the case observed when the output of MNE subsidiary in the host country partly replaces imports and when such subsidiaries export their products benefiting from, *inter alia*, experience and distribution channels of the parent firm (Lipsey, Sjöholm, 2005).

FDI may also impact competition in the host country. The extent of this FDI effect depends on the competitiveness of the host country market and on the response of local firms to the market pressure exerted by foreign investors (Blomström, Kokko, 1998; OECD, 2002; Pessoa, 2007).

Critics of FDI often argue that multinational enterprises with huge capital resources are able to eliminate local competitors from the market by exercising monopolistic practices. Quite often big retail chains are accused of using such practices to eliminate local businesses totally unprepared to face their competition (Loungani, Razin, 2001; Zhang, 2001b; Ram, Zhang, 2002).

Government can partly counteract these practices by applying antimonopoly regulations. However, it is absolutely vital to maintain healthy balance in this area as over-protection of domestic operators may lead to giving preference to economically less effective domestic firms and, consequently, impede the growth of the host economy. Crucial arguments can be found in results of empirical studies which indicate that FDI inflows increase rather than restrict competition in the host country. MNEs' presence forces domestic companies wishing to remain in the market to launch activities aimed to enhance their productivity by, *inter alia*, increasing product and service innovation, investing in machinery, technologies, improving management and the quality of human resources (Lee, Tcha, 2004).

FDI may also impact the performance of local enterprises by improving the quality of business environment in the host country which contributes to economic growth. In this case we can speak of only positive impact.

Another example is breaking local monopolies by letting new firms into the market. In addition, through privatisation local enterprises start operating more effectively, drawing on usually better organised multinational firms. As a result, government and local politicians become less prominent actors on the economic stage.

Multinational enterprises force out changes in law. In the search for an attractive location, they consider institutional and legal environment. If it does not fit their expectations, large MNEs can force political decision makers to introduce legislative changes that encourage to invest and maintain business activities in the host country. Changes in law can refer to different aspects of business operations, e.g., taxes, construction law, public procurement, labour market, or environment. Benefits of such changes are also experienced by local firms (Hansen, Rand, 2006).

FDI flows may also impact economic policy implementation in the host country. Vissak and Roolaht (2005) believe that its sectoral structure or value are difficult to forecast. Under such circumstances successfully putting the economic policy agenda into practice is a difficult task. MNEs may also constrain the independence of local authorities. As owners of huge capital resources and powerful labour market players, MNEs may coerce local authorities into decisions that are beneficial to them although not necessarily meet the needs of the whole economy, including local entrepreneurs.

In conclusion, there are at least several main channels through which FDI flows impact the host economy. That is also evidenced by a number of empirical studies conducted in developed countries, e.g., in the United States and in the United Kingdom, as well as in the developing ones, such as, e.g., Hong Kong, South Korea, Singapore, Chile, Bulgaria, Romania, Malaysia, or Turkey. The above studies focused on individual economies and on groups of countries.

Most results carried out for groups of countries confirmed the positive impact of FDI on the economic growth in host countries. Usually GDP or GDP per capita and the total factor productivity (TFP) indicator are the most often used measures of economic growth (Tab. 1.2.).

Similar studies were also carried out for individual countries. Their results mostly concurred with those presented above, i.e., they confirmed positive effect of FDI inflow on economic growth of the host country. Such conclusion can be formulated, e.g., based on studies conducted for the United States (Asheghian, 2004; Roy, Van der Berg, 2006), Chin (Zhang, 2001b; Xu, Wang, 2007), Thailand (Kohpaiboon, 2003), Taiwan (Chang, 2006), Malaysia (Baharumshah, Almasaied, 2009), and Vietnam (Varamini, Vu, 2007; Vu, 2008).

Not all analyses have led to exclusively positive conclusions as to the impact of FDI on economic growth in the host countries. For example, Mencinger (2003),

who studied eight countries of Central and Eastern Europe<sup>19</sup> and relationships between FDI inflow and economic growth, obtained results suggesting negative impact on the host economy. Others came to the conclusion that there was no such relationship, e.g., Zhang (2001a) for Argentina, Brazil, Columbia, South Korea, and Malesia or Chowdhury and Mavrotas (2003) for Chile. In some studies researchers failed to identify the direction of the relationship, i.e., to unambiguously declare whether FDI was the source of economic growth in the host economy or the reverse. Their examples include, inter alia, studies by Gunaydin and Tatoglu (2005) for Turkey or by Kasibhatla, Stewart, Khojasteh (2008) for China, the US, Mexico, and the United Kingdom.

**Table 1.2.** Results of empirical studies on the relationship between FDI inflows and economic growth for selected groups of countries

Authors	Years	Countries	Dependent variable	Independent variables (selected)	FDI impact on economic growth <sup>†</sup>
1	2	3	4	5	6
Balasubramanyam, Salisu, Sapsford (1996)	1970–1985	46 developing countries	GDP	Employment, foreign and domestic capital resources, exports	+ (higher statistical significance in countries which pursue export support policy)
Borensztein, De Gregorio, Lee (1998)	1970–1989	69 developing countries	GDP growth per capita	FDI, human resources	+
De Mello (1999)	1970–1990	15 OECD countries and 17 non-OECD countries (mainly Africa and America)	TFP	FDI	+ (for OECD countries) – (for other countries)
Campos, Kinoshita (2002)	1990–1998	25 Central and East European countries including former Soviet republics	Annual GDP growth rate per capita	FDI, government expenditure, domestic investment, population	+
Carkovic, Levine (2002b)	1960–1995	72 countries	GDP growth rate per capita	FDI	FDI had no statistically significant impact on economic growth

<sup>19</sup> These were: Poland, Czechia, Hungary, Slovakia, Slovenia, Estonia, Lithuania, and Latvia.

1	2	3	4	5	6
Choe (2003)	1971–1995	80 countries	Annual GDP growth rate per capita	Domestic and foreign investment as % of GDP	+
Janicki, Wunna-va (2004)	1997	Bulgaria, Czechia, Estonia, Hungary, Poland, Slovakia, Slovenia, Romania, Ukraine	GDP	FDI, imports, cost of labour, political risk in the host economy	+
Hansen, Rand (2006)	1970–2000	31 developing countries from Africa, Asia, and Latin America	GDP	FDI	+
Duttaray, Dutt, Mukhopadhyay (2008)	1970–1996	66 developing countries, mainly from Africa and Asia	GDP growth rate	FDI-to-GDP ratio, exports as % of GDP	+ (for 29 out of 66 countries)

(+) positive impact, (–) negative impact

**Source:** Moura, Forte, 2010.

### 1.2.2. Home country economy

As argued by, among others, Lipsey (2002); Kokko (2006); Lee, Lin, Tsui (2009) effects of FDI for the home country depend on multiple factors typical of FDI home and host countries. They can be positive as well as negative.

To date researchers have concentrated on macroeconomic effects in developed countries, e.g., Desai, Foley, Hines, 2005; Globerman, Shapiro, 2008; Sunesen, Jespersen, Thelle, 2010; Globerman, 2012; Wiliński, 2013. Less attention was paid to emerging economies and micro-analyses in enterprises (Gorynia, Nowak, Wolniak, 2005; Gorynia, Trąpczyński, 2014).

Potential benefits of the investing enterprise provide the starting point for the evaluation of FDI effects for the capital-exporting home country. Foreign investment may improve its competitiveness in global markets by, inter alia, the growth of output or reduction of average costs. It may become a remedy to limited demand in the internal market although, in fact, international trade could be a satisfactory solution to the problem. Nevertheless, in some cases FDI produce more positive effects than exports, which occurs when (Buczowski et al., 2015):

- 1) the abundance of production factors and differences in their prices across countries reduce average costs more than in the export-based scenario;



- 2) incentives offered by the host country, e.g., tax holidays and allowances bring down investment costs;
- 3) foreign direct investment improves the image of an enterprise in foreign markets and facilitates further international expansion.

The ultimate balance total of benefits and costs of foreign expansion from the viewpoint of an enterprise is hard to predict and depends on many factors, including, inter alia, its profile or advantages of business environment in the home and host country.

The home country balance of payments may benefit from earnings on investment transferred from the host country. On top of that, positive effect on the home country's balance of payments will occur when foreign investor exports, e.g., machinery or components to a foreign subsidiary. However, a negative effect for FDI exporting economy can easily be imagined. First, it may occur when a foreign investor seeking to take advantage of lower cost of production abroad exports finished products to his home market. Second, when foreign investment replaces the to date exports to the host country (Świerkocki, 2011).

FDI exports may exert positive as well as negative impact on the labour market in the home country. FDI may enhance the number of jobs in the home country when foreign subsidiaries of MNEs buy, e.g., components, spare parts, machinery, and equipment in the parent company. Negative effects for the labour market in the home country emerge when new production abroad replaces domestic production or prevents its launching. The above review of empirical studies does not allow for an unambiguous assessment of the effects of FDI outflows for the labour market of the home country. Kokko (2006) believes that FDI exports may diminish the number of jobs in the home country. Others, e.g., Sunesen, Jespersen, Thelle (2010), when comparing studies from the EU countries, came to the conclusion that FDI as a means of foreign expansion was positive or neutral for employment in the parent enterprise. They believe that outward investment positively impacts employment structure because it usually makes headquarters recruit more highly qualified labour. On the other hand, Wiliński (2013) claimed that FDI did not significantly impact home country's employment.

Outward FDI may bring benefits to the home economy encapsulated in knowledge, skills, and advanced technologies acquired through the acquisition of an enterprise in the host country and exploitation of its potential, resources, laboratories or technologies in the home country (Świerkocki, 2011). As an example, one may take international expansion of the Chinese holding Geely, which has taken control over the Swedish Volvo and British Lotus and established an R&D centre in Gothenburg (*Lindholmen Science Park*). Products designed there are used in Geely models manufactured in China; they include shared vehicle platforms, engines, safety improving mechanisms, electronic parts, and other components. Knoerich (2017) claims that these benefits are more tangible in less developed capital-exporting economies.



FDI export may impact investment in fixed assets in the home country. The impact needs to be discussed from a foreign investor's point of view and from the viewpoint of other domestic enterprises (Lipsey, 1992). Empirical studies conducted in the US and in the OECD countries demonstrated that domestic and foreign investments are seen as substitutes to each other, which means that an investment into a foreign subsidiary precludes investing at home with all consequences stemming from it to other local enterprises. This may slow down the economic growth in the home country (Feldstein, 1995; Desai, Foley, Hines, 2005). But studies conducted in enterprises in the United States and Canada (Desai, Foley, Hines, 2005; Globerman, 2012) have led to completely opposite conclusions. Apparently, foreign investment was complementary to investment projects in the home country. It means that investment in foreign subsidiaries was going hand in hand with investment in parent companies, which had to meet bigger demand for components that were more technologically advanced than those manufactured abroad.

Similarly ambiguous results were obtained for the impact of outward FDI on investment performance of other domestic enterprises. Globerman, Shapiro (2008) provided evidence for the absence of relationship between FDI and investment in fixed assets in capital-exporting home countries. Thus, FDI exports have not restricted investment opportunities of other domestic enterprises. On the other hand, however, some studies focused on enterprises suggested that such relationship does exist (Svensson, 1993).

Foreign direct investment may impact home country exports. Theoretically, FDI exports, i.e., shifting manufacturing operations to other countries, should bring export activities down. In horizontal investment projects the effect can be seen in exports of final products while in vertical investment projects it tackles components and semi-finished products necessary for individual stages of production that has been moved to the country where capital has been invested. At the same time, FDI exports may stimulate export operations in the home country. That happens when demand for components used in manufacturing operations in foreign subsidiaries increases and their supplies originate from the parent company or from other domestic enterprises.

Empirical validation of the net effect of outward foreign direct investment on capital-exporting home country's exports was investigated by economists at the level of economies as well as by specialists in international business at the level of enterprises (for broad overview of studies see Sanna-Randaccio, 2002; Lipsey, 2002; Kokko, 2006). Results are not unambiguous, yet they provide legitimate grounds for concluding that FDI do not hamper the exports of goods from the capital-exporting home country, in particular in the manufacturing sector. Thus, FDI exports do not replace exports of goods. On the contrary, the two phenomena seem to complement and incentivise each other ultimately leading to improved wellbeing and generating economic growth in the home country.

### 1.3. Location determinants

Multinational enterprises can be looking for optimal location in any country or region across the globe although in practice world FDI have concentrated in just a handful of locations. Out of over 200 countries featuring in the World Investment Report, 58% of global FDI inward stock 2017 belonged to G20 countries, whose share in the global GDP was 78% (World Investment Report, 2018).

As mentioned above, FDI inflow may also bring benefits to less developed areas since, independently of political will and government capabilities, enterprises with foreign capital ensure extraordinary supplies of lacking resources to the economy and better exploitation of abundant resources (Świerkocki, ed., 2011).

Whenever investment is made by a renowned global holding, the host region ceases being anonymous and improves its image in international business circles. The region gains in visibility and stands a better chance of competing for other investors while in the long run it contributes to economic growth. For instance, out of 10 the largest multinational industrial enterprises in the world eight have invested in Poland until to date (World Investment Report, 2018; PAIH, 2018).

Studies on spatial dimension of business operations are embedded in location theories. The notion of location can be understood in two ways. First, statically by describing the distribution, density, structure, and relationships between economic operators in space. Dynamic approach examines how spatial structures and systems develop, how new elements are placed in space, and how decisions concerning their location are made.

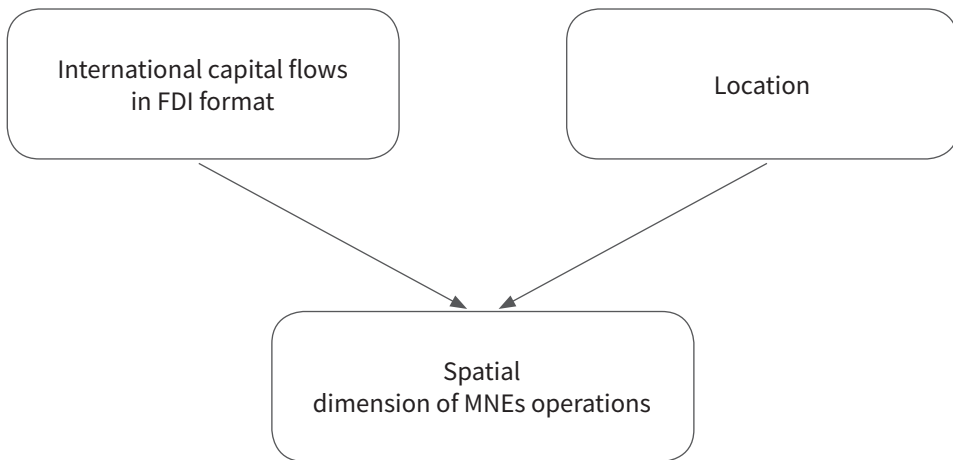
Location theories explain spatial structures and identify optimum location for business activities. To this end, a long catalogue of business location factors has been drafted, which lists, *inter alia*: factors decisive for enterprise's efficiency, benefits of productivity, agglomeration factors, and quality of infrastructure (Kuciński, 1997).

Elements of location theory can be traced in works of the fathers of classical economics: Smith and Ricardo. The subject was also taken up by physiocrats de Montesquieu and Quesnay. Benefits of the proximity of enterprises were also noticed by Marshall (1925). In the 19<sup>th</sup> and in the first half of the 20<sup>th</sup> century location theory was at the height of its development. Its main representatives were von Thünen, Weber, Christaller, and Lösch. Research on location theories were also conducted by Isard (1956), Lefebvre (1958), and von Böventer (1962), who managed to identify the main factors that impact diversification of economic space.

According to Maier and Tödtling (1987), spatial structure of countries and regions is influenced by agglomeration effects and urbanisation processes. Studies showed that the concentration of economic operators representing similar business activity profile facilitates reaping additional benefits. They result from specialisation, concentration of highly specialised services within a particular area, the development of business environment institutions, and mutual relations

between employers and employees. A spatially concentrated production structure favours infrastructure development in a given area. Maier and Tödtling rightfully stressed that simultaneous occurrence of the above listed factors can trigger a specific 'chain reaction' and impact location decisions of other businesses.

One of the critical aspects of spatial concentration of business activity are agglomeration effects. Lösch argued that these benefits arise mainly as a result of economies of scale, better sales opportunities, easier access to skilled labour, many manufacturing and service operators working in close proximity, and a big market. Characteristically, positive externalities can spillover to other industries (spillover effect).



**Figure 1.1.** International FDI flows and location

**Source:** author's own compilation.

Spatial dimension of MNEs' activities links international capital flows and location (Fig. 1.1.). Spatial dimension of business operations of MNEs gained in popularity with the rise of the so called new economic geography, theory explaining, among others, phenomena linked with globalisation. New economic geography makes production location dependent on deglomeration (transaction costs and differences in factor prices) and agglomeration factors (economies of scale) (Fujita, 1989; Krugman, 1997; 1998; Fujita, Krugman, Venables, 1999).

Spatial aspect of business operations of multinational enterprises have become more interesting at cognitive level as a result of devolution occurring in many countries where central government functions and powers got delegated to regions (or smaller territorial units) together with additional competences in formulating the development policy. Most countries in Europe and in the world are unitary states. Increasingly more of them, however, are engaged in devolution by handing over some of the central government powers to regional administration. Such processes have been observed, e.g., in the US, Canada, Poland, Switzerland,

Austria, Belgium, Germany, Spain, Italy, and Japan. In the European Union local authorities, besides competences, have funds that substantially support, e.g., local investment (Flejterski, Ziolo, 2008; Miszczuk, 2014; Zawora, 2016).

The authorities have realised that foreign investors are above all interested in a concrete location in space where they want to carry out their projects. Even if, in the first step, they seek to choose an adequate country, in the second step they must select an area within its territory that ensures the best conditions to launch and develop economic activity. Under such circumstances, regions can compete for foreign investors and convince them that by locating their investment in their respective region they will make the best choice. Only the most competitive regions, the best placed for success, can win this rivalry and their competitiveness largely depends on the decision and involvement of local and regional authorities (Kosiedowski, ed., 2005; Jaworek, Kuczmarska, 2016).

The above connects with two phenomena that remain in apparent contradiction, i.e. globalisation enhances the importance of territories at regional and local levels. To properly describe this, French literature uses the term *glocalisation* which is a combination of 'globalisation' and 'localisation'. One needs to stress that the term 'territory' embraces more than just physical space. It also covers space created by a specific community, accumulated knowledge and skills, together with institutions, relationships between them and actors of social and economic life (Pietrzyk, 2002; 2004).

Attempts to explain why a particular location has been chosen by multinational enterprises can be found in economic theories that address:

- 1) vertical foreign direct investment (Helpman, 1984; Yeaple, 2003; Alfaro, Charlton, 2009);
- 2) horizontal foreign direct investment (Markusen, 1984; Brainard, 1997; Markusen, Venables, 2000; Helpman, Melitz, Yeaple, 2004);
- 3) firms' international operations related to their productivity (Helpman, Melitz, Yeaple, 2004).

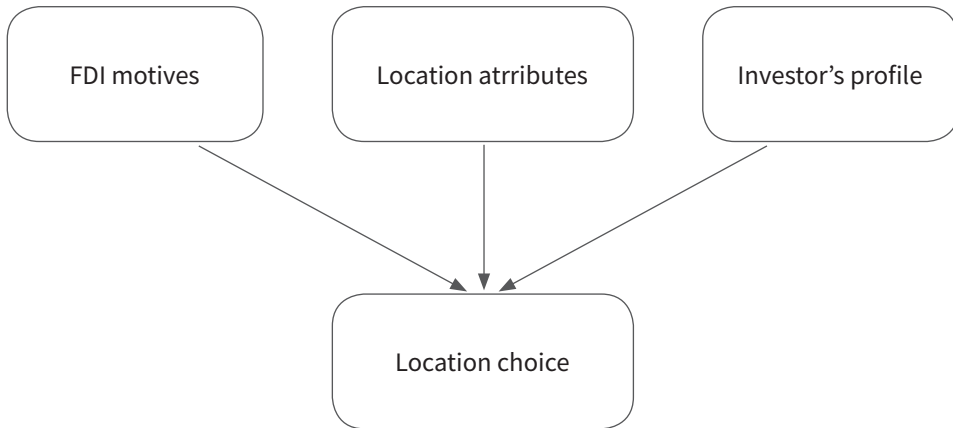
The second stream includes studies in international business that explain:

- 1) monopolistic advantage theory (Hymer, 1960; Kindleberger, 1969; Caves, 1971);
- 2) product life cycle theory (Vernon, 1966; 1979; Hill, 2007);
- 3) relationships between institutions and enterprises in the light of institutional theory (Francis, Zheng, Mukherji, 2009; Peng, 2009; Faeth, 2009; Marinova, Child, Marinov, 2012; Obłój, 2014).

However, central role in studies on spatial dimension of activities of multinational enterprises has been played by the Dunning's eclectic paradigm (theory) of international production (Dunning, 1977; 1980; 1981; 1983; 1988; 2001; Cantwell, Narula, 2001; Dunning, Lundan, 2008; Lundan, 2010).

The above theory, as already mentioned, argues that FDI takes place when an enterprise enjoys three types of advantages (OLI), including the location advantage (L). At the same time, enterprises which engage in FDI are guided by different motivations (Dunning, Lundan, 2008). Hence, the choice of location

is a derivative of: (1) specific attributes (traits) of a given location, (2) motives followed by an enterprise with foreign capital, and (3) specific investor's profile (industry, innovation, ownership structure, and others) (Dunning, Lundan, 2008; Strange et al. 2009; Nielsen, Asmussen, Weatherall, 2017) (Fig. 1.2.).



**Figure 1.2.** Location choice

**Source:** author's own compilation based on: Dunning, Lundan, 2008; Strange et al., 2009; Nielsen, Asmussen, Weatherall, 2017.

The list of location attributes is long and the following ones are the most often investigated:

- 1) size and potential of the domestic market (Cheng, Kwan, 2000; Mottaleb, 2007; Busse, Hefeker, 2007; Anyanwu, 2012; Lautier, Moreau, 2012);
- 2) level and quality of life (Alsan, Bloom, Canning, 2006);
- 3) economic stability (Asiedu, 2001; Bartels, Napolitano, Tissi, 2014);
- 4) agglomeration effects (Guimarães, Figueiredo, Woodward, 2000; Wagner, Timmins, 2009; Jones, 2017);
- 5) cost of labour, labour resources, quality of human capital (Schneider, Frey, 1985; Carstensen, Toubal, 2004; Janicki, Wunnava, 2004; Asiedu, 2006; Bellak, Leibrecht, Riedl, 2008; Brooks et al., 2010; Azémar, Desbordes, 2010);
- 6) labour market flexibility (Floyd, 2003; Whyman, Baimbridge, 2006);
- 7) taxes (Clausing, Dorobantu, 2005; Bellak, Leibrecht, 2007);
- 8) business environment (Guagliano, Riela, 2005);
- 9) openness of the economy (Erdal, Tatoglu, 2002; Bhavan, Xu, Zhong, 2011; Anyanwu, 2012);
- 10) political risk (Busse, Hefeker, 2007; Krifa-Schneider, Matei, 2010; Jimenez, de la Fuente, Duran, 2011; Asongu, Kodila-Tedika, 2015);
- 11) institutional environment (Bénassy-Quéré, Coupet, Mayer, 2007; Kostevc, Redek, Susjan, 2007; Du, Tao, 2008; Ali, Fiess, MacDonald, 2010; Bartels, Napolitano, Tissi, 2014);

- 12) infrastructure (Zhang K. H., 2001; Biswas, 2002; Asiedu, 2006; Botric, Skuflic, 2006; Mengistu, Adams, 2007; Mhlanga, Blalock, Christy, 2010);
- 13) corruption (Bénassy-Quéré, Coupet, Mayer, 2007; Cleeve, 2008);
- 14) geographic distance (Wei, 1995; Liu et al., 1997; Wei, Liu, 2001; Blanc-Brude, Cookson, Piesse, Strange, 2014);
- 15) cultural distance/proximity (Tang, 2012; Norell Bergendahl, 2015; Mac-Dermott, Mornah, 2015);
- 16) FDI policy, including, promotion campaigns of host country public administration and investment incentives (Bond, Samuelson, 1986; Black, Hoyt, 1989; Faeth, 2009; James, 2009a,b; Nene, Pasholli, 2011; Harding, Javorcik, 2011; Owczarczuk, 2013).

Nevertheless, despite the abundance of analyses devoted to individual variables, only one thing is certain: inflow of foreign direct investment is the function of demand estimated by an entrepreneur (market size) and investment risk assessment (stability of the economic setting), i.e., it is subject to general investment decision making rules formulated by Keynes (Lautier, Moreau, 2012).

## 1.4. FDI support rationale

For the government to be able to maintain control over economic processes it is ideal when domestic economy develops using domestic capital independent of external influences. However, giving priority to economic autonomy and closing country borders to foreign investment is not a good solution, in particular for less affluent economies. Significant proportion of personal and corporate income is spent on current needs, which reduces the perspectives of capital accumulation and impedes or sometimes even prevents from maintaining growth in the economy. A country may develop too slowly or even fall into stagnation trap. The longer it takes, the more widespread the consequences of backwardness and poverty. Unfortunately, this creates a vicious circle since a poor country has got no investment resources and the lack of investment resources perpetuates anachronistic economic structures. Economic backwardness deepens also due to the lack of access to modern technologies. FDI flows can solve these problems as not only do they fill in the gap in domestic capital stock but advance technological progress. By knowing that, investors can exert pressure on decision makers to get the biggest benefits possible (Ancyparowicz, 2009).

Using instruments that encourage market participants to take specific course of action (or refrain from it) is one of prerogatives of the state. The scale and scope of these measures largely depend on the governance model pursued by a particular country. In a minimal state model (the so-called night-watchman

state) administration's interference is limited to the minimum. That is the effect of the conviction about the perfection of market mechanism and absolute freedom of a man reflected in the right to take unlimited risk. On the other hand, the idea of a regulatory state acknowledges the existence of market failures and external effects (costs) that justify the application of various instruments by public authorities. These instruments are addressed mainly to owners of capital, including foreign operators (Surdej, 2011: 21).

They are potential investors and each state authority, irrespective of its level (be it central, regional, or local), should be interested in attracting new investment. New investment projects provide foundations for residents' wellbeing, which seems important to any democratically elected authority. Investors generate economic growth, change production structure to more efficient and help poorer countries and regions catch up with their better off competitors (Lucas, 1990).

As already mentioned, most studies have demonstrated that where there are appropriate domestic policies in place and the economy is at a basic level of development, FDI trigger technology transfer and contribute to the creation of human capital and integration of international trade, help in creating a more competitive business environment, and accelerate the development of domestic enterprises; all of that translates into economic growth (OECD, 2003).

Nevertheless, one needs to bear in mind that financial, technological, and organisational advantage of foreign investors in a given industry may lead local entrepreneurs to bankruptcy or, because of the scale of launched activities, increase factor prices so much that operators from other industries cannot successfully compete (Puchalska, 2015). Therefore, incentives offered by the authorities to foreign investors should be based on well-thought decisions as the final effect of their application does not necessarily have to be beneficial to society.

Considering the above, public (state, self-government, regional, local) authorities can choose between three strategies addressed to foreign investors (Świerkocki, 2015: 348):

- 1) do nothing and expect that free market will best identify the desired scale and industry structure of investment projects proposed by foreign capital;
- 2) try to attract all potential projects, irrespective of their size and industry, being convinced that any new foreign investment brings benefits;
- 3) try to attract FDI categories which fit long-term development plans and structural transformations in economy.

Investment incentives may be helpful if second or, especially, third strategy are pursued. Despite controversies over the effects of FDI to the host country's economy (Blomström, Kokko, 1998) and the absence of certainty as to the relevance and impact of location factors (Nielsen, Asmussen, Weatherall, 2017), authorities in many countries actively compete and attract foreign investors by using various support and incentive schemes, starting from promotional campaigns through fiscal (e.g. tax allowances) and financial incentives (e.g. subsidies) up to in-kind support such as accompanying infrastructure (Tavares-Lehmann et al., eds., 2016).



Recent years have witnessed two contradictory approaches exercised by the authorities vis-a-vis foreign investors, which manifest themselves, above all, in legislation. On the one hand, host countries, in particular developing economies, liberalise regulations targeting FDI inflows. On the other hand, they put in place more restrictive and selective (qualitative) regulations and support criteria. Their goal is to attract desired types of investment, e.g., technologically advanced projects (Cass, 2007; James, 2009a,b; Harding, Javorcik, 2011; World Investment Report, 2018).

In 2017, 65 countries adopted 126 new regulations and solutions in the field of foreign investor policy. That was the biggest wave of changes in the last decade. Almost  $\frac{3}{4}$ th of them were designed to liberalise, promote, or facilitate investment. In 18 cases various constraints were introduced. Their number rapidly increased between October 2017 and April 2018 when ca. 30% of all newly adopted legal solutions were restrictive. The remaining regulations can be considered neutral (Tab. 1.3.).

**Table 1.3.** Changes in national policies vis-a-vis foreign investors (2008–2017)

Item	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Countries which have introduced changes	40	46	54	51	57	60	41	49	59	65
No. of changes (total), including:	68	89	116	86	92	87	74	100	125	126
a) facilitating changes	51	61	77	62	65	63	52	75	84	93
b) restrictive changes	15	24	33	21	21	21	12	14	22	18
c) neutral changes	2	4	6	3	6	3	10	11	19	15
share (%) (a)	75.00	68.54	66.38	72.09	70.65	72.41	70.27	75.00	67.20	73.81
share (%) (b)	22.06	26.97	28.45	24.42	22.83	24.14	16.22	14.00	17.60	14.29
share (%) (c)	2.94	4.49	5.17	3.49	6.52	3.45	13.51	11.00	15.20	11.90

**Source:** author's own compilation based on data from UNCTAD, 2018.

The developing countries in Asia, Africa, and Europe were the most actively liberalising regulations targeting foreign investors. China can be used as an example since in 2017 the country lifted quite a number of restrictions imposed on foreign investors in the service sector, in industrial manufacturing, and in mining. Egypt liberalised access to its energy market. Many countries established new special economic zones (SEZ) or facilitated access to them to foreign investors (e.g., Bangladesh, Kongo, Egypt, Vietnam, Zimbabwe, Thailand). On the other hand, mainly developed countries introduced new constraints on foreign capital flows justifying them with, inter alia, the need to improve security or protect



strategic resources. The list of these countries included, among others, the United States, Australia, Canada, Japan, and Germany. Some countries modified local regulations and thus hampered investment possibilities available to foreign investors (e.g., Indonesia).

In addition, 2017 witnessed the smallest number (18) of new international investment agreements (IIAs)<sup>20</sup> in more than 30 years. For the first time ever more agreements expired (22) than entered into force (15). Turkey, which concluded four new agreements, was the most active followed by Hong Kong and China (2 agreements each) (World Investment Report, 2018).

Theoretically, investment subsidies, in particular those geared towards stimulating FDI inflow, are viewed as a step in the right direction due to market failures, such as, e.g., information asymmetry in favour of a foreign operator (Hanson, 2001) or *spillover* effects of FDI in the host country (Blomström, Kokko, 2003) but, at the same time, theory does not pre-judge as to the format of state interference (Corden, 1997).

National, regional, and local authorities around the globe consistently offer incentives to attract foreign investment inflows. Johnson, Toledano et al. (2013) distinguished 4 main categories of host country measures: fiscal/tax, financial, regulatory, and technical. A very similar classification was proposed by Tavares-Lehmann et al. (eds., 2016) (financial, fiscal, regulatory, and information-technical). The above classifications have been supplemented with an additional category, i.e., in-kind support and thus for the needs of this publication the following division of investment incentives has been adopted:

- 1) financial (e.g., grants, subsidies, loans, real estate offered at preferential prices);
- 2) fiscal (tax allowances and tax exemptions);
- 3) regulatory (e.g., agreements, bilateral and international agreements enhancing FDI inflows, e.g., import facilitation, labour law, environmental protection);
- 4) information-technical (information, promotion, advice, support in investment procedures usually rendered by government agencies and local government administration);
- 5) in-kind support: accompanying infrastructure (e.g., land with utilities, building access roads).

From economic point of view, all of the above are subsidies in one form or another intended to reduce investors' costs and financial risk of the project and persuade the investor to choose the location preferred by the host country authorities. Attracting FDI by offering diverse incentives implies costs and is rational when generated investment brings positive externalities that exceed the costs (Corden, 1997).

According to Leahy and Montagna (2000a; 2000b), governments usually do not have detailed information about expectations of potential investors as to their preferred incentives which may lead to a situation when an enterprise, because

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20 At the end of 2017 as many as 3,322 agreements were in force.

of its strong negotiating position, reaps benefits exceeding its needs while benefits to the state are significantly smaller than expenditure involved in the incentive.

Empirical studies confirm that correct identification of market failures faced by investors is crucial for optimum selection of the instrument. The exercise is extremely difficult which is why, from the host country's welfare perspective, avoiding preferences to FDI would be a safer solution (Hanson, 2001).

Amongst instruments intended to attract foreign capital, special place is occupied by broadly understood investment incentives (subsidies) that may impact the size, location or economic sector, in which the project is carried out. They are usually formally available on the same conditions to domestic companies, however, in practice, because of quantitative (e.g., investment value, number of jobs) and qualitative (e.g., investment in R&D) criteria addressed mainly to companies with foreign capital (OECD, 2003; WTO, 2006).

In this toolkit surely the biggest importance is attributed to financial and fiscal incentives (above all subsidies and tax allowances) which, quite naturally, are the main focus of empirical studies. Investors also appreciate access to public services at prices lower than the market prices (e.g., labour cost subsidies, accompanying infrastructure) and the possibility of benefiting from all types of preferential regulations which reduce the costs of starting and carrying out business activity (Tavares-Lehmann et al., eds., 2016).

Public expenditure dedicated to promotion is another category of spending used for attracting potential investors, creating positive image of the host country (region), providing basic business information and data free of charge, and assisting in formalities required for carrying out projects or launching manufacturing processes. Although subsidies from this category reduce the cost of foreign investor's project in a way that is little measurable, they can be important for making a location decision, especially in developing economies where market distortions occur rather often and state structures perform less efficiently (Harding, Javorcik, 2011).

Due to complexities involved in estimating externalities, empirical studies of FDI incentives focus in general on their relevance as a factor decisive for the choice of investment location (Tab. 1.4.).

Their results are ambiguous and provide diverse answers depending on concrete circumstances, in which incentives have been used. However, most of them lead to a legitimate conclusion that they played secondary role in the location decision (Allen et al., 2001; James 2009a,b; James, van Parys, 2009; 2010; Klemm, van Parys, 2012; van Parys, 2012; Tavares-Lehmann et al., eds., 2016).

Similar opinions were expressed by Andersen, Kett, Uexkull (2017). According to them, incentives are rarely the most important factors considered by MNEs when choosing the investment location but they may be seriously taken into account when fundamental factors are rated similarly. Similar conclusions as to fiscal incentives were formulated by Morisset and Pirnia (2000) as well as Larsson and Venkatesh (2010). They believe, fiscal incentives are of secondary

relevance and are considered by investors only when fundamental factors (political and economic stability, infrastructure, costs of transport) are similar for potential locations.

**Table 1.4.** Examples of studies from different countries: investment incentives and location decisions

Author	Scope	Conclusions	
G-30 (1984)	52 MNEs whose share in global FDI resources is ca. 50%	Investment incentives ranked 7 <sup>th</sup> among several dozen location determinants	
Fortune/Deloitte and Touche (1997)	Location decisions made by several hundred enterprises across the globe	Fiscal incentives ranked 13 <sup>th</sup> amongst 26 location determinants	
McKinsey (2003)	BPO and automotive industries in India	Does not feature in the top three location factors	
UNIDO (2011)	7 000 firms in 19 countries (2000–2011)	11 <sup>th</sup> out of 12 location determinants in relevance ranking	
World Bank (1999–2012)		Would they invest without investment incentives? (% of ‘yes’ answers)	Have incentives influenced their investment decisions? (% of ‘yes’ answers)
	Thailand (1999)	81	–
	Vietnam (2004)	85	–
	Serbia (2009)	71	6
	Tanzania (2011)	91	8
	Tunisia (2012)	58	25
	Kenya (2012)	61	11

**Source:** Johnson, Toledano et al. (2013); James (2013).

Studies also show that fiscal incentives and labour cost subsidies are more effective in developing rather than developed economies (Andersen, Kett, Uexkull, 2017). Apparently, investment incentives more effectively attracted foreign investors in countries with better infrastructure (Bellak, Damijan, Leibrecht, 2009) and more investment-friendly approach (James, 2009a,b).

How effective incentives are in attracting FDI depends also on investor’s profile and FDI motivational drivers. James (2013) claims that the impact of incentives on location decisions depends on FDI motives. Incentives were the most important

for efficiency seeking firms. Cost reduction through, e.g., availing themselves of tax allowances, boosted their competitiveness in foreign markets.

On the other hand, studies conducted by *Investment Consulting Associates* (ICA, 2013) demonstrate that firms' sensitivity to investment incentives depends on the stage in the life cycle of these firms, and their respective needs. New firms naturally preferred incentives that reduce initial investment outlays while more experienced ones look for tax instruments that would reduce costs and increase profits. Besides, investors prefer incentives that are transparent and easy to understand; they also appreciated stable and certain schemes. Hence, schemes not meeting these criteria are probably less effective in terms of the impact on investment and location decisions. At the same time, their usually secondary role has made them unable to compensate for low attractiveness of the location caused by, e.g., poor infrastructure, unstable regulatory framework, or economic risk.

Hebous, Ruf and Weichenrieder (2010) proved that fiscal incentives exerted stronger impact upon location decisions made by investors in *greenfield* rather than *brownfield* projects. According to James (2009b) they attracted export FDI rather than investors operating within the host country. Overesch and Wamser (2008) examined differences in how incentives impact vertical and horizontal investment. It turned out that vertical projects were more susceptible to the impact of investment incentives.

So far, the importance of incentives to the inflow of EFCs to Poland and its regions has rarely been studied. Even less interest was given to activities within this area made by territorial self-government, whose economic competences increased after the 1999 reform.<sup>21</sup> Sensitivity of capital inflowing to Poland to investment incentives has never been investigated as a separate subject but was considered only on the occasion of other studies. Usually they focused on investment attractiveness of Poland and its regions, special economic zones, and foreign investors' motives to choose Poland as a location of their business activities (Tab. 1.5.).

Most of these studies were conducted at micro-economic scale using a questionnaire-based method on samples of diverse sizes from very small ones (case studies) to relatively big ones that enable quantitative analyses. For reasons pertaining to data aggregation, available macro-economic studies of determinants of FDI inflows to Poland carried out using econometric instruments (e.g., Orłowski, 2010; Wach, Wojciechowski, 2016; Cieřlik, 2005c; 2017; and others) did not allow for formulating detailed conclusions about the efficiency of investment incentives.

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21 The reform introduced new administrative division of Poland and a three-tier territorial structure. Sixteen provinces (regions) and 315 poviats (counties) were created. The reform was intended to foster local government structures and improve administrative effectiveness at lower levels. The number of provinces was reduced from 49 to 16. Currently, (as at 1 January 2018) there are 16 provinces, 380 counties (66 city counties 314 land counties) and 2,478 communes (302 urban, 628 urban-rural, and 1, 548 rural) (GUS [Statistics Poland], 2018).

**Table 1.5.** Incentive efficiency for FDI inflows to Poland in the light of empirical studies

Authors	Research period	Scope	Details	Conclusions
1	2	3	4	5
Polish Information and Foreign Investment Agency (2003)	2003	Investment barriers in Poland (in communes)	Synthesis of many studies	Lack of effective promotion and investment incentive scheme deterred foreign investors from investing in Poland.
Wysokińska, Witkowska (2004)	2001	Motivation behind investing in Poland	15 enterprises with foreign capital	Investment incentives were important to 42% of respondents, their absence was seen as major impediment by only 10% of respondents.
Ślomińska (2007)	2005–2006	Factors that encourage and discourage FDI flows in wholesale and retail industry in Poland	309 enterprises in 2005 and 400 in 2006 100 communes in 2005 and in 2006	Absence of investment incentives was not seen as a barrier. The less developed a commune, the bigger importance for attracting investors attributed to SEZ.
Stawicka (2007)	2004	Poland's investment attractiveness	234 enterprises with foreign capital	SEZs were the least significant factor in choosing Poland as an investment location.
Majewska (2006)	1992–2003	Macroeconomic statistical analysis and regression analysis of FDI inflow determinants for Poland	–	Economic and demographic parameters were the main assets of the Polish market from FDI perspective. Foreign investors paid a lot of attention to the size of the market, its capacity, and development potential.
Różański (2010)	2007–2008	Motives for investing a) in the host country; b) in Poland; c) in Łódzkie province	301 enterprises with foreign capital in the Łódzkie province	a) fiscal allowances were the most important location determinant, while grants were little important; b) SEZs were little important; c) local SEZ was little important

Tab. 1.5 (cont.)

1	2	3	4	5
Deloitte (2010)	2010	Attractiveness assessment of 14 SEZs	152 Polish and foreign enterprises	When planning a new project, ca. 68% of respondents would invest in SEZ again.
Dorożyński, Świerkocki, Urbaniak (2015a,b)	2010	Assessment of the importance of factors characterising foreign investors' activities in Łódźkie province, in particular those decisive for location selection	188 enterprises with foreign capital, 87 territorial self-government unit	Investment incentives were of secondary importance to FDI inflows to communes and counties in the Łódźkie province. Incentives were not decisive for enterprises with foreign capital decision to continue operations in the region.
Ernst & Young (2011)	2011	Assessment of benefits from being based in SEZ	215 domestic and foreign enterprises in 16 SEZ	96.7% of respondents indicated fiscal incentives as the main benefit of operating in SEZ. 81% declared they were ready to make further investments. Their plans depend on the extension of tax allowances.
KPMG (2014)	2014	SEZ assessment by investors	234 domestic and foreign enterprises from 16 SEZ	Positive assessment of SEZ in w Poland. Investors assessed cooperation with SEZ managing companies the best and human resources the worst.
Stawicka (2015)	2006, 2012	Assessment of incentives, which influenced FDI achievements in the EU, including Poland	6,000 enterprises with foreign capital	For firms researched in both periods, incentives and investment allowances were amongst major determinants encouraging them to invest in a given country; they were preceded by access to host country market and attractive factor prices

Pastusiak et al. (2016)	2014–2015	Importance of investment in SEZ for the country's economy	638 domestic and foreign enterprises in SEZ and 172 commune local authorities	More than 50% of respondents assessed SEZ as an important factor that enhances investment attractiveness of a region. Amongst location factors income tax allowances (78.3% EFC, 71.4% domestic) and local tax allowances (67.6% EFC, 67.4% domestic) were the most important.
Karaszewski, (ed., 2016)	2014–2016	Study on FDI determinants in Poland – in four provinces (kujawsko-pomorskie, łódzkie, warmińsko-mazurskie, wielkopolskie)	337 TGDs in communes, 207 EFC	Tax incentives were the least important determinants of location choice. Slightly higher significance was found out for the attitude of regional and local authorities towards EFC and help in establishing relations with trade partners and business environment institutions.
Dorożyński, Świerkocki, Urbaniak (2017a,b)	2014–2015	Assessment of factors decisive for the selection of SEZ as investment location	16 SEZ in Poland	Intra-zone factors, dependent on SEZ managing companies turned out to be the most important. Amongst incentives, tax allowances and information-advice support were of crucial importance.
Dorożyński, Świerkocki, Urbaniak (2018a)	2010, 2015	Comparison of the importance of different factors in attracting FDI to the Łódź region	92 micro and small EFCs in 2010 and 52 micro and small EFCs in 2015	Foreign investors were looking, above all, for low costs and highly qualified labour. Investment incentives were secondary reasons of location choices. Investors were critical about collaboration with public administration in the region.

**Source:** author's own compilation based on: PAIILZ [Polish Information and Foreign Investment Agency], 2003; Wysokińska, Witkowska, 2004; Majewska, 2006; Słomińska, 2007; Stawicka, 2007; Różański, 2010; Deloitte, 2010; Ernst & Young, 2011; KPMG, 2014; Dorożyński, Świerkocki, Urbaniak, 2015a,b; 2017a,b; 2018a; Pastusiak et al., 2016; Karaszewski (ed.), 2016.

Table 1.5. provides examples of studies that cover all of Poland, as well as selected regions. They have demonstrated that incentives were rather little important to foreign investors seeking to locate their projects in Poland who were guided by other motives. In the light of empirical studies from other countries, Polish experiences confirm the general observation that in poorer economies fundamental factors are crucial (Tokunaga, Iwasaki, 2017) while incentives are secondary and may sometimes be seen as wasting public resources.

Investment incentives may also be offered to support outward FDI. Sauvant (2008) claims that researchers have paid clearly less attention to this aspect than to incentives offered to FDI inflows and home country measures were used mainly to support exports.

In addition, no unambiguous assessment is available of effects of industrial policy geared towards outward FDIs. Its instruments, selection of beneficiaries and, above all, effectiveness have never been discussed in-depth in literature (Gorynia et al., 2013b; Götz, 2013). As argued by Buckley et al. (2010) support should be made dependent on, *inter alia*, motivation driving the FDI, firm's size, industry, and host economy characteristics.

From the point of view of the home economy, a foreign direct investment is linked, above all, with the outflow of capital, technology, and knowledge abroad. Intuitively, we may assume that a domestic entrepreneur involved in outward FDI strengthens other economies instead of investing in his home country. Looking at FDI capital flows from this perspective, should the home country support foreign expansion of its enterprises? Is it not a way towards depleting its home resources and slowing down economic growth in the home country of capital?

According to Gorynia (2011), government support to business should not be selective. It needs to be given to all those willing to get it. What counts is the accomplishment of the goal for which such a support scheme has been established, like, e.g., increased internationalisation of the Polish economy, its sectors and enterprises. On the other hand, Cieřlik (2011b) is of the opinion that assistance should be selective and addressed to the most dynamic enterprises (champions) where it can bring the biggest benefits to economy.<sup>22</sup>

These doubts can be dispelled by conclusions from microeconomic research (Gabrielczak, Serwach, 2014). Empirical analyses of Polish enterprises suggest that firms, which decided to engage in a foreign direct investment are usually more productive than those which have limited their operations to the domestic market. They are also more productive than domestic companies whose scope of activities is constrained to trade. The above findings are confirmed by foreign economists, e.g., Temouri, Driffield and Higón (2008); Keller, Yeaple (2009); Criscuolo and Martin (2009); De Backer and Sleuwaegen (2012).

22 What is important in this context is the origin of capital that receives support. According to Gorynia et al. (2015c) aid should be offered mainly to Polish firms, not to foreign affiliates based in Poland who are guided by different investment motives. In practice, the postulate may be difficult to be accomplished in the light of the European Union competition law.



In subject-matter literature we can come across at least several classifications of home country measures. Authors of OECD report (2003) distinguished three categories: (1) financial, (2) fiscal, and (3) regulatory. Economou and Sauvart (2013) proposed six categories: (1) institutional framework, (2) IT services, (3) financial, (4) fiscal, and (5) insurance measures, as well as (6) treaties and other international agreements. At the same time, Johnson, Toledano, et al. (2013) divided incentives available to outward foreign investment into the following five categories: (1) financial, (2) fiscal, (3) information-technical, (4) risk mitigating, and (5) other, including regulations and procedures facilitating carrying out investment projects.

The broadest catalogue in Polish specialist literature has been developed by Wiliński (2013). This catalogue covers: (1) economic policy instruments that directly support firms which invest abroad (including bilateral agreements and international treaties, domestic financial, fiscal, insurance, and institutional mechanisms), (2) state involvement in the ownership structure of companies which invest abroad, (3) sovereign wealth funds, and (4) economic policy instruments that directly support companies which invest abroad, e.g., mitigate business risk, improve infrastructure, promote technology transfer to third countries.

Considering the above classifications, for the purpose of this publication the following five groups of instruments that support outward FDI have been adopted:

- 1) financial, e.g., money transfers, subsidies, grants, preferential loans, equity involvement in investment projects;
- 2) fiscal, e.g., tax allowances, holidays, deferrals, rate reductions, losses carried forward, accelerated depreciation;
- 3) regulatory, e.g., international regulations and agreements on investment and taxation, or simplifying bureaucratic procedures, which facilitate and encourage to invest abroad;
- 4) information-technical, e.g., foreign market research, including examination of institutional and legal environment, competitors, suppliers, subcontractors, customers, R&D support, human resources, as well as consulting in investment procedures;
- 5) risk mitigating, e.g., warranties and insurance connected with threats involved in operating outside of the home country. They can be linked with political (conflicts, unfavourable changes in legislation, etc.), as well as economic (delays in payments, unreliable business partners, customers, etc.) risks.

As argued by Wiliński (2013), incentives that support outward FDI were first used by highly developed countries, and then by developing ones. Obviously, this sequence is due to the fact that entrepreneurs from more affluent countries began to expand to foreign markets earlier. In these cases, however, the role of home country measures was similar. Although the number of studies devoted to incentives to FDI exporters is rather small, we may assume that they facilitated investment, as well as contributed to the reduction of its costs and risks.



## Chapter 2

# Location Premises: Perspective of Enterprises with Foreign Capital in Łódź Region

### 2.1. Scope of research, methodology and selection of research sample

The main goal of questionnaire-based study<sup>23</sup> was to validate the first hypothesis ( $H_1$ ), according to which investment incentives impact the selection of a specific location by foreign investors but are not factors of primary importance. To accomplish the goal, grounds for the location selection were identified and the role played by incentives was investigated based on the location decisions of the largest foreign investors in the Łódzkie province as a research sample.

The study was conducted at regional level using the quantitative PAPI (*Paper and Pen Personal Interview*)<sup>24</sup> method, considered one of the most effective market research methods (Churchill, 2002).

Each interview took on average one hour. Respondent group included managers and top-level staff of enterprises with foreign capital (EFC) (mainly CEOs and Board members, directors, finance directors, accountants, and proxies).

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23 The results of the study were first published in Dorożyński T., 2018, *Wspieranie zagranicznych inwestycji bezpośrednich w Polsce przez system zachęt dla inwestorów*, Wydawnictwo Uniwersytetu Łódzkiego.

24 The method consists in conducting direct interviews with respondents. To this end a hard copy questionnaire is filled out by a trained interviewer in respondent's presence, usually at her/his place. A direct interview is the most flexible method of data collection; it provides a significant number of responses and its course can be well controlled. PAPI enables holding lengthy interviews, during which data can be obtained about these complex phenomena and this is its unquestionable advantage. Its disadvantage, however, is relatively high cost and time-consuming procedure (Schroeder, 2007).

In order to get answers to all questions from the questionnaire sometimes several persons had to be interviewed from one and the same enterprise.

The author drafted the questionnaire and acted as a substantive coordinator of the study. Direct interviews were held in June and July 2017 in the Łódzkie province. They were conducted by a team of 12 especially trained interviewers.<sup>25</sup>

The study was carried out using a structured questionnaire for explicit purpose interview. A five-point Likert scale was used. The questionnaire was composed of 38 questions, mostly closed-ended or semi open-ended, with a range of Likert scale responses. They have been grouped in 6 categories (A–F) including:

- A) basic enterprise data, e.g., industry, location, turnover, employment, innovative activities;
- B) foreign operations including foreign direct investment profile, exports and imports;
- C) reasons for the location decision, including factors that encourage or discourage investors to choose the Łódzkie province, alternative locations, and institutional aspects;
- D) assessment of the importance of investment incentives, including the impact of diverse host country measures, for location decision;
- E) collaboration with government administration, local authorities at different levels, and with other business environment institutions;
- F) assessment of the role of assistance, the so called post-investment support, offered to those who decided to launch their operations in the Łódzkie province.

Data from the REGON register of businesses kept by the Statistics Poland were used as a sampling frame for the survey. Two hundred interviews were planned with the largest EFCs based on the number of people employed registered (i.e., based) in the Łódź region. Thus, all firms operating in the Łódzkie province through their subsidiaries, branches, or representation offices, etc., but having their principal place of business elsewhere were omitted. The sampling frame comprised 653 enterprises which launched their operations in the Łódź region between 1988 and 2016.<sup>26</sup> Two research samples: principal and back-up were selected from the set.

25 Interviews were conducted by the staff of 'An-Stat' Agency of Statistical and Economic Analyses based in Łódź. They have many years of expertise in statistical studies, some hold Ph.D. degrees in economics. By selecting an agency from the Łódź region respondents could be reached much more easily. The study was financed from statutory funds of the Department of International Trade of the University of Lodz.

26 Legal regulations binding before the systemic transformation in 1989 did not favour FDI inflows to Poland but did not prevent the establishing of companies with foreign capital. The Act of 23 April 1986 on companies with foreign capital was one of the first comprehensive attempts to create the legal framework for foreign investors' operations in Poland. However, it did not unleash substantial capital inflows partly because of the principle according to which Polish partners representing the so called 'socialized assets' had to have majority holdings in company's equity. Provisions of the Act of 1986 were repealed by the adoption

For reasons pertaining to statistical confidentiality principle,<sup>27</sup> Statistics Poland do not disclose detailed data about employment in the REGON register; they only inform about employment size classes of operators (micro-enterprises 0–9 employees, small enterprises 10–49, medium-sized enterprises 50–249, large enterprises 250 people and more). The sample included all the largest firms (250 + employees – 61 firms) and 139 medium-sized enterprises (50–249 – out of their total population of 178). The remaining medium-sized enterprises were included in the back-up sample. The latter comprised also 141 small enterprises drawn randomly from the mixed lot. Thus, the total size of principal and back-up samples was 380 entities. Importantly, one needs to remember that the number of employees in the REGON register is declarative, informs about the size of employment anticipated by the registered firm and often has got little to do with reality.<sup>28</sup> In accordance with adopted assumptions and the goal of the study, micro-enterprises have been eliminated from the sampling frame.

Methodology adopted in the study imposed certain constraints. For example, the so called coverage errors, i.e., differences between the sampling frame and the target population, could not be avoided. They were the effect of the specificity of the REGON register which, in the absence of other sources, was used as a sampling frame in the study. Its main disadvantage is the lack of an effective update and validation mechanism. Although formally enterprises should notify any changes (also in capital structure) to data given in the registration application, in practice the law is a dead letter. Even the closure or liquidation is not notified to Statistics Poland but investors' non-compliance with statistical requirements does not trigger any legal or financial consequences.

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of the Act of 28 December 1988 on economic activities conducted with the involvement of foreign operators. This Act, like the previous ones aimed to provide the holistic solution to issues connected with operations of foreign investors in Poland where they operated as separate legal entities. The legislator upheld the principle of administrative and legal control over economic operations of companies with foreign capital in Poland, although, at the same time, the Act on economic activities conducted with the involvement of foreign operators proclaimed unrestricted economic freedom. Thus, to sign articles of association, future shareholders, also foreign investors were obliged to apply for special authorisation. Such authorisation meant authorities give their consent to launch specific operations within predefined scope. The Act of 14 June 1991 on companies with foreign holdings was a real game changer as it extended the constitutional principle of economic freedom to foreign operators (for more see: Popowska, 1993).

27 Individual and personal data collected and stored in statistical studies of public statistics are confidential and they are especially protected; data can be used only in studies, reports, and statistical analyses; they can also be used by public statistics services to create sampling frames for statistical research that these services carry out; making available or using individual or personal data for other purposes is forbidden (statistical confidentiality) (Art. 10. of the Act of 29 June 1995 on public statistics, Dz.U. [Journal of Laws] of 1995, No. 88, item 439).

28 In the study we came across a case where a firm from 250+ employment class in fact employed two people.

The end result is that the register includes non-existing firms (already liquidated or temporarily closed), firms without foreign capital (taken over by the Polish capital), and firms whose address details have changed. Besides, the register does not show firms whose ownership structure has changed because they were taken over, wholly or partly, by foreign capital.

The author is also fully aware of the fact that the credibility of responses to questions about intentions and motivation from before over dozen or several dozen years can be limited. A clear shift in enterprise information policy created another barrier in access to data because enterprises increasingly more often do not want to give information to interviewers even when data are to be disclosed only as aggregates for the whole population.

The nature and goal of the study dictated the use of ordinal variables since a large proportion of questions concerned the assessment of relevance or impact of factors. On the other hand, this may produce constraints in calculating statistics. Methodological rigorists (Lissowski, Haman, Jasiński, 2008; Nawojczyk, 2002; Sobczyk, 2005; Wasilewska, 2008) argue that by assigning numbers to answers we assume that differences between answers are identical. Thus, it is assumed that such data processing can be performed only when distances between the points on the scale, in this case designated by ratings on a five-point Likert scale, are equal. However, in social sciences it is generally assumed that these intervals are equal meaning the ordinal scale is treated as interval (quantitative) one, which allows for calculating, *inter alia*, means and other measures based on them.

Moreover, in studies based on direct (questionnaire-based) interviews one indicator is often constructed based on several, dozen or even several dozen partial ordinal variables. Ordinal scale obtained from such aggregation gives more information than just 'the order/ranking', which is why it is generally treated as interval (quantitative) scale.

To sum up, in social sciences the assumption about equal intervals and further statistical processing of data obtained from ordinal scale are generally acceptable. Such approach is advocated by, among others, Churchill (2002: 408) and Wieczorkowska, Wierzbński (2012; 2013: 55–56). There are numerous examples of empirical studies based on this approach, e.g., Shih-Ming, Glaister (2006), Starosta (ed., 2012), and Dzikowska, Gorynia, Jankowska (eds., 2016).

Having all the above listed research problems in mind, ultimately 201 correctly filled in questionnaires were selected for further statistical analysis, which fully satisfied the assumptions and research goals of the study. It needs to be stressed that only 43 respondents, i.e., less than 7% of the total population,<sup>29</sup> refused to participate in it, which testifies to the efficiency of the selected method and reliability of interviewers.

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29 As a proportion of the sampling frame (653 entities).

## 2.2. Research sample profile

The research sample consisted of 201 the biggest enterprises with foreign capital based in the Łódzkie province. They represented slightly more than 30% of the total population of such entities.<sup>30</sup>

Enterprises were based in 17 out of the total of 24 counties within the Łódzkie province. Data from the Statistics Poland<sup>31</sup> suggest that foreign investors focused their activities on towns and cities where almost all enterprises included in the study were domiciled. The study covered operators from all bigger towns and cities in the Łódź region (mainly county capitals).

**Table 2.1.** Enterprise location in counties<sup>\*</sup>

No.	County	No. of researched enterprises	
		Absolute	in %
1.	<b>Łódź</b>	<b>95</b>	<b>47.3</b>
2.	Zgierski	27	13.4
3.	Pabianicki	14	6.9
4.	Łódzki Wschodni [East Łódź]	8	3.9
5.	<b>Łódź Metropolitan Area</b>	<b>144</b>	<b>71.6</b>
6.	Kutnowski	13	6.5
7.	Skierniewicki	7	3.5
8.	Piotrków Trybunalski (city county)	7	3.5
9.	Zduńskowolski	7	3.5
10.	Sieradzki	5	2.5
11.	Łęczycki	5	2.5
12.	Other	13	6.5
13.	<b>Total (5+6+...+12)</b>	<b>201</b>	<b>100.0</b>

<sup>\*</sup> The Table contains counties with at least five enterprises participating in the study.

**Source:** author's own studies.

<sup>30</sup> As a proportion of the sampling frame (653 entities).

<sup>31</sup> Based on the data from the REGON register of Statistics Poland processed for the needs of this study (as at the end of May 2017).

The sample included 47% of enterprises based in Łódź. Considering the Łódź Metropolitan Area<sup>32</sup> (LMA), the study covered 144 enterprises accounting for almost 72% of the sample (Tab. 2.1.). These proportions quite accurately reflect the share of enterprises based in the capital of the province and in the LMA in the total population.<sup>33</sup>

Almost 13% of researched enterprises operated within the Łódź Special Economic Zone (LSEZ).<sup>34</sup> They were based in Łódź, the capital of the region, and in five counties: bełchatowski, kutnowski, łęczycki, radomszczański, and zgierski. 175 out of 201 (87%) the biggest foreign investors in the Łódź province carried out their activities outside of the LSEZ which may suggest that they were not interested in getting support from public resources offered in this format, could not comply with the requirements for SEZ operators, or they simply decided that SEZ-related privileges cannot compensate for additional duties and costs.

Researched enterprises were limited liability companies, only five of them were joint stock companies. Both legal formats belong to the 'partnerships and capital companies' category and there are many similarities but also many differences between them.<sup>35</sup>

The research sample includes manufacturing as well as service enterprises. Agriculture was not represented in the sample due to its rather marginal importance amongst EFCs in the Łódź province (1% of the total population).<sup>36</sup> Only two respondents declared that, in addition to trade and distribution, they were involved in agricultural production<sup>37</sup> (Tab. 2.2.).

32 The Łódź Metropolitan Area consists of five counties: brzeziński, pabianicki, zgierski, łódzki wschodni [East Łódź], and the city of Łódź, [Polish: Łódzki Obszar Metropolitalny].

33 Based on the data from the REGON register of Statistics Poland processed for the needs of this study (as at the end of May 2017).

34 As at 31 December 2016, the LSEZ had three sub-zones in three provinces: Łódzkie, Wielkopolska, and Mazowieckie. In Łódzkie province sub-zones were also located in two city counties: Piotrków Trybunalski and Skierniewice, and in counties: łowicki, łaski, rawski, sieradzki, tomaszowski, zduńskowolski, łódzki wschodni, opoczyński, pabianicki, wieluński, and piotrkowski (Information about the implementation of the Act on Special Economic Zones, Ministry of Development, Warsaw 2017).

35 Principal difference lies in equity capital; in limited liability company it cannot be less than PLN 5k while in a joint stock company it must be at least PLN 100k. A limited liability company is established through the articles of association while a joint stock company must have a statute. The latter specifies, inter alia, nominal value of shares, their number, names of company founders, as well as the number of members of the Management Board and Supervisory Board. Responsibility for company liabilities is also different, which can be attributed to the fact that in limited liability company equity capital is divided into shares and in a joint-stock company into stocks. Partners, like shareholders, bear no personal responsibility for company's liability related to business operations.

36 Based on data from the REGON register of Statistics Poland processed for the needs of this study (as at the end of May 2017).

37 One of the firms was growing radicchio, the other one ran an ornamental tree and shrubs nursery.



**Table 2.2.** Main business profile of enterprises by PKD<sup>\*</sup> sections

Business profile	PKD section	No. of enterprises	
		absolute	in %
<b>Manufacturing, including:</b>	<b>(C,F)</b>	<b>121</b>	<b>60.2</b>
Industrial manufacturing	C	118	58.7
Construction	F	3	1.5
<b>Services, including:</b>	<b>(G,H,M,K,J,E,I,N,R)</b>	<b>80</b>	<b>39.8</b>
Wholesale and retail trade; repair of motor vehicles including motorcycles	G	52	25.8
Transportation and storage	H	9	4.5
Professional, scientific, and technical activities	M	7	3.5
Financial and insurance activities	K	3	1.5
Information and communication	J	3	1.5
Other services	E,I,N,R	6	3.0
<b>Total</b>	<b>–</b>	<b>201</b>	<b>100.0</b>

<sup>\*</sup> In accordance with PKD 2007 [Polish Classification of Business Activities].

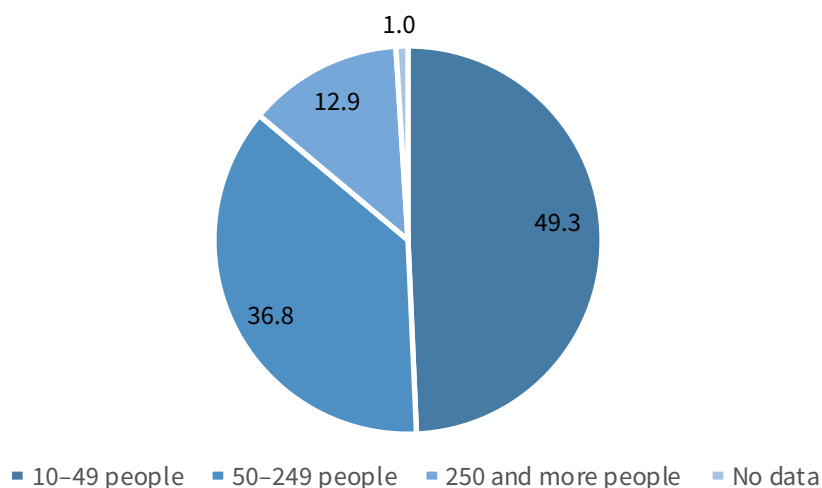
**Source:** author's own studies.

In accordance with quantitative structure of EFCs in the Łódź region, manufacturing enterprises<sup>38</sup> made up the biggest part of the research sample. Most of them represented industrial manufacturing. Only three firms originated from the construction industry. There were very few foreign companies from other fields of manufacturing which is why they were omitted. Amongst service enterprises, almost half were trading firms. Other service enterprises were dealing with a very much diverse range of activities although transportation firms dominated together with businesses engaged in professional, scientific, and technical activities. This section included, inter alia, shared services centres based mainly in the region capital.

Enterprises were broken down in groups by employment size in accordance with the binding classification (Act of 6 March 2018 Entrepreneurs Law).<sup>39</sup> Small enterprises employing between 10 and 49 people made up the most numerous group. They accounted for almost half of the total sample. Medium-sized and large enterprises whose employment is between 50 and 249 people and more than 249 people represented 36.8% and 12.9%, respectively, of the studied population (Fig. 2.1.).

38 Based on data from REGON register of Statistics Poland processed for the needs of this study (as at the end of May 2017).

39 Journal of Laws [Dz.U.] of 30 March 2018, item. 646. It replaced Act of 2 July 2004 on Freedom of Business Activity in the course of the study. Criteria for size-based classification of enterprises remained unchanged.



**Figure 2.1.** Employment size in enterprises (in %)

**Source:** author's own studies.

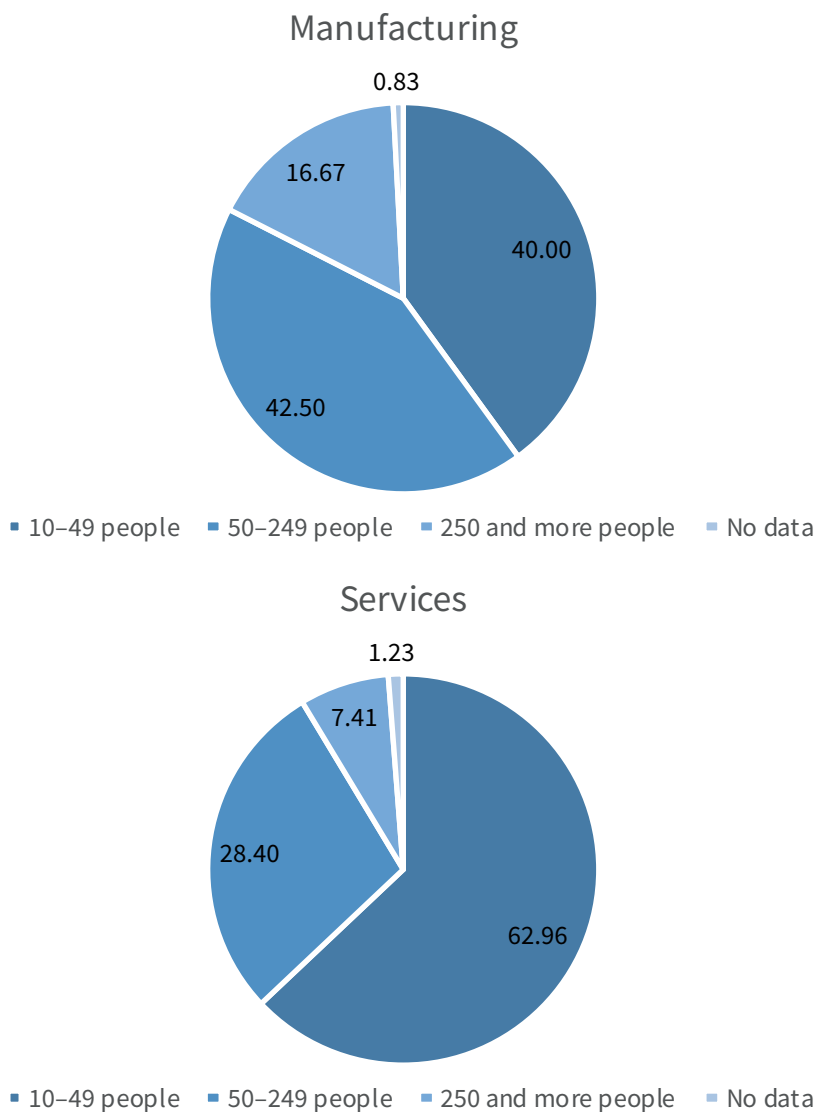
The biggest group amongst manufacturing enterprises was made up of medium-sized enterprises (42.5%) while service enterprises were mostly small entities (62.96%). The share of big enterprises was bigger in the manufacturing sector than in the service one (Fig. 2.2.).

Using the binding classification and net turnover at the end of 2016, enterprises were divided into four categories. Compared to the classification based on the size of employment, this time more companies ended up in lower turnover intervals. Micro and small enterprises constituted the majority of the sample (almost 3/4). Eleven economic operators (5.5%) refused to disclose data on grounds of sensitivity (Tab. 2.3.).

**Table 2.3.** Net turnover (as at the end of 2016)

Net turnover	No. of enterprises	
	Absolute	in %
not more than PLN 8 mio	85	42.3
PLN 8–40 mio	55	27.4
PLN 40–200 mio	36	17.9
more than PLN 200 mio	14	6.9
no data	11	5.5
<b>Total</b>	<b>201</b>	<b>100.0</b>

**Source:** author's own studies.



**Figure 2.2.** Employment size in manufacturing and in services (in %)

**Source:** author's own studies.

116 respondents refused to provide data concerning equity capital (Tab. 2.4.). The group of economic operators who submitted requested data was composed predominantly of enterprises whose equity capital was lower than PLN 10 mio (34.8%). Collected data show that equity capital in manufacturing enterprises was on average significantly higher than in service enterprises.

**Table 2.4.** Equity capital (as at the end of 2016)

Value (in millions of PLN)	No. of enterprises	
	Absolute	in %
not more than 1	45	22.4
1–10	25	12.4
10–50	7	3.5
50–100	1	0.5
more than 100	7	3.5
no data	116	57.7
<b>Total</b>	<b>201</b>	<b>100.0</b>

**Source:** author's own studies.

Researched group represented high level of innovation. More than half of respondents confirmed that they implemented their own process, product, organisational, or marketing innovations. Also, more than half were implementing innovations created in related units, i.e., in the parent company or in daughter companies. In total, as many as 64% of investigated enterprises were implementing innovations independently or through related firms. Foreign enterprises taking part in the study were much more innovative than the average for the Polish economy. Over the period 2014–2016 20.3% of manufacturing enterprises and 14.5% of service enterprises were engaged in innovation activities (Działalność innowacyjna..., GUS, 2017) (Tab. 2.5.).

**Table 2.5.** Innovation activities of enterprises: implementation of innovation

Enterprises implementing product, process, organisational and other innovations	No. of enterprises	
	Absolute	in %
Own innovations or innovations created in parent or daughter companies, including:	128	63.7
own innovations	110	54.7
innovations created in parent or daughter company	104	51.7
No innovations	72	35.8
No data	1	0.5
<b>Total</b>	<b>201</b>	<b>100.0</b>

**Source:** author's own studies.

In some of these enterprises innovation processes consisted in establishing special R&D divisions or permanent collaboration with external R&D centres which created and implemented innovation for them. Only one in ten enterprises followed the first solution while the second option was selected by every fifth enterprise (Tab. 2.6.).

**Table 2.6.** Innovation activities of enterprises: institutional backup

Item	No. of enterprises	
	Absolute	in %
Enterprises with their own R&D units and/or collaborating with external R&D centres, including:	49	24.4
enterprises with own R&D units	26	12.9
enterprises collaborating with external R&D centres	42	20.9
No permanent institutional backup	151	75.1
No data	1	0.5
<b>Total</b>	<b>201</b>	<b>100.0</b>

**Source:** author's own studies.

On top of that, a big group of enterprises covered by the study could demonstrate material outcomes of their R&D efforts, such as, e.g., patents for inventions, protected rights to utility models and industrial designs or trademarks (Tab. 2.7.).

**Table 2.7.** Innovation activities of enterprises: patents and protected rights

Item	No. of enterprises	
	absolute	in %
Enterprises holding patents and owning protected rights, including:	50	24.9
patents for inventions	20	9.9
protected rights to utility models	31	15.4
registered industrial design rights	18	8.9
trademark rights	30	14.9
No patents or protected rights	141	70.2
No data	10	4.9
<b>Total</b>	<b>201</b>	<b>100.0</b>

**Source:** author's own studies.

Almost 1/3 of researched enterprises had at least one certificate or other achievements confirming their innovation efforts. Clear majority (25.9%) were certified for the conformity with ISO quality management system (predominantly 9001:2008<sup>40</sup> and 14001<sup>41</sup>). Respondents could also boast about their environmental and energy-related achievements (e.g., EMAS<sup>42</sup>). Some of them were holding industry-specific certificates and qualifications in, e.g., road building and food processing (Tab. 2.8.).

**Table 2.8.** Innovation activities of enterprises: certificates and other achievements

Item	No. of enterprises	
	Absolute	in %
Enterprises holding certificates and achievements, including:	66	32.8
ISO quality management system certificate of conformity	52	25.9
other quality certificates	37	18.4
other achievements confirming innovation efforts of enterprises	12	5.9
No certificates	98	48.8
No data	37	18.4
<b>Total</b>	<b>201</b>	<b>100.0</b>

**Source:** author's own studies.

## 2.3. Foreign capital in enterprises

In most cases entrepreneurs from other countries strive to achieve full control over a foreign investment. This tendency is visible across Poland, also in the Łódź province (Świerkocki, ed., 2011). The sample was dominated with enterprises

40 ISO 9001:2008 – international standard which specifies requirements to be met by a quality management system in an organisation, currently replaced by ISO 9001:2015.

41 ISO 14001 – one of ISO standards used in environmental management.

42 EMAS (EcoManagement and Audit Scheme) is an EU environmental certification system operating based on the Regulation of the European Parliament and of the Council (EC) no. 1221/2009 of 25 November 2009 on the voluntary participation of organisations in a Community ecomanagement and audit scheme (EMAS). The ecomanagement and audit system (EMAS) targets all organisations interested in putting in place comprehensive solutions in the field of environmental protection, representatives of companies and non-commercial institutions.

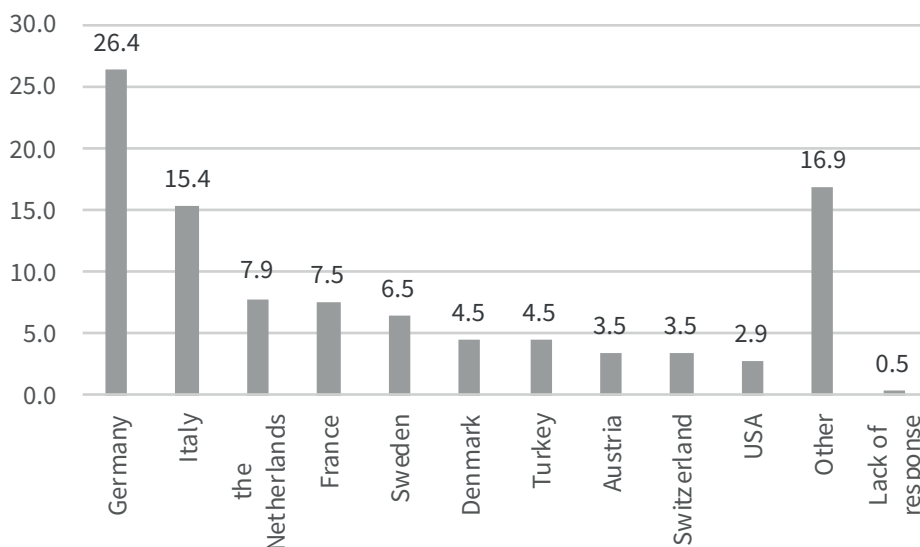
wholly owned by foreign capital (70.7%). Only 6% (Tab. 2.9.) of entities were enterprises in which Polish capital prevailed (Tab. 2.9.).

**Table 2.9.** Foreign capital structure in enterprises

Foreign capital structure	No. of enterprises	
	Absolute	in %
up to 49%	12	5.9
50–80%	18	8.9
81–90%	11	5.5
91–99%	13	6.5
100%	142	70.7
Lack of response	5	2.5
<b>Total</b>	<b>201</b>	<b>100.0</b>

**Source:** author's own studies.

Investors from 27 countries had holdings in enterprises covered by the study. The biggest group of investors originated from 14 EU Member States (75%). Most of them were German investors whose holdings were identified in 26% of enterprises. Besides, 64% of foreign companies originated from only five countries (Germany, Italy, the Netherlands, France, and Sweden) (Fig. 2.3).



**Figure 2.3.** Ranking of ten foreign capital home countries with the highest share (in %)

**Source:** author's own studies.

The biggest number of investment projects from outside of the European Union flew from Turkey (9), Switzerland (7), and the United States (6). Five enterprises originated from the European Economic Area (4 from Norway and 1 from Iceland). Representation of Asian investors was rather limited. Amongst the biggest investors in the region there were two enterprises from India and Taiwan (Republic of China) and one from South Korea. In addition, the sample contained two Ukrainian firms and single representatives of Russia, Canada, and Australia.

Most researched enterprises (55.7%) launched their operations in the Łódzkie province in this century, usually between 2000 and 2007 (almost 36%). 80% had been active for over 10 years. This shows that they are experienced businesses which skilfully adapted themselves to national and regional economic reality. It also testifies to the long-term stability of investment decisions and bodes well for their future operations. Only two out of 201 the biggest enterprises had been established before systemic transformation (in 1988) (Tab. 2.10.).

**Table 2.10.** Foreign investor experience

No.	Year in which foreign investor acquired holdings in an enterprise	No. of enterprises	
		Absolute	in %
1.	2017–2008	40	19.9
2.	2007–2000	72	35.8
3.	1999–1990	85	42.3
4.	1989–1988	2	1.0
5.	Lack of response	2	1.0
6.	<b>Total</b>	<b>201</b>	<b>100.0</b>

**Source:** author's own studies.

Ownership structure of EFCs in the Łódzkie province was very stable. Only seven enterprises (ca. 3.5%) changed owners. Acquisitions by subsequent foreign investors were extremely rare and they took place almost exclusively after 2000. A clear majority of firms in the region had a single owner.

Enterprises established as a result of *greenfield* projects represented clear majority in the group covered by the study (82.6%). They prevailed in the manufacturing, as well as in the service sector and in all industries represented in the study. This might be seen as a reflection of the trust in the host country and in the region. Foreign investors much more rarely constructed new enterprises in cooperation with Polish capital creating *joint ventures* (2.9%). Slightly more than 10% of entities emerged as a result of acquisitions. Three firms ended up in the hands of foreign investors through privatisation (1.5%) (Tab. 2.11.).



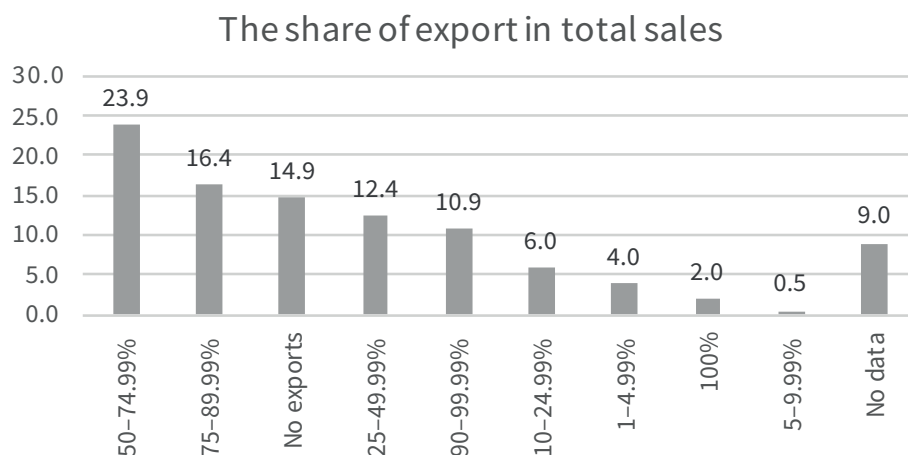
**Table 2.11.** Type of foreign investment

No.	Type of investment	No. of enterprises	
		Absolute	in %
1.	A greenfield investment	166	82.6
2.	Purchasing holdings in an existing enterprise	21	10.5
3.	<i>Joint-venture</i> with a Polish partner	6	2.9
4.	Acquisition of a Polish enterprise through privatisation	3	1.5
5.	Lack of response	5	2.5
6.	<b>Total</b>	<b>201</b>	<b>100.0</b>

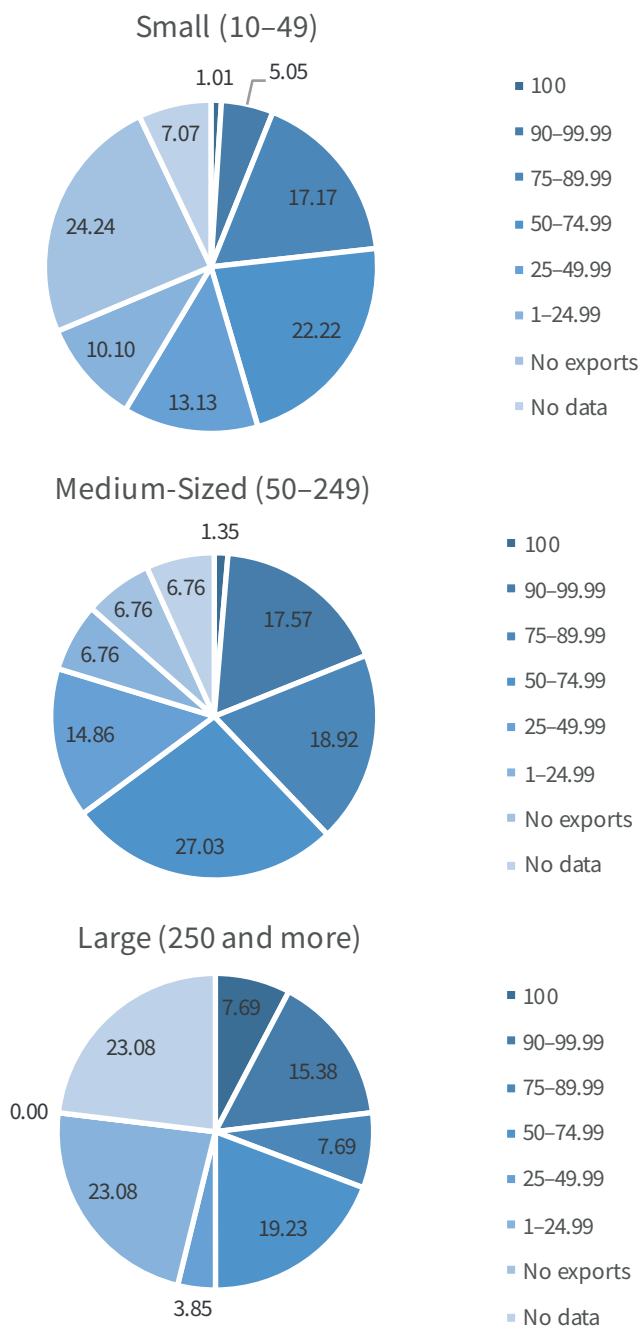
**Source:** author's own studies.

## 2.4. Export operations of foreign investors

In 2016 slightly more than 85%, i.e., in 171 of researched enterprises received revenue from overseas sales. In over half of them exports accounted for more than 50% of sales and in almost 1/3<sup>rd</sup> for more than 75%. Four enterprises operated exclusively in foreign markets. Only 30 firms (less than 15% of the researched population) gained all their revenues in Poland. These data confirmed that there were strong vertical linkages between foreign investors who invested in enterprises based in the Łódź region and foreign markets (Fig. 2.4.).

**Figure 2.4.** The share of exports in total sales in 2016 (in %)

**Source:** author's own studies.

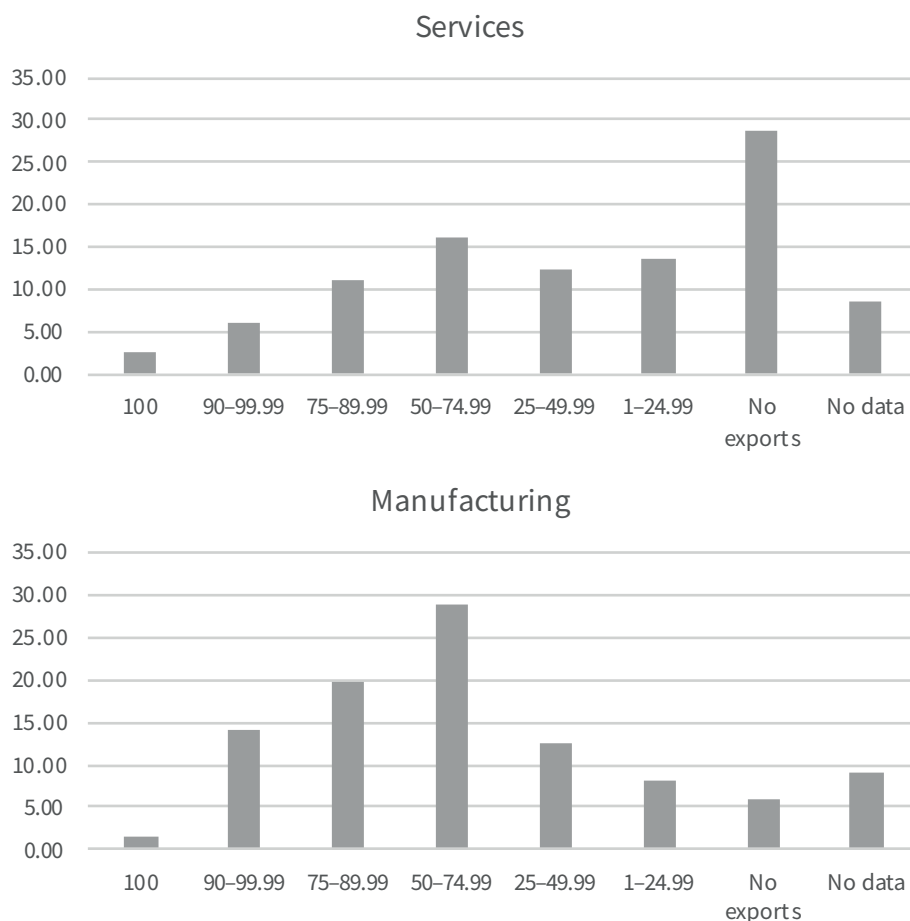


**Figure 2.5.** The share of export in total sales in 2016 for small, medium-sized, and large enterprises (in %)

**Source:** author's own studies.

Considering the size of enterprises, one may note some differences in their involvement in export sales. The biggest share of non-exporting entities was found in the group of small enterprises (almost  $\frac{1}{4}$ ). They represented 80% of all firms earning their revenues only in the Polish market. Besides, almost 65% of medium-sized firms could boast of higher than 50% share of export in total sales. To small and large enterprises this share amounted to 45.4% and 49.9% respectively. Only in the group of large entities all respondents achieved revenue from exports (Fig. 2.5.).

Industrial enterprises which invested in the Łódź region were much more involved in exports than the service ones. Only less than 6% of manufacturing firms and almost 30% of service enterprises did not carry out export activities. Manufacturing firms reported higher share of exports in total sales. Almost 65% of them achieved the share higher than 50% while the same indicator for service enterprises slightly exceeded 36% (Fig. 2.6.).



**Figure 2.6.** The share of exports in total sales in industry and in services (in %)  
**Source:** author's own studies.

Differences in export activities between diverse types of foreign investment were not so clear as in other categories. Absence of export activities was slightly more frequent amongst *greenfield* projects than for other types of foreign investment projects (16.27% and 10% respectively). Considering at least 50% share of exports in total sales for *greenfield* as well as for other investors, the proportion of enterprises was close and amounted to 52.41% and 56.67% respectively. Notably, only *greenfield* investors were able to achieve one hundred percent of exports in total sales while in other types of investment there were relatively more operators who reported the lowest shares of exports in total sales ranging between 1 and 24.99% (Tab. 2.12.).

**Table 2.12.** The share of exports in total sales by type of foreign investment in 2016

Type of foreign investment	Share of exports in total sales (%)								
	100	90–99.99	75–89.99	50–74.99	25–49.99	1–24.99	No ex-ports	No data	Total
<i>Greenfield</i> investment	2.41	12.05	16.87	21.08	13.25	9.04	16.27	9.04	100.00
Other (e.g., <i>joint venture</i> , acquisition, purchase of shares)	0.00	6.67	16.67	33.33	10.00	16.67	10.00	6.67	100.00
No data	0.00	0.00	0.00	60.00	0.00	20.00	0.00	20.00	100.00
<b>Total</b>	<b>1.99</b>	<b>10.95</b>	<b>16.42</b>	<b>23.88</b>	<b>12.44</b>	<b>10.45</b>	<b>14.93</b>	<b>8.96</b>	<b>100.00</b>

**Source:** author's own studies.

The biggest foreign investors in Łódzkie province were sending their exports to 39 countries.<sup>43</sup> Thirty of them were European countries while the list of non-European export markets included, among others, the United States, China, India, Brazil, Colombia, Mexico, and Australia. Out of sixteen countries the most often indicated by investors,<sup>44</sup> thirteen are EU Member States and five immediate neighbours of Poland (Tab. 2.13.).

Germany was the principal market for exports of enterprises included in the study. That was declared by 57% of all exporting enterprises. At the same time, 32% of respondents indicated Germany as the first and, by the same token, the most important market for their overseas sales. To five operators Germany was the only foreign market. Importantly, foreign investor home countries clearly prevailed in the major export directions (Tab. 2.14.).

<sup>43</sup> Respondents could indicate not more than three the most important export directions.

<sup>44</sup> To be considered export directions had to be indicated by at least ten investors.

**Table 2.13.** Main export directions of foreign investors in 2016

No.	Country <sup>*</sup>	No. of enterprises	
		Absolute	in % <sup>**</sup>
1.	Germany	98	22.5
2.	France	32	7.4
3.	Lithuania	29	6.6
4.	Czechia	24	5.5
5.	Italy	22	5.1
6.	Ukraine	21	4.8
7.	Sweden	18	4.1
8.	the Netherlands	16	3.7
8.	Russia	16	3.7
10.	Denmark	14	3.2
10.	United Kingdom	14	3.2
12.	Hungary	13	2.9
12.	European Union	13	2.9
14.	United States	10	2.3
14.	Austria	10	2.3
14.	Latvia	10	2.3

<sup>\*</sup> Respondents were asked to indicate three countries viewed as the main export markets.

<sup>\*\*</sup> As percentage of 436 indications.

**Source:** author's own studies.

**Table 2.14.** The major (first) export direction in 2016

No.	Country <sup>*</sup>	No. of enterprises	
		Absolute	in % <sup>**</sup>
1	2	3	4
1.	Germany	54	32.0
2.	Italy	11	6.5
3.	Lithuania	10	5.9
4.	France	9	5.3
5.	European Union	8	4.7

**Tab. 2.14** (cont.)

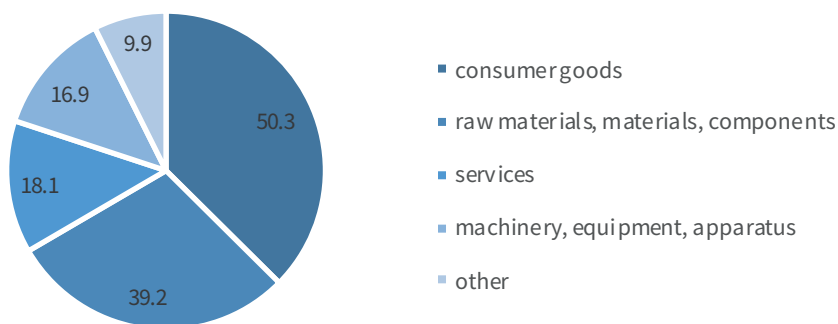
1	2	3	4
6.	Denmark	7	4.2
6.	Ukraine	7	4.2
8.	United Kingdom	6	3.6
8.	Sweden	6	3.6
8.	Russia	6	3.6
11.	Czechia	5	3.0
11.	United States	5	3.0

\* The above table considers only the countries indicated by respondents as the most important (first) export direction.

\*\* As percentage of 169 indications.

**Source:** author's own studies.

Slightly more than 50% of enterprises exported consumer goods. Raw materials, materials, and components sold in overseas markets by almost 40% of exporters ranked second on the list of the most frequently traded goods. Almost every fifth enterprise exported services, every sixth machinery, equipment, and apparatus (Fig. 2.7.).

**Figure 2.7.** Export structure (in %)\*

\* As percentage of 171 active exporters, each respondent could choose more than one response.

**Source:** author's own studies.

## 2.5. Import operations of foreign investors

The degree of internationalisation of enterprises is demonstrated by their involvement in exports but also in imports.<sup>45</sup> In the researched sample, 177 firms, i.e., close to 90%, declared themselves as active importers in 2016. It means that slightly more operators dealt with imports than with exports. Only five enterprises (2.5%) were not engaged in international trade. More than ¾th of firms were exporters and importers at the same time. These data confirm excessively big share of EFCs from the Łódź region in overseas trade (Tab. 2.15.).

**Table 2.15.** Exports and imports operations of foreign investors

Item	No. of enterprises	
	absolute	in %
Exports	171	85.1
Imports	177	88.1
Exports and imports	153	76.2
No exports or imports	5	2.5

**Source:** author's own studies.

The structure of imports was clearly dominated by raw materials, materials, and components which were supplied to nearly ¾th researched enterprises. The second and third places were occupied by machinery, equipment, and apparatus and consumer goods imported from other countries by one in four investors. Import of services carried out by every tenth respondent was of minor importance (Tab. 2.16.).

**Table 2.16.** Import structure

Item	No. of enterprises*	
	Absolute	in %
Raw materials, materials, components	130	73.5
Machinery, equipment, apparatus	42	23.7
Consumer goods	41	23.2
Services	17	9.6
Other	6	3.4

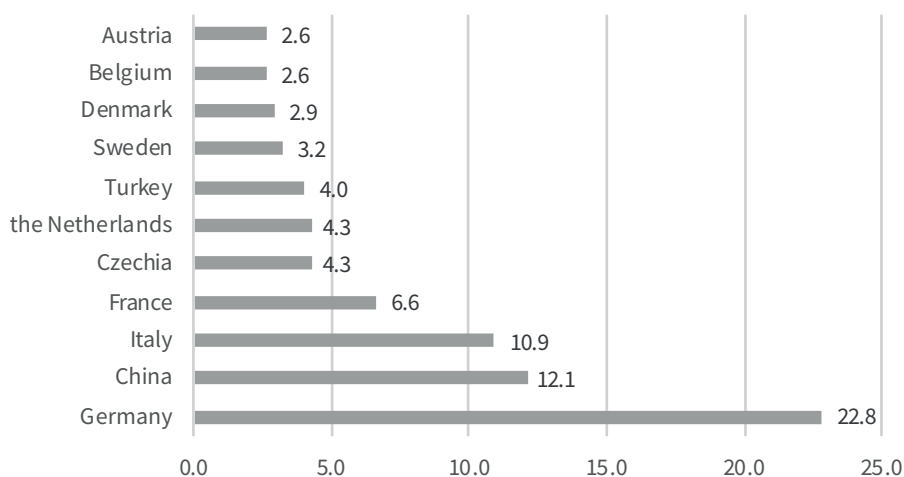
\* As percentage of 177 active importers, each respondent could choose more than one answer.

**Source:** author's own studies.

<sup>45</sup> Import is considered the core internationalisation format in supply markets (Witek-Hajduk, 2012).

Main imports were supplied by 40 countries. Twenty-five of them were European countries, mostly EU Member States. To 45% of importing enterprises Germany was the principal market for imports and exports. At the same time, to 48 respondents Germany was the first supply market while to 18 of them it was the only one supply market.

From outside of Europe investors the most frequently indicated China, Turkey, India, and the United States. Sporadic imports were reported from Japan, South Korea, Russia, Israel, Taiwan, Pakistan, Iraq, Indonesia, Brazil, and African countries.



**Figure 2.8.** Ranking of import directions for foreign investors in 2016\* (in %)\*\*

\* The ranking includes three countries indicated by respondents as the most important (main) directions of imports.

\*\* As percentage of 347 indications.

**Source:** author's own studies.

**Table 2.17.** The most important (first) import market in 2016\*

No.	Country	No. of enterprises	
		absolute	in %**
1	2	3	4
1.	Germany	48	27.9
2.	Italy	24	13.9
3.	France	10	5.8
3.	China	10	5.8
3.	Turkey	10	5.8
6.	the Netherlands	8	4.6
6.	Denmark	8	4.6



1	2	3	4
8.	Czechia	6	3.5
9.	Belgium	5	2.9
9.	Sweden	5	2.9

\* The Table includes only countries indicated by respondents as the most important (first) direction of imports.

\*\* As percentage of 172 indications.

**Source:** author's own studies.

Amongst 10 countries indicated by investors as the first (most important) import direction eight were European Union Member States, including two countries neighbouring Poland (Germany and Czechia). It needs to be stressed that most of the principal import directions were foreign capital home countries (Tab. 2.17., Fig. 2.8.).

## 2.6. Competitive locations

To almost 83% of respondents the Łódzkie province was the only one considered as an investment location. Investors were most often attracted by the central location of the region in the country and earlier successful collaboration with enterprises based in its territory.

**Table 2.18.** Competitive locations

Province/Country	No. of enterprises <sup>*</sup>	
	Absolute	in %
1	2	3
<b>Only the Łódzkie province</b>	<b>166</b>	<b>82.6</b>
<b>Other provinces, including:</b>	<b>27</b>	<b>13.4</b>
Mazowieckie	10	5.0
Małopolskie	3	1.5
Pomorskie	3	1.5
Zachodniopomorskie	3	1.5
Wielkopolskie	3	1.5

Tab. 2.18 (cont.)

1	2	3
<b>Other countries, including:</b>	<b>15</b>	<b>7.5</b>
Hungary	3	1.5
Czechia	2	1.0
Bulgaria	2	1.0
Romania	2	1.0

\* Does not add up to 201 (100%) because each investor could indicate more than one alternative location, e.g., a selected province in Poland and another country.

**Source:** author's own studies.

Only 17% of firms were contemplating other (competitive) locations in Poland and abroad. Fifteen respondents (7.5%) were considering alternative locations in other countries, usually indicating one of EU Member States, most often in Central and Eastern Europe (Hungary, Czechia, Bulgaria, Romania, and Slovakia). More respondents were thinking of choosing another location in Poland (13.4%). Mazovia, or more precisely Warsaw, was the main competitor to Łódzkie, followed by the following provinces: Małopolskie, Pomorskie, Zachodniopomorskie, and Wielkopolskie (Tab. 2.18.).

## 2.7. Importance of institutions for location selection

The third hypothesis ( $H_3$ ) concerned the importance of business environment institutions for the selection of location made by companies with foreign capital. As discussed more broadly in Chapter 1, subject-matter literature predominantly argues that the quality of institutions determines FDI inflows (Globerman, Shapiro, 2003; Acemoglu, Johnson, Robinson, 2004; Buchanan, Le, Rishi, 2012; Nielsen, Asmussen, Weatherall, 2017). To validate this hypothesis, the following three aspects were examined using the results of questionnaire-based study:

- 1) importance of institutional environment for location selection (section 2.7.);
- 2) relationships between investors with self-government administration in the region, i.e., the quality of service, fast and flexible response, stable regulations, and the importance of investment incentives compared to other location selection premises (section 2.8. and 3.1.);
- 3) support to investors after they have launched their projects (section 3.4.).

The first stage of the study was devoted to the assessment of the role played by institutions in location decision making. Most respondents admitted that they benefited from institutional support. Only 14 firms (7%) declared that their decisions about launching their business operations in Poland were not preceded by any consultation with or assistance of an external entity. They stressed that their choices were dictated by:

- 1) geographic proximity of business partners, subcontractors, suppliers, and customers;
- 2) recommendations of Board members closely related with Łódź and the region;
- 3) recommendations from other enterprises operating in Łódź or in the region;
- 4) their own business or, rarely, private contacts;
- 5) results of own studies and market analyses.

Foreign investors were ready and open to collaboration with business environment institutions (BEI) when making location decisions. As many as 93% of respondents confirmed they collaborated with at least one such institution. The record-breaker contacted nine BEIs. Most EFCs benefited from the assistance offered to them by three or four institutions. The practice was exercised by one in five investors meaning the factor was highly relevant in the pre-investment procedure (Tab. 2.19.).

**Table 2.19.** Institutions collaborating with foreign investors

No. of institutions	No. of enterprises	
	Absolute	in %
0	14	7.0
1	26	12.9
2	25	12.4
3	45	22.4
4	42	20.9
5	20	9.9
6	16	8.0
7	9	4.5
8	3	1.5
9	1	0.5
<b>Total</b>	<b>201</b>	<b>100.0</b>

**Source:** author's own calculations based on a questionnaire-based study, N=201.

Interest in what the institution offered varied. Investors were in most cases establishing cooperation with local and regional authorities, financial market institutions, labour market institutions, and law firms (Tab. 2.20.).

The scope of competence of local and regional authorities made them the most important partner to investors. Almost two thirds of respondents collaborated with municipal administration and units subordinated to it (65.7%). More than one in four entrepreneurs (27.9%) benefited from support measures available from the Marshal Office,<sup>46</sup> a self-government structure at the regional (provincial) level and, more specifically, from the Regional Investor and Exporter's Service Centre. County authorities were viewed by foreign investors as much less important (10.4%). However, one may expect that their actual role was slightly more important as every second respondent collaborated with labour market institutions (48.8%), also with county labour offices directly subordinated to heads of counties.

When choosing a location within the Łódzkie province, companies with foreign capital were willing to cooperate with financial institutions, law firms, and other advisory and consultation institutions (57.7%, 42.8%, and 17.4% respectively). Investors' opinions suggest these partners were helpful in, among others, finding external sources of finance as well as in complying with all formal and legal procedures connected with launching an investment project in Poland.

A relatively big group of respondents (22.4%) collaborated with other foreign investors. That may testify to the clustering of firms in certain industries leading to the agglomeration effects.

Government administration was seen by the EFCs as a little less important partner. Every fifth investor (21.4%) approached ministries and their agencies, in particular the Polish Information and Foreign Investment Agency (PL abbr. PAIiIZ)/Polish Investment and Trade Agency (PL abbr. PAIH) which offer services to investors, asking for assistance. Some role in making location decisions was most possibly played by Polish diplomatic service in capital home countries. Over 15% of enterprises collaborated with promotion and trade sections in Polish embassies, which is just one more argument for working to develop and advance professional standards of pro-investment services rendered outside of the country's borders (in capital home countries).

Another 15% of EFCs collaborated with universities, mostly with University Career Centres meaning foreign investors were interested mainly in securing themselves direct access to human resources not in scientific potential of universities.

One in tenth operators took advantage of support available at SEZs, which would not only grant State aid and take care of SEZ management services but also actively supported investors in making location choices.<sup>47</sup> Although formally

46 PL: Urząd Marszałkowski.

47 Act of 10 May 2018 on support for new investments (Dz.U. of 15 June 2018, item 1162) changed the operating principle for SEZ in Poland.

subordinated to the government administration, special economic zones had a role to play in economic growth at regional and local levels.

**Table 2.20.** Institutions engaged in the choice of investment location – detailed ranking based on the distribution of responses

Institution	No. of enterprises <sup>*</sup>	
	absolute	in %
Local authorities (e.g., Office for Foreign Investors of the Łódź City Hall)	132	65.7
Financial market institutions	116	57.7
Labour market institutions	98	48.8
Law firms	86	42.8
Regional self-government of the Łódzkie province (e.g., Regional Investor and Exporter's Service Centre)	56	27.9
Another foreign investor	45	22.4
Government administration (e.g., PAIIZ/PAIH, PARP, ARP)	43	21.4
Advisory and consultation institutions	35	17.4
Promotion and trade sections of Polish embassies in capital home countries	31	15.4
University	30	14.9
Chamber of commerce and industry	22	10.9
Łódź Special Economic Zone	21	10.4
Sub-regional self-government (county)	21	10.4
Local regional development agencies (e.g., Łódź Regional Development Agency)	10	5.0
Diplomatic representation of capital home country in Poland	10	5.0
Other	12	6.0
No collaboration	14	7.0

<sup>\*</sup> Does not add up to 201 (100%) because each investor could choose more than one institution.

**Source:** author's own calculations based on a questionnaire-based study, N=201.

Collaboration with diverse institutions had different effect on the choice of investment location in the Łódź region. According to 2/3<sup>rds</sup> of respondents, assistance offered by the local authorities was the most important. Almost 70%

indicated at least one institution within the local self-government structure contact with which was decisive for the final investment location decision.

Respondents were much more critical about the importance of support measures available from the government administration. Only 11% of investors saw them as relevant. Other business environment institutions scored better as their services were considered important by one in six foreign enterprises (Tab. 2.21.).

**Table 2.21.** Impact of aid schemes offered by institutions on choosing Łódzkie province as investment location

No.	Type of administrative body	No. of enterprises	
		absolute	in %*
1.	Local government administration	125	62.2
2.	Regional government administration	56	27.9
3.	Other business environment institutions	35	17.4
4.	Central government administration	23	11.4
5.	Other	49	24.4

\* Respondents could choose more than one answer.

**Source:** author's own calculations based on a questionnaire-based study, N=201.

Considering the fact that most frequently foreign investors benefited from the assistance rendered by territorial self-government units (TSU) at different levels, including specialised agencies operating within their areas of competence, it is worth examining the scope of this cooperation (Tab. 2.22.).

Local government may provide investors facing a location decision with a variety of support measures. They may take the form of, inter alia, information about available investment plots, assistance in launching investment projects, advice and legal assistance or recruitment of staff. The questionnaire-based study showed that foreign investors expected, above all, information about investment plots. Such expectation was expressed by almost half of respondents. Slightly fewer decided that local government can be helpful in recruiting staff with the assistance of, e.g., labour offices subordinated to local government administration. Every fourth investor assessed support granted by the TSUs, in particular legal assistance, as important for launching the investment procedure. Business consultancy was of the least interest to foreign investors.

**Table 2.22.** Importance of services offered by territorial self-government in the Łódzkie province in making investment location decisions – detailed ranking based on the distribution of answers

No.	Service	No. of enterprises <sup>*</sup>	
		absolute	in %
1.	Information about available investment plots	91	45.3
2.	Assistance in recruitment procedures	85	42.3
3.	Assistance in handling investment procedures	54	26.9
4.	Legal assistance	45	22.4
5.	Business consultancy	28	13.9
6.	Other	15	7.5
7.	None	14	7.0

<sup>\*</sup> Does not sum up to 201 (100%) because each investor could choose more than one service.

**Source:** author's own calculations based on a questionnaire-based study, N=201.

Local governments did not restrict their activities to rendering services in response to investor needs but they undertook own initiatives aimed to elicit foreign companies' interest in specific locations. The scope of competence specified in acts on territorial self-government enables, inter alia, to promote regions at fairs, organise and actively participate in trade missions, international conferences and seminars, as well as engage in cooperation with chambers of commerce and industry in other countries (capital home countries) (Tab. 2.23.).

Investor opinions demonstrate that the TSUs at different levels and structures subordinated to them could help in attracting foreign investors. All their activities focused on promotion and providing information. Foreign investors appreciated the TSU participation in international fairs the most. More than half of respondents decided that this information and promotion activity had drawn their interest to potential investment location. At the same time, slightly less than a half of respondents declared that direct (individual) contacts between local or regional government administration and foreign investors were important for the choice of the location for their business operations. Relationships between the TSUs and chambers of commerce and industry from capital home countries also turned out to be important. Other types of activities pursued by self-governments, such as trade missions, conferences and seminars were less relevant, although at least over a dozen of investors considered them as important for enhancing interest in the region. Interestingly, in the times of growing importance of online media, only a few respondents considered this information channel as relevant for seeking and choosing investment location.

**Table 2.23.** Activities of representatives of territorial self-government in the Łódzkie province which contributed the most to investment location decision – detailed ranking based on the distribution of answers

No.	Type of activity	No. of enterprises <sup>*</sup>	
		Absolute	in %
1.	Participation in fairs	106	52.7
2.	Direct contacts with an investor	92	45.8
3.	Collaboration with chambers of commerce and industry in capital home countries	57	28.4
4.	Trade missions	35	17.4
5.	Taking part in conferences and in seminars	18	8.9
6.	Online activities	8	4.0
7.	Other	26	12.9
8.	None of the above	14	7.0

<sup>\*</sup> Does not sum up to 201 (100%) because each investor could indicate more than one institution.

**Source:** author's own calculations based on questionnaire-based studies, N=201.

The analysis conducted so far led to the conclusion that activities pursued by self-governments and other business environment institutions were important to foreign investors and had an effect on the choice of a particular location. Thus, a closer look needs to be taken at how the investors assessed their operations as one may assume that a negative opinion would deter an entrepreneur from launching business operations in a particular region (Tab. 2.24.).

The above presented data show that foreign investors assessed collaboration with public administration and other business environment institutions before launching the investment project and during its course slightly higher than at a moderate level. Central government administration which ranked at the bottom of the ranking was an exception. Respondents clearly the best assessed the engagement and efforts made by TSUs, above all at the local level. This, on the one hand, may testify to relatively good performance of self-governments in communes of the Łódzkie province while, on the other hand, it reflects the importance of these institutions in ensuring a smooth investment process within a given territory.



**Table 2.24.** Assessment of collaboration with business environment institutions before and during the investment project – ranking based on means from answers<sup>\*</sup>

Ranking place	Institutions	Mean	Median	Mode	Standard deviation	Coefficient of variation <sup>**</sup>
1.	Local self-government administration	3.79	4	4	0.82	0.22
2.	Regional self-government administration	3.51	3.5	3	0.67	0.19
3.	Business environment institutions	3.37	3	3	0.69	0.20
4.	Central government administration	2.98	3	3	0.67	0.23

<sup>\*</sup> Collaboration was assessed on a scale from 1 to 5, where 1 – very negative, 2 – negative, 3 – neutral/moderate, 4 – positive, 5 – very positive.

<sup>\*\*</sup> Average relative error.

**Source:** author's own calculations based on a questionnaire-based study, N=201.

## 2.8. Premises for location choices

### 2.8.1. Distribution of answers and basic descriptive statistics

This part of study and validation of the first hypothesis ( $H_1$ ) focused primarily on the identification and assessment of reasons behind location choices made by enterprises with foreign capital in the Łódzkie province. Selection of location premises was the outcome of both theoretical considerations as well as the overview of empirical studies. Subject-matter literature highlights a number of determinants of location choices.

The most frequently researched ones include, inter alia (for more see section 1.3.): size and potential of the domestic market (Cheng, Kwan, 2000), level and quality of life (Alsan, Bloom, Canning, 2006), economic stability (Asiedu, 2001), agglomeration effects (Jones, 2017), costs of labour, its resources, quality of human capital (Azémar, Desbordes, 2010), taxes (Bellak, Leibrecht, 2007), business environment (Guagliano, Riel, 2005), institutional environment (Bartels, Napolitano, Tissi, 2014), infrastructure (Asiedu, 2006), geographic distance (Blanc-Brude et al., 2014), cultural distance (Mac-Dermott, Mornah, 2015), promotional efforts of public administration in the host country, and investment incentives (Bond, Samuelson, 1986; Black, Hoyt, 1989; Faeth, 2009; James, 2009a,b; Nene, Pasholli, 2011; Owczarczuk, 2013).

As already mentioned in the first chapter, literature overview is inconclusive as to which of the above are the most relevant. Unquestionably, however, FDI inflows depend on how entrepreneurs estimate the demand (market size) and investment risk (stability of business environment and circumstances in which businesses operate), meaning they follow general principles that guide decision-making in investment process as formulated by Keynes (Lautier, Moreaub, 2012). Besides, knowledge about factors decisive for the location of foreign investments can be supplemented with case studies. They can be researched not only for countries but also in regional and local contexts (Christiansen, Oman, Charlton, 2003).

The study consisted in prioritising six groups of premises (A–F) (Tab. 2.25.):

- A) costs of production/services, including the cost of labour, taxes and other local charges;
- B) human resources, including, inter alia, availability of potential staff and educational profiles at different levels in regions;
- C) economic potential of the province, especially its market, rating, availability of suppliers and business partners in the region, universities and R&D centres;
- D) relationships with self-government administration in the province, i.e., the quality of service, fast and flexible procedures, stable regulations, as well as financial and non-financial support instruments;
- E) infrastructure, including well developed investment plots, the quality of road, railway, air, telecommunication, and social infrastructure
- F) and other, including public security, geographic and cultural distance, fairs and exhibitions, and workers' attitude towards work.

In total, there were 41 factors underpinning the above groups. The smallest number of factors (three) was identified for Group A (costs of production) with groups B (human resources) and E (infrastructure) being on the other extreme with nine factors each. All groups, in disaggregated format, included demand, supply, and institutional factors.

The questionnaire used a five-point Likert scale, where '1' meant that a factor deterred investors to a considerable degree while '5' that it strongly encouraged them. Reliability of the measurement was validated using the Cronbach's  $\alpha$  coefficient (Ferguson, Takane, 2004)<sup>48</sup>.

<sup>48</sup> Its value shows correlation between answers to different questions and the total score. It also indicates to what extent the items (factors) on the scale are homogenous and describe the same interpretation of questions by respondents. The coefficient reflects the compatibility of respondents' opinions on a scale from 0 to 1. The higher it is, the better the responses measure the researched phenomenon.

**Table 2.25.** Location selection premises – distribution of answers

No.	Factor	Encouraged		Exerted no impact on decision (3)	Discouraged		No data
		strongly (5)	little (4)		little (2)	strongly (1)	
1	2	3	4	5	6	7	8
<b>A. Costs of production (business)</b>							
1.	Total costs of production (services)	140	24	36	1	0	0
2.	Costs of labour (wages and related charges)	125	39	36	1	0	0
3.	Taxes and other charges, including local taxes and charges	91	55	53	2	0	0
<b>B. Human resources (labour market, education)</b>							
4.	Availability of skilled workers	129	35	37	0	0	0
5.	Availability of highly skilled managers	94	51	56	0	0	0
6.	Vocational school profiles	19	53	127	1	0	1
7.	Quality of education in vocational schools	19	49	131	1	0	1
8.	No. of graduates of vocational schools	12	55	134	0	0	0
9.	Universities and their educational profiles	44	44	113	0	0	0
10.	Quality of education at universities	40	41	118	0	0	2
11.	No. of university graduates	29	50	119	0	0	3
12.	Cooperation with regional labour market institutions (public and private)	19	63	114	4	0	1

Tab. 2.25 (cont.)

1	2	3	4	5	6	7	8
<b>C. Economic potential of the province</b>							
13.	Sales opportunities in regional market	117	31	53	0	0	0
14.	Market competition	116	25	59	1	0	0
15.	Rating of the province/its position in economic rankings	39	56	106	0	0	0
16.	Availability of suppliers and business partners in the province	71	70	60	0	0	0
17.	Business environment institutions, e.g., advisory and consulting firms	30	81	89	1	0	0
18.	Enterprises from the same industry	97	36	64	4	0	0
19.	Universities and R&D centres	38	38	125	0	0	0
20.	Operating in a special economic zone	25	3	170	0	1	2
<b>D. Relationships with self-government administration (commune / county / province)</b>							
21.	Quality of service offered by self-government administration to foreign investors	16	32	125	28	0	0
22.	Fast and flexible administrative investment procedures	15	23	102	59	2	0
23.	Stable regulations (decisions) issued by the administration	18	14	82	81	6	0
24.	Financial support from the administration	12	13	141	35	0	0
25.	Non-financial support offered by the administration	9	16	149	27	0	0
26.	Public administration staff ability to speak foreign languages	9	6	157	24	4	1

E. Infrastructure									
27.	Developed investment plots available for manufacturing	100	44	54	3	0	0	0	0
28.	Office space	104	55	42	0	0	0	0	0
29.	Warehouse space	104	52	44	1	0	0	0	0
30.	Road infrastructure	102	57	40	2	0	0	0	0
31.	Telecommunication infrastructure	76	59	64	2	0	0	0	0
32.	Railway infrastructure (including cargo)	37	79	85	0	0	0	0	0
33.	Air transport infrastructure (including cargo)	21	86	94	0	0	0	0	0
34.	Condition of the environment	3	29	168	0	0	0	1	1
35.	Social infrastructure, e.g., hospitals, education facilities, hotels, leisure facilities, catering	7	33	160	1	0	0	0	0
F. Other									
36.	Public security and safety	51	71	78	0	0	0	1	1
37.	Fairs and exhibitions in the region	87	43	70	0	0	0	1	1
38.	International schools (for children of expatriate employees)	8	10	181	1	0	0	1	1
39.	Geographic distance	14	35	150	1	0	0	1	1
40.	Cultural distance (cultural differences)	8	32	159	1	0	0	1	1
41.	Workers' attitude towards work	33	84	81	2	0	0	1	1

**Source:** author's own calculations based on a questionnaire-based study, N=201.

$$\alpha = \frac{k}{k-1} \left( 1 - \frac{\sum_{i=1}^k \delta_i^2}{\delta^2} \right)$$

Where:  $\alpha$  – Cronbach's coefficient,

$k$  – number of questions (factors),

$\delta_i^2$  – variance of answers to questions,

$\delta^2$  – variance of sums of answers to individual questions.

Cronbach's  $\alpha$  coefficient amounted to 0.916, which means the measurement was highly reliable and obtained results could be subject to further statistical analysis.<sup>49</sup>

Tools used in response analysis included distributions of answers (Tab. 2.25.) and simple statistical indicators, such as a mean, median, mode, standard deviation, and coefficient of variation (Tab. 2.26.).

Most respondents formulated positive (4 or 5) and neutral (3) opinions. The first ones confirmed that a given factor encouraged to invest in Łódzkie province to either significant or little degree. The second ones, describing the factor as 'having no effect' show that it was not taken into account.

There were relatively few negative answers (2 or 1) informing that the factor discouraged investors to a significant or little degree. Considering the median and mode, the majority of factors encouraging investors to locate their projects in the Łódzkie province could be found in groups A (costs of production), E (infrastructure), and C (economic potential of the province). For all six premises in group D (relationships with self-government administration) median and mode amounted to 3, meaning that these factors did not impact location choice.

Standard deviation and coefficient of variation (mean relative error) show that for the researched population answers were little diversified. Only in group D (relationships with administration) slightly higher coefficients of variation were reported revealing moderate differentiation. Mean relative error for the factor representing the stability of regulations (decisions) issued by the administration amounted to 34%, while for fast and flexible administrative investment procedures it was 29%. In other groups of location factors coefficient of variation varied between 13% and 22%.<sup>50</sup>

49 Respondents could add other premises. Only one availed himself of this option, which may mean that the list of answers in the questionnaire was complete. According to him, the location of investment in the Łódź region was dictated by the seat of the core customer, one of the options available in part C of the questionnaire concerning the economic potential of the province.

50 If the coefficient of variation ranges between 0 and 20% the population is little differentiated. If it adopts values from the interval 20–40%, the population is moderately differentiated. For values between 40 and 60% the differentiation is big. When the coefficient of variation exceeds 60% it means differentiation is very big (Krysicki et al., 2006; Wawrzyniec, 2007).

**Table 2.26.** Location selection factors – descriptive statistics

No.	Factor	Mean	Median	Mode	Standard deviation	Coefficient of variation <sup>*</sup>
1	2	3	4	5	6	7
<b>A. Costs of production (business)</b>						
1.	Total costs of production (services)	4.51	5	5	0.80	0.18
2.	Costs of labour (wages and related charges)	4.43	5	5	0.80	0.18
3.	Taxes and other charges, including local taxes and charges	4.17	4	5	0.85	0.20
<b>B. Human resources (labour market, education)</b>						
4.	Availability of skilled workers	4.46	5	5	0.78	0.18
5.	Availability of highly skilled managers	4.19	4	5	0.84	0.20
6.	Vocational school profiles	3.45	3	3	0.67	0.19
7.	Quality of education in vocational schools	3.43	3	3	0.67	0.19
8.	No. of graduates of vocational schools	3.39	3	3	0.60	0.18
9.	Universities and their educational profiles	3.66	3	3	0.81	0.22
10.	Quality of education at universities	3.61	3	3	0.80	0.22
11.	No. of university graduates	3.54	3	3	0.73	0.20
12.	Cooperation with regional labour market institutions (public and private)	3.48	3	3	0.69	0.20
<b>C. Economic potential of the province</b>						
13.	Sales opportunities in regional market	4.32	5	5	0.86	0.20
14.	Market competition	4.27	5	5	0.90	0.21
15.	Rating of the province/its position in economic rankings	3.67	3	3	0.78	0.21

Tab. 2.26 (cont.)

1	2	3	4	5	6	7
16.	Availability of suppliers and business partners in the region	4.05	4	5	0.80	0.20
17.	Business environment institutions, e.g., advisory and consulting firms	3.70	4	3	0.72	0.19
18.	Enterprises from the same industry	4.12	4	5	0.93	0.22
19.	Universities and R&D centres	3.57	3	3	0.79	0.22
20.	Operating in a special economic zone	3.26	3	3	0.69	0.21
<b>D. Relationships with self-government administration (commune /county/province)</b>						
21.	Quality of service offered by self-government administration to foreign investors	3.18	3	3	0.76	0.24
22.	Fast and flexible administrative investment procedures	2.95	3	3	0.86	0.29
23.	Stable regulations (decisions) issued by the administration	2.79	3	3	0.95	0.34
24.	Financial support from the administration	3.01	3	3	0.69	0.23
25.	Non-financial support offered by the administration	3.03	3	3	0.63	0.21
26.	Public administration staff ability to speak foreign languages	2.96	3	3	0.64	0.22
<b>E. Infrastructure</b>						
27.	Developed investment plots available for manufacturing	4.20	4	5	0.89	0.21
28.	Office space	4.31	5	5	0.79	0.18
29.	Warehouse space	4.29	5	5	0.82	0.19
30.	Road infrastructure	4.29	5	5	0.81	0.19
31.	Telecommunication infrastructure	4.04	4	5	0.86	0.21
32.	Railway infrastructure (including cargo)	3.76	4	3	0.74	0.20



1	2	3	4	5	6	7
33.	Air transport infrastructure (including cargo)	3.64	4	3	0.66	0.18
34.	Condition of the environment	3.17	3	3	0.42	0.13
35.	Social infrastructure, e.g., hospitals, education facilities, hotels, leisure facilities, catering	3.23	3	3	0.51	0.16
<b>F. Other</b>						
36.	Public security and safety	3.86	4	3	0.79	0.20
37.	Fairs and exhibitions in the region	4.08	4	5	0.88	0.21
38.	International schools (for children of expatriate employees)	3.12	3	3	0.45	0.14
39.	Geographic distance	3.31	3	3	0.60	0.18
40.	Cultural distance (cultural differences)	3.23	3	3	0.52	0.16
41.	Workers' attitude towards work	3.74	4	4	0.74	0.20

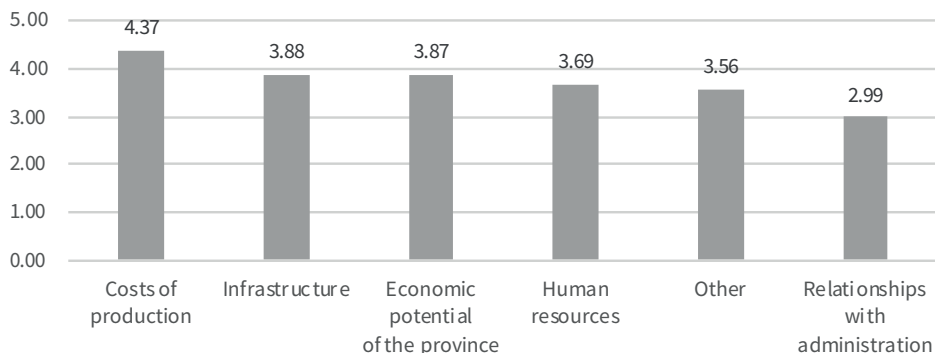
\* Mean relative error.

**Source:** author's own calculations based on a questionnaire-based study, N=201.

### 2.8.2. Overall ranking of grounds for location selection

Partial assessments were used to put together an overall ranking of means for six core groups of factors (Fig. 2.9.). It shows that cost-related factors (A) were clearly the most important for location decisions. Slightly smaller importance was paid to infrastructure (E) and economic potential of the province (C). The remaining groups of factors denoted as B, F, D (human resources, relationships with the administration, and other) were, highly likely, indifferent to investors or even discouraged them from choosing a particular location (group D – relationships with the administration).

The ranking list of means is also reflected in other statistics. Median and mode scored '5' only for cost-related factors, meaning that most respondents saw them as strongly encouraging to choose a location. Standard deviation and coefficient of variation (mean relative error) testify to little or no differentiation of answers for groups of factors. The biggest differences were reported for group D (relationships with the administration) (Tab. 2.27.).



**Figure 2.9.** Grounds for location selection – overall ranking based on mean scores

**Source:** author's own calculations based on a questionnaire-based study, N=201.

**Table 2.27.** Grounds for location selection – overall ranking based on mean scores

Group	Group name	Ranking place	Mean	Median	Mode	Standard deviation	Coefficient of variation <sup>*</sup>
A	Costs of production	1	4.37	5	5	0.83	0.19
B	Human resources	4	3.69	3	3	0.82	0.22
C	Economic potential of the province	3	3.87	4	3	0.89	0.23
D	Relationships with the administration	6	2.99	3	3	0.77	0.26
E	Infrastructure	2	3.88	4	3	0.85	0.22
F	Other	5	3.56	3	3	0.77	0.22

<sup>\*</sup> Mean relative error.

**Source:** author's own calculations based on a questionnaire-based study, N=201.

### 2.8.3. Differentiation of grounds for location selection based on overall ranking

As believed by, inter alia, Dunning and Lundan (2008), Strange et al. (2009), as well as Nielsen, Asmussen, and Weatherall (2017) the importance of grounds for location selection to EFCs can be derived from an investor profile. In order to validate the second hypothesis ( $H_2$ ) differences in the assessment of the importance of grounds for location selection were investigated based on:

- 1) the size of enterprise;
- 2) the type of investment;
- 3) export operations;

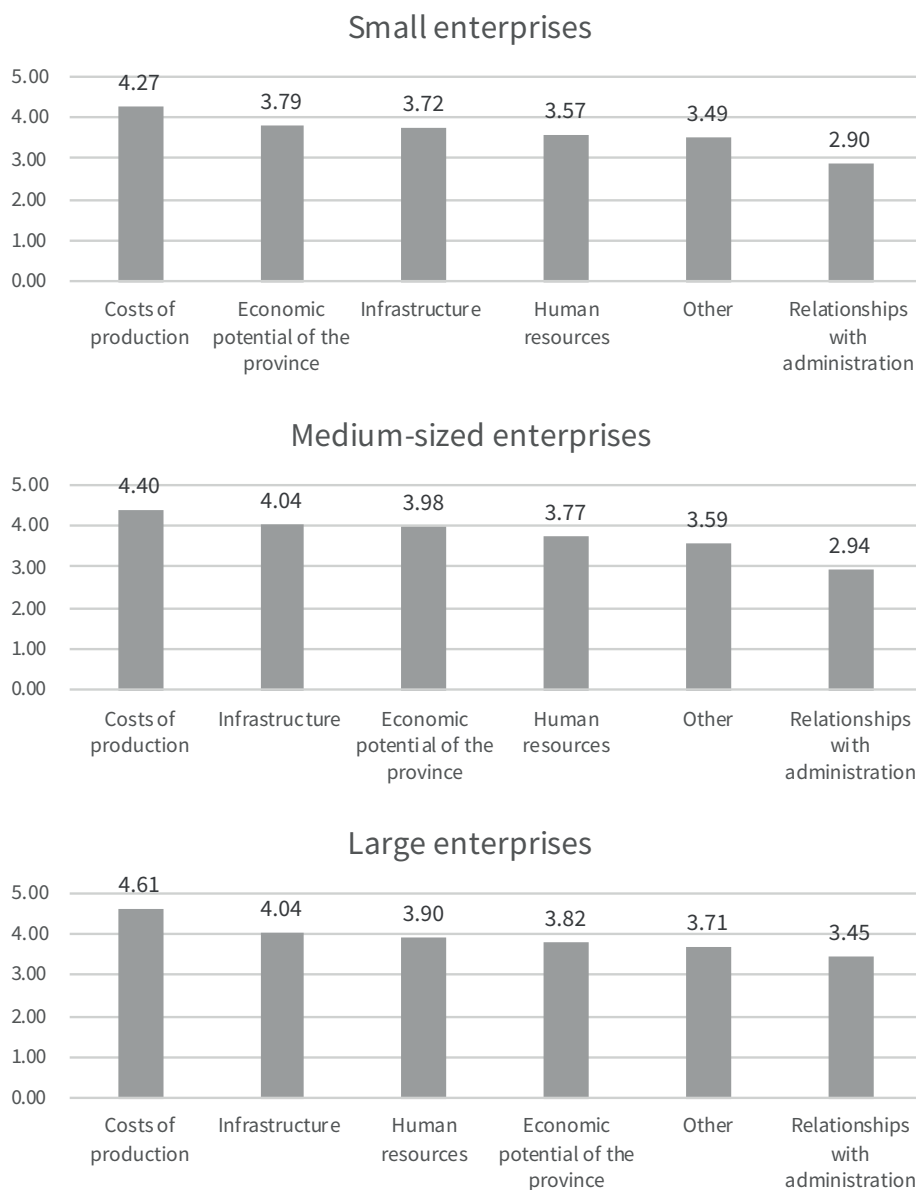
- 4) innovation;
- 5) business profile.

When it comes to the size of enterprises, ranking lists were similar in each subgroup to the overall ranking (Fig. 2.10.). However, when analysing average answers, together with median and mode, some differences can be noticed (Tab. 2.28.).

**Table 2.28.** Grounds for location selection – overall ranking based on mean scores awarded by enterprises of different employment sizes

Group of Factors	Group name	Ranking place	Mean	Median	Mode
<b>Small enterprises</b>					
A	Costs of production	<b>1</b>	4.27	5	5
B	Human resources	<b>4</b>	3.57	3	3
C	Economic potential of the province	<b>2</b>	3.79	3	3
D	Relationships with the administration	<b>6</b>	2.90	3	3
E	Infrastructure	<b>3</b>	3.72	3	3
F	Other	<b>5</b>	3.49	3	3
<b>Medium-sized enterprises</b>					
A	Costs of production	<b>1</b>	4.40	5	5
B	Human resources	<b>4</b>	3.77	4	3
C	Economic potential of the province	<b>3</b>	3.98	4	3
D	Relationships with the administration	<b>6</b>	2.94	3	3
E	Infrastructure	<b>2</b>	4.04	4	5
F	Other	<b>5</b>	3.59	3	3
<b>Large enterprises</b>					
A	Costs of production	<b>1</b>	4.61	5	5
B	Human resources	<b>3</b>	3.90	4	3
C	Economic potential of the province	<b>4</b>	3.82	4	3
D	Relationships with the administration	<b>6</b>	3.45	3	3
E	Infrastructure	<b>2</b>	4.04	4	5
F	Other	<b>5</b>	3.71	3.5	5

**Source:** author's own calculations based on results of a questionnaire-based study, N=201.



**Figure 2.10.** Grounds for location selection – overall ranking based on mean scores awarded by enterprises of different employment sizes

**Source:** author's own calculations based on results of the questionnaire-based study, N=201.

Small enterprises assessed all groups of factors, with the exception of cost-related ones (A), as neutral or little encouraging while large enterprises viewed most factors as encouraging to invest.

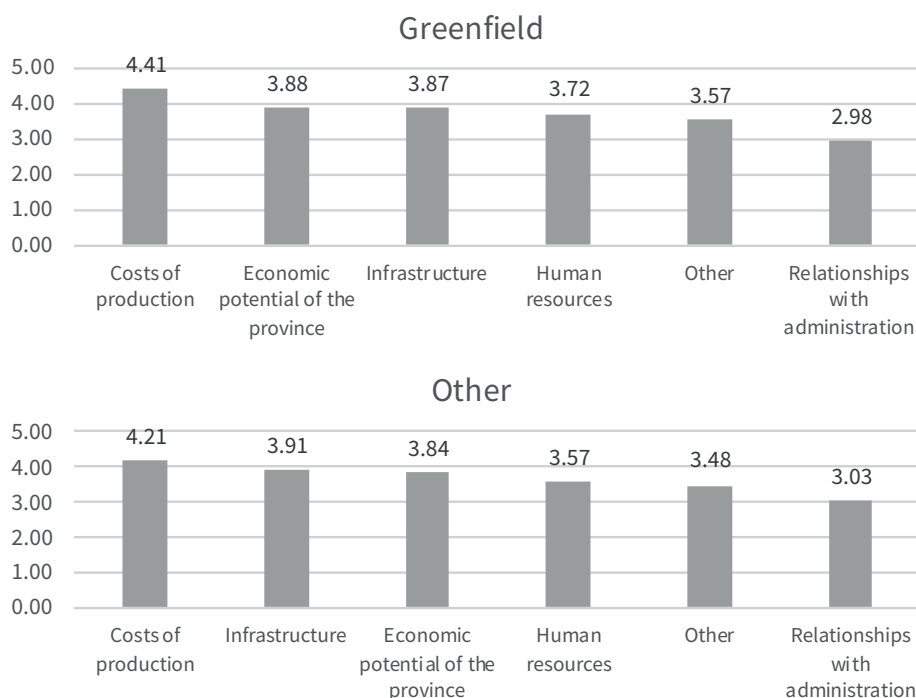
To all investors relationships with the administration were little important for making location choices (D) although they were slightly more important to large enterprises. On the one hand, this may be the effect of special attention paid by the authorities to key investors. On the other hand, it should be an important signal for decision-makers to take a closer look at smaller foreign firms interested in launching business operations in the region. All investors considered costs of production as strongly encouraging to choose the Łódzkie province as the right place for their investment projects (median and mode scored '5').

The type of foreign investment was not a factor that would clearly differentiate the importance of grounds for location choices (Tab. 2.29. / Fig. 2.11.). Nevertheless, cost-related factors (A) turned out to be more important for *greenfield* investors. The mean from their answers was higher than the mean for the whole population. In addition, the economic potential of the province (C) turned out to be more important to them than to other investors.

**Table 2.29.** Grounds for location selection – overall ranking based on mean scores awarded by *greenfield* and other investors

Group of Factors	Group name	Ranking place	Mean	Median	Mode
<b>Greenfield investment</b>					
A	Costs of production	1	4.41	5	5
B	Human resources	4	3.72	3	3
C	Economic potential of the province	2	3.88	4	3
D	Relationships with the administration	6	2.98	3	3
E	Infrastructure	3	3.87	4	3
F	Other	5	3.57	3	3
<b>Other (joint venture, acquisition, purchase of shares)</b>					
A	Costs of production	1	4.21	5	5
B	Human resources	4	3.57	3	3
C	Economic potential of the province	3	3.84	4	3
D	Relationships with the administration	6	3.03	3	3
E	Infrastructure	2	3.91	4	3
F	Other	5	3.48	3	3

**Source:** author's own calculations based on the results of the questionnaire-based study, N=201.



**Figure 2.11.** Grounds for location selection – overall ranking based on mean scores awarded by *greenfield* and other investors

**Source:** author's own calculations based on the results of the questionnaire-based study, N=201.

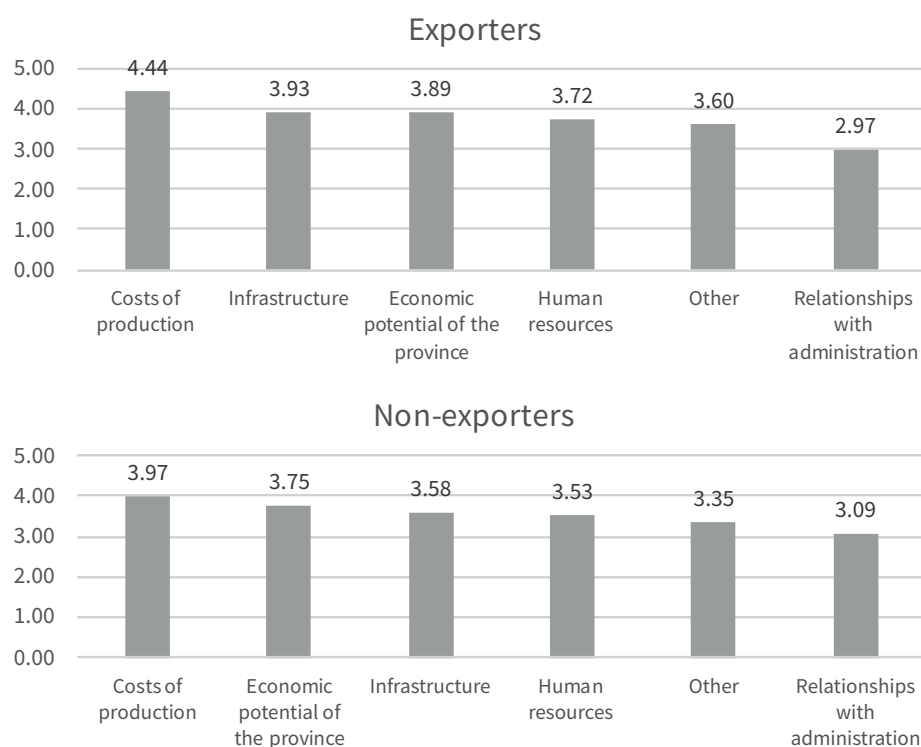
Export activities little differentiated the importance of location grounds (Tab. 2.30. / Fig. 2.12.) although exporters, more often than non-exporters, assessed them as encouraging. It can be clearly seen in cost-related factors (A), which exporters assessed as strongly encouraging while other investors viewed them as little encouraging.

**Table 2.30.** Grounds for location selection – overall ranking based on mean scores awarded by exporting and non-exporting enterprises

Group of factors	Group name	Ranking place	Mean	Median	Mode
1	2	3	4	5	6
<b>Exporters</b>					
A	Costs of production	<b>1</b>	4.44	5	5
B	Human resources	<b>4</b>	3.72	3	3
C	Economic potential of the province	<b>3</b>	3.89	4	3

1	2	3	4	5	6
D	Relationships with the administration	6	2.97	3	3
E	Infrastructure	2	3.93	4	3
F	Other	5	3.60	3	3
<b>Non-exporters</b>					
A	Costs of production	1	3.97	4	3
B	Human resources	4	3.53	3	3
C	Economic potential of the province	2	3.75	3	3
D	Relationships with the administration	6	3.09	3	3
E	Infrastructure	3	3.58	3	3
F	Other	5	3.35	3	3

**Source:** author's own calculations based on the results of questionnaire-based studies, N=201.



**Figure 2.12.** Location selection premises – overall ranking based on means from answers of exporting and non-exporting enterprises

**Source:** author's own calculations based on the results of questionnaire-based studies, N=201.

The biggest foreign investors in the Łódzkie province were highly innovative companies.<sup>51</sup> Nevertheless, innovation was not a highly differentiating factor for grounds for location as both rankings are the same (Fig. 2.13.). Small differences were observed only for means from answers (Tab. 2.31.). Respondents from innovative enterprises gave higher scores to all groups of factors.

**Table 2.31.** Grounds for location selection – overall ranking based on mean scores awarded by innovative<sup>52</sup> and non-innovative enterprises

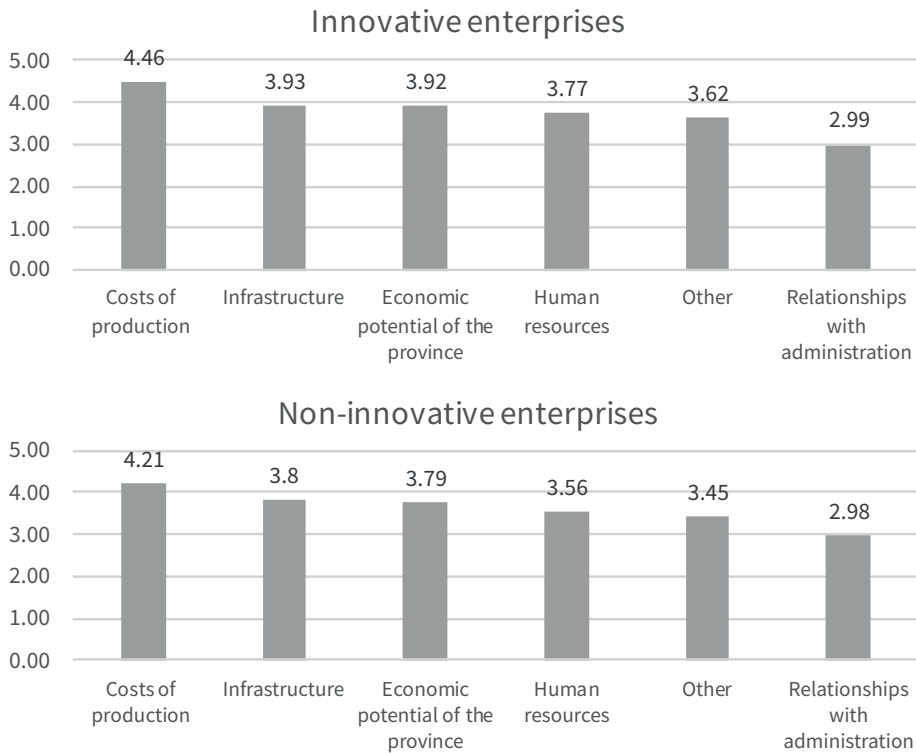
Group of factors	Group name	Ranking place	Mean	Median	Mode
<b>Innovative enterprises</b>					
A	Costs of production	<b>1</b>	4.46	5	5
B	Human resources	<b>4</b>	3.77	4	3
C	Economic potential of the province	<b>3</b>	3.92	4	3
D	Relationships with the administration	<b>6</b>	2.99	3	3
E	Infrastructure	<b>2</b>	3.93	4	3
F	Other	<b>5</b>	3.62	3	3
<b>Other</b>					
A	Costs of production	<b>1</b>	4.21	5	5
B	Human resources	<b>4</b>	3.56	3	3
C	Economic potential of the province	<b>3</b>	3.79	3	3
D	Relationships with the administration	<b>6</b>	2.98	3	3
E	Infrastructure	<b>2</b>	3.80	4	3
F	Other	<b>5</b>	3.45	3	3

**Source:** author's own calculations based on the results of questionnaire-based study, N=201.

51 64% of researched enterprises implemented innovations independently or through related companies. For more see section 2.2.

52 It was assumed that an innovative firm is an entity which implemented its own innovations (process, product, organisational, and other) or innovations worked out in the parent company or in daughter companies.





**Figure 2.13.** Grounds for location selection – overall ranking based on mean scores awarded by innovative and non-innovative enterprises

**Source:** author's own calculations based on the results of questionnaire-based study, N=201.

Research sample included enterprises with foreign capital representing two sectors: manufacturing and services. Ranking places were similar (Fig. 2.14.) Costs of production (A) were the differentiating factor for location selection; to manufacturing enterprises it was strongly encouraging while to service ones its importance was slightly smaller (Tab. 2.32.).

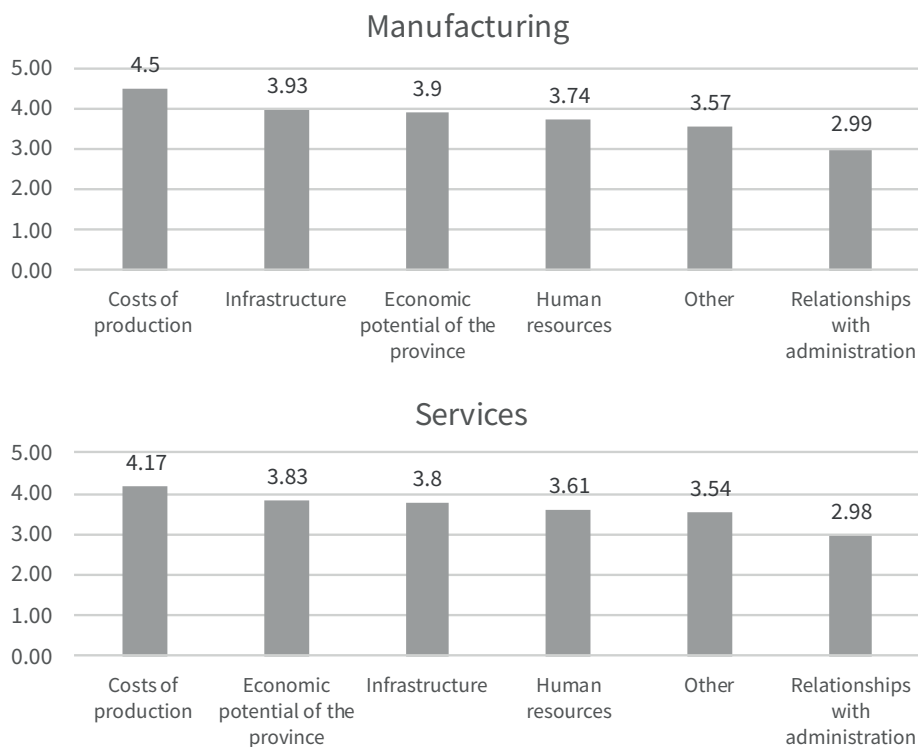
**Table 2.32.** Grounds for location selection – overall ranking based on mean scores awarded by manufacturing and service enterprises

Group of factors	Group name	Ranking place	Mean	Median	Mode
1	2	3	4	5	6
<b>Manufacturing</b>					
A	Costs of production	<b>1</b>	4.50	5	5
B	Human resources	<b>4</b>	3.74	4	3
C	Economic potential of the province	<b>3</b>	3.90	4	3

Tab. 2.32 (cont.)

1	2	3	4	5	6
D	Relationships with the administration	6	2.99	3	3
E	Infrastructure	2	3.93	4	3
F	Other	5	3.57	3	3
<b>Services</b>					
A	Costs of production	1	4.17	4	5
B	Human resources	4	3.61	3	3
C	Economic potential of the province	2	3.83	4	3
D	Relationships with the administration	6	2.98	3	3
E	Infrastructure	3	3.80	4	3
F	Other	5	3.54	3	3

**Source:** author's own calculations based on the results of questionnaire-based study, N=201.



**Figure 2.14.** Location selection premises – overall ranking based on the means from answers of manufacturing and service enterprises

**Source:** author's own calculations based on the results of questionnaire-based study, N=201.

### 2.8.4. Differentiation of grounds for location selection based on the Mann-Whitney test

To validate the above conclusions and the second hypothesis ( $H_2$ ) statistical methods were used to test the significance of differences between the means for the available scope of data. The normality of the distribution was tested with Kolmogorov-Smirnov test.<sup>53</sup> Due to the fact that the distribution of variables was different from normal distribution, Mann-Whitney test was used. This is a nonparametric alternative for t test as it does not require variables to meet the normality condition. The following were assumed to be grouping variables:

- 1)  $x_{11}$  – small enterprises,  $x_{12}$  – medium-sized enterprises,  $x_{13}$  – large enterprises;<sup>54</sup>
- 2)  $x_{21}$  – *greenfield* investment,  $x_{22}$  – other types of investment (*joint venture*, acquisition, purchase of shares);
- 3)  $x_{31}$  – exporting enterprises and  $x_{32}$  – non-exporting enterprises;
- 4)  $x_{41}$  – innovative enterprises,  $x_{42}$  – non-innovative enterprises;
- 5)  $x_{51}$  – manufacturing enterprises,  $x_{52}$  – service enterprises.

Test was performed for the following six aggregated variables that identify grounds for FDI location:

- 1) costs of production (group A);
- 2) human resources (group B);
- 3) economic potential of the province (group C);
- 4) relationships with administration (group D);
- 5) infrastructure (group E);
- 6) other (group F).

To validate the Mann-Whitney test the following hypotheses were adopted:

$H_{0(MW)}$ : two independent samples come from the population with the same distribution;

$H_{1(MW)}$ :  $\sim$  (two independent samples come from the population with the same distribution).

For the purpose of the study, the above hypotheses can be formulated as follows:

$H_{0(MW)}$ : grouping variables  $p$  ( $p = 1, 2, \dots, 5$ ) do not differ for assumption  $k$  ( $k = 1, 2, \dots, 6$ );

$H_{1(MW)}$ : grouping variables  $p$  ( $p = 1, 2, \dots, 5$ ) are different for assumption  $k$  ( $k = 1, 2, \dots, 6$ ).

<sup>53</sup> It is a non-parametric test used to compare the distribution of one-dimensional statistical characteristics. Two versions of the test are in use: for one and two samples. It allows deciding whether the distribution of ranks from different populations is convergent. The assessment is made for the degree of divergence between the structures of the two groups described by cumulative distribution function. It is often used to double check if the variable is of normal distribution (Blalock, 1977; Rószkiewicz, 2002).

<sup>54</sup> The Mann-Whitney test is used when there are two factors. When the number of factors is 3 or more, analysis of variance (ANOVA) or its non-parametric equivalent, the Kruskal-Wallis test are used. In this case, for a grouping variable identifying the size of an enterprise differences in mean scores were tested in pairs respectively for small and medium-sized enterprises, small and large enterprises, and for medium-sized and large enterprises. Thus, the condition for the applicability of the Mann-Whitney test was met.

When empirical significance  $p \geq 0.05$  there are no grounds for rejecting  $H_{0(MW)}$  hypothesis but when  $p < 0.05$  we reject the zero hypothesis, which in this case means that the grouping variable is the differentiating factor for the tested variable. If distribution functions in distinguished groups are not equal, distribution parameters and means also differ. On the other hand, if there are no grounds for rejecting the  $H_{0(MW)}$ , i.e., if distribution functions in distinguished sub-groups are equal, in the researched population the phenomenon evolves along similar lines.

In total, 42 hypotheses were investigated. Sixteen (38.1%) differences turned out to be statistically important at the level  $p < 0.05$ .<sup>55</sup> Obtained results partly confirmed conclusions from rankings. Considerations given to the issue so far demonstrated (section 2.8.3.) that the size of enterprise ( $x_1$ ) and its involvement in exports ( $x_3$ ) differentiated the importance of some location premises. In the first case, significant differences were identified for all groups of location factors (A–F),<sup>56</sup> while for exports for 3 out of 6 groups (A, E, F). Clearly the smallest differences were obtained for grouping variables ( $x_4$ ,  $x_5$ ). For innovation ( $x_4$ ) significant differences were found for only two out of six groups of location grounds (B, F), while for the grouping variable  $x_5$  (business profile) only one difference turned out to be significant (A – costs of production). The type of foreign investment ( $x_2$ ) did not differentiate between grounds for investment location in the Łódzkie province for any of the six groups (A–F) (Tab. 2.33.).

**Table 2.33.** Location selection premises/grounds – results of Mann-Whitney test

Group of factors	Group name	Mean scores for grouping variables		Significance p
Groups of factors		$x_{11}$ – small enterprises	$x_{13}$ – large enterprises	$p < 0.05$
1		2	3	4
A.	Costs of production	4.27	4.61	0.017
B.	Human resources	3.57	3.90	0.005
D.	Relationships with administration	2.90	3.45	0.001
E.	Infrastructure	3.72	4.04	0.007
F.	Other	3.49	3.71	0.012

<sup>55</sup> Table 2.33. presents statistically significant results of the test. Other results were neglected.

<sup>56</sup> Statistically significant differences were found for the relationship between small and large enterprises as well as small and medium-sized enterprises. Between medium-sized and large enterprises only one statistically significant difference was reported for factors describing relationships with administration.

1		2	3	4
Groups of enterprises		$x_{11}$ – small enterprises	$x_{12}$ – medium-sized enterprises	$p < 0.05$
B.	Human resources	3.57	3.77	0.007
C.	Economic potential of the province	3.79	3.98	0.011
E.	Infrastructure	3.72	4.04	0.001
F.	Other	3.49	3.59	0.049
Groups of factors		$x_{12}$ – medium-sized enterprises	$x_{13}$ – large enterprises	$p < 0.05$
D.	Relationships with administration	2.94	3.45	0.001
Groups of factors		$x_{31}$ – exporting enterprises	$x_{32}$ – non-exporting enterprises	$p < 0.05$
A.	Costs of production	4.44	3.97	0.001
E.	Infrastructure	3.93	3.58	0.001
F.	Other	3.60	3.35	0.001
Groups of factors		$x_{41}$ – innovative enterprises	$x_{42}$ – non-innovative enterprises	$p < 0.05$
B.	Human resources	3.77	3.56	0.004
F.	Other	3.62	3.45	0.003
Groups of factors		$x_{51}$ – manufacturing enterprises	$x_{52}$ – service enterprises	$p < 0.05$
A.	Costs of production	4.50	4.17	0.001

**Source:** author's own calculations performed using the SPSS software.

### 2.8.5. Detailed rankings of grounds for location selection

The next stage of the study focused on analysing detailed rankings of 41 grounds for location selection. It aimed to distinguish factors that are the most encouraging, discouraging, and neutral for foreign investors' decisions.

Amongst 15 premises which scored the highest in respondents' answers there were factors representing five out of six categories. Only factors from group D (relationships with self-government administration in the province) were missing as they scored the lowest, usually as neutral or discouraging to investing (Tab. 2.34.).

Cost-related factors (A) clearly the most encouraged to investing in the region. Costs of production turned out to be the most important for investors, together

with the costs of labour, taxes, and local charges which occupied, respectively, the first, third, and eleventh place in the ranking.

Investors highly assessed two factors from group B (human resources, labour market, education). The most encouraging factors for investment were availability of skilled workers and highly skilled managers, although the first was clearly more important (2<sup>nd</sup> and 10<sup>th</sup> place respectively).

Infrastructural factors (E) were also very much relevant to investors. Five of them can be found in the top of the ranking. Office and warehouse space, road infrastructure in the region, and well developed investment plots earmarked for manufacturing operations were seen as the most important for investors. To some respondents the quality of telecommunication infrastructure was also very important probably due to relatively high share of service firms operating in the field of IT, BPO, and related areas

Besides, the ranking of factors the most encouraging to locate FDI in the Łódź region included four factors from group C (economic potential of the province). The most important of them was the access to the regional market, i.e., a determining factor that can be equated with the market in the region. Investors also appreciated cooperation with local business, which they confirmed by giving high scores to competition in regional market, the presence of enterprises from the same industry or the proximity of suppliers and business partners.

Investors were also attracted by what the region offered in terms of fairs and exhibitions, which help in establishing business contacts with other enterprises (group F).

**Table 2.34.** Factors the most encouraging to choose FDI location in the Łódzkie province – detailed ranking based on mean scores

Ranking place	Factor	Group of factors	Mean	Median	Mode
1	2	3	4	5	6
1.	Total costs of production (services)	A	4.51	5	5
2.	Availability of skilled workers	B	4.46	5	5
3.	Costs of labour (wages and related charges)	A	4.43	5	5
4.	Sales opportunities in the regional market	C	4.32	5	5
5.	Office space	E	4.31	5	5
6.	Warehouse space	E	4.29	5	5
7.	Road infrastructure	E	4.29	5	5
8.	Market competition	C	4.27	5	5
9.	Developed investment plots earmarked for manufacturing	E	4.20	4	5

1	2	3	4	5	6
10.	Availability of highly skilled managers	<b>B</b>	4.19	4	5
11.	Taxes and other charges, including local taxes and charges	<b>A</b>	4.17	4	5
12.	Enterprises from the same industry	<b>C</b>	4.12	4	5
13.	Fairs and exhibitions in the region	<b>F</b>	4.08	4	5
14.	Availability of suppliers and business partners in the region	<b>C</b>	4.05	4	5
15.	Telecommunication infrastructure	<b>E</b>	4.04	4	5

**Source:** author's own calculations based on the results of questionnaire-based study, N=201.

The above conclusions were confirmed by the analysis of the distribution of answers. The table includes fifteen factors most often indicated by respondents as the most encouraging to invest in Łódzkie (Tab. 2.35.).

The number of indications in the ranking ranged between 71 and 140, meaning that the factor indicated the most frequently (costs of production) was selected by almost 70% of respondents while the factor at the bottom of the ranking (availability of suppliers and business partners) was selected by more than one in three. The main differences in the ranking of mean scores can be seen in higher position of variables from group C. It means the economic potential of the Łódzkie province is more important than other grounds for location choices.

**Table 2.35.** Factors significantly encouraging to choose FDI location in the Łódzkie province  
– detailed ranking based on the distribution of answers

Ranking place	Factor	Group of factors	Respondents' indications
1	2	3	4
1.	Total costs of production (services)	<b>A</b>	140
2.	Availability of skilled workers	<b>B</b>	129
3.	Costs of labour (wages and related charges)	<b>A</b>	125
4.	Sales opportunities in the regional market	<b>C</b>	117
5.	Market competition	<b>C</b>	116
6.	Office space	<b>E</b>	104
6.	Warehouse space	<b>E</b>	104
8.	Road infrastructure	<b>E</b>	102
9.	Developed investment plots earmarked for manufacturing	<b>E</b>	100
10.	Enterprises from the same industry	<b>C</b>	97

Tab. 2.35 (cont.)

1	2	3	4
11.	Availability of highly skilled managers	<b>B</b>	94
12.	Taxes and other charges, including local taxes and charges	<b>A</b>	91
13.	Fairs and exhibitions in the region	<b>F</b>	87
14.	Telecommunication infrastructure	<b>E</b>	76
15.	Availability of suppliers and business partners	<b>C</b>	71

**Source:** author's own calculations based on the results of questionnaire-based study, N=201.

At the bottom of the ranking there were grounds discouraging to choose FDI location in the Łódzkie province. Table 2.36. clearly shows that investors gave the lowest scores to six factors from group D (relationships with self-government administration). Mean scores for five of them were the lowest and ranged between 2.79 (stable regulations and decisions) and 3.03 (non-financial support offered by administration). The list also includes 2 factors from groups E and F (infrastructure and other).

**Table 2.36.** Factors discouraging, neutral or the least encouraging to choose FDI location in the Łódzkie province – detailed ranking based on mean scores

Ranking place	Factor	Group of factors	Mean	Median	Mode
1	2	3	4	5	6
1.	Stable regulations (decisions) issued by administration	<b>D</b>	2.79	3	3
2.	Fast and flexible operations of the administration in relationships with investors	<b>D</b>	2.95	3	3
3.	Command of foreign languages among public administration	<b>D</b>	2.96	3	3
4.	Financial support from administration	<b>D</b>	3.01	3	3
5.	Non-financial support from administration	<b>D</b>	3.03	3	3
6.	International schools (for expatriate families)	<b>F</b>	3.12	3	3
7.	Condition of the environment	<b>E</b>	3.17	3	3
8.	Quality of services offered by self-government administration to foreign investors	<b>D</b>	3.18	3	3



1	2	3	4	5	6
9.	Condition of social infrastructure, e.g., hospitals, educational establishments, hotels, leisure facilities, catering	<b>E</b>	3.229	3	3
10.	Cultural distance (cultural differences)	<b>F</b>	3.235	3	3

**Source:** author's own calculations based on the results of questionnaire-based study, N=201.

Results obtained from mean scores were reflected in the partial ranking based on the distribution of answers. The ranking took account of only negative answers, which identified selected factors as discouraging to a little or significant degree. The list featured only factors from group D.

Stable regulations and decisions issued by the administration and fast and flexible responses given by the administration to investors received the biggest number of negative scores (87 and 61 indications, respectively). It means that almost every second and every third investor assessed the performance of territorial self-government units as discouraging investors to make a favourable location decision (Tab. 2.37.).

**Table 2.37.** Factors discouraging (to significant and little degree)\* to choose FDI location in the Łódzkie province – detailed ranking based on the distribution of answers

Ranking place	Factor	Group of factors	Respondents' indications
1.	Stable regulations (decisions) issued by administration	<b>D</b>	87
2.	Fast and flexible performance of administration in relationships with investors	<b>D</b>	61
3.	Financial support from administration	<b>D</b>	35
4.	Command of foreign languages among public administration	<b>D</b>	28**
5.	Quality of services offered by public administration to foreign investors	<b>D</b>	28**
6.	Non-financial support from administration	<b>D</b>	27

\* On the list of only six factors. For other factors, the number of negative answers discouraging to a little or significant degree was not higher than four.

\*\* For the same number of negative responses command of foreign languages scored worse because 24 respondents decided this was a little discouraging factor while to four respondents it was a significantly discouraging factor. Another 28 respondents assessed the quality of investor services as a little discouraging factor. No-one considered it a significantly discouraging factor.

**Source:** author's own calculations based on the results of questionnaire-based study, N=201.

Respondents negatively assessed the assistance (financial and non-financial support) and the quality of service, including administrative staff command of foreign languages. In these cases, however, the number of negative indications was clearly smaller and did not exceed 18% of the interviewed sample. In other groups (A, B, C, E, F) negative answers were rather sporadic. Their number did not exceed four indications per factor (2%), considering summary scores that little and significantly discourage investors.

Relatively often respondents viewed individual factors as neutral, i.e. having neither positive nor negative effect on the location decision. Amongst 41 premises, 20 received more than 50% of neutral indications, hence at least 101 investors decided they had no impact on their choice. This ranking included factors from all groups but A (Tab. 2.38.).

International schools for expats children in the neighbourhood was a clear leader in the 'indifference' ranking. It was assessed as such by 90% of respondents. That, on the one hand, may mean that foreign investors trust Polish managers and do not see the need for bringing managers from other countries. On the other hand, however, it may testify to little technological advancement of projects for which mainly shop floor manufacturing or assembly workers are needed. This conclusion surely fosters respondents' neutral position vis-a-vis universities and R&D centres being present in the region. State aid related factors occupied top positions in this ranking. Thus, to almost 85% of respondents the Łódź Special Economic Zone did not make any difference and to almost 3/4ths financial and non-financial assistance offered by public administration were neutral. Indifference ranking included as many as seven factors from group B covering human resources, labour market, and education. Two thirds of respondents decided that vocational schools in the region, number of their graduates, quality of vocational education, or their profile were irrelevant for the investment location decision. Also, more than half of investors were not interested in the academic potential of the Łódź region, including the population of university graduates, quality of higher education, and what universities can offer. The absence of the need to cooperate with regional labour market institutions (public and private) confirms the lack of doubts about the availability of necessary workers. From the above presented rankings we could conclude that amongst factors from group B (human resources) two, availability of workers and availability of highly skilled managers, clearly attracted investors to Łódzkie province. That most probably explains the lack of attention paid to regional educational market at vocational and university levels.

Two infrastructural factors (group E) were also at the top of the ranking. When choosing a location, investors did not consider the quality of environment and social infrastructure (e.g., hospitals, educational establishments, hotels, leisure facilities, and catering), which was confirmed by answers given by ca. 80% of respondents. Factors describing cultural and geographical distance, seen as irrelevant by, respectively, 79% and 75% of respondents, occupied relatively high positions in indifference ranking. It was most probably due to the fact

that almost 75% of researched subjects originated from areas located in cultural and geographic proximity. 64% of FDI flows came from the EU Member States, i.e., from Germany, Italy, the Netherlands, France, and Sweden.

**Table 2.38.** Factors seen as having no impact on the choice of FDI location in the Łódzkie province – detailed ranking based on the distribution of answers\*

Ranking place	Factor	Group of factors	Respondents' indications
1.	International schools (for children of expatriate employees)	<b>F</b>	181
2.	Starting business operations in special economic zone	<b>C</b>	170
3.	Condition of the environment	<b>E</b>	168
4.	Social infrastructure, e.g., hospitals, educational establishments, hotels, leisure facilities, catering	<b>E</b>	160
5.	Cultural distance (cultural differences)	<b>F</b>	159
6.	Command of foreign languages in public administration	<b>D</b>	157
7.	Geographic distance	<b>F</b>	150
8.	Non-financial support from administration	<b>D</b>	149
9.	Financial support from administration	<b>D</b>	141
10.	No. of vocational school graduates	<b>B</b>	134
11.	Quality of education in vocational schools	<b>B</b>	131
12.	Vocational school profile	<b>B</b>	127
13.	Universities and R&D centres	<b>C</b>	125
14.	Quality of services offered by self-government administration to foreign investors	<b>D</b>	125
15.	No. of university graduates	<b>B</b>	119
16.	Quality of education at universities	<b>B</b>	118
17.	Cooperation with regional labour market institutions (public and private)	<b>B</b>	114
18.	University profile	<b>B</b>	113
19.	Rating of the province/position in economic rankings	<b>C</b>	106
20.	Fast and flexible administrative responses in relations with investors	<b>D</b>	102

\* The ranking contains only factors, for whom the sum of indications and for whom the number of neutral indications was bigger than for all other factors (at least 101).

**Source:** author's own calculations based on the results of questionnaire-based study, N=201.



## Chapter 3

# Investment Incentives: Perspective of Enterprises with Foreign Capital in the Łódź Region

### 3.1. The role of incentives in location choices

Evaluation of the role of incentives for location choices made by the biggest enterprises with foreign capital from the Łódź region was the second most important goal of the questionnaire-based study and a step towards validation of the first hypothesis ( $H_1$ ). Incentives directed at foreign investors can be found at different levels of public administration: central, regional, and local. As already mentioned in section 1.4., studies conducted so far rarely focused on the importance of investment incentives for FDI inflows to Poland and its regions as the main research subject.

Usually the sensitivity of FDI inflows to Poland to investment incentives emerged as a side question in studies devoted to more general subjects, such as, e.g., investment attractiveness of Poland and its regions, special economic zones, or motives behind FDI (see, e.g., Słomińska, 2007; Stawicka, 2008; 2015; Różański, 2010; Karaszewski, ed., 2016). Researchers tended to ignore the activities undertaken by regional and local authorities. This lack of interest can be explained, above all, by difficulties in access to data on FDI inflows to local economy and, partly, by limited range of incentives offered by local authorities.

The above is just one more argument for conducting more in-depth analyses of incentives offered to foreign investors at regional and local levels. Apparently, local authorities, expected to meet their legal duties and political commitments vis-a-vis local communities, should be particularly interested in positive long-term effects of FDI inflows (such as, e.g., new manufacturing plants, better employment perspectives, higher quality jobs, local business collaboration with

more technologically advanced foreign enterprises, additional income from taxes). The study discussed below was motivated by the wish to fill this gap as it directly addresses the role of incentives in making FDI location choices and covers the activities of national, regional, and local authorities, as well as other business environment institutions targeting foreign investors.

### 3.1.1. Overall ranking of investment incentives

Respondents taking part in the questionnaire-based study were asked to indicate to what extent investment incentives had contributed to choosing the Łódzkie province as a location for their foreign investment. Like in the research focused on reasons behind location choices, a five-point Likert scale was used, in which '1' meant the impact was very weak or non-existent while '5' indicated a very strong impact.

The reliability of the measurement was validated using the Cronbach's  $\alpha$  indicator (Ferguson, Takane, 2004). Its value of 0.892 indicates that the measurement was highly reliable. In accordance with the classification adopted in Chapter 1, incentives were divided into five categories (Johnson, Toledano et al., 2013):

- 1) financial (e.g., grants, subsidies, loans, real estate offered at below-market prices);
- 2) fiscal (tax allowances and exemptions);
- 3) regulatory (e.g., agreements, bilateral and international agreements enhancing FDI inflows);
- 4) information and technical (services, consulting, assistance services in handling investment procedures usually available from government agencies and self-government administration);
- 5) in-kind support, such as accompanying infrastructure (e.g., land with utilities, construction of access road).

**Table 3.1.** Impact of incentives on investment decision – overall ranking based on mean scores

Group of incentives	Group name	Ranking position	Mean	Median	Mode	Standard deviation	Coefficient of variation <sup>*</sup>
FIN	Financial	2	2.60	3	3	1.21	0.47
FIS	Fiscal	3	2.55	3	3	1.13	0.44
REG	Regulatory	5	1.73	1	1	0.95	0.55
INF	Information and technical	4	2.38	2	3	1.11	0.47
IKS	In-kind support	1	3.08	3	4	1.38	0.45

<sup>\*</sup> Mean relative error.

**Source:** author's own calculations based on the results of questionnaire-based study, N=201.

Groups of incentives played different roles as can be seen from mean scores and other statistics<sup>57</sup> (Tab. 3.1.). Findings are partly convergent with conclusions drawn by Tavares-Lehmann et al., eds. (2016), who decided that financial and fiscal incentives (mainly subsidies and tax allowances) exert the biggest impact within the available toolkit. Investors also appreciate access to public services offered at below-market prices (e.g., accompanying infrastructure).

To EFCs from the Łódzkie province in-kind support in the form of accompanying infrastructure, such as, e.g., access roads was clearly the most important. In addition, in their opinion, incentives from this group exerted at least moderate impact on investment decisions. Considering the distribution of answers (Tab. 3.2.), 70% of respondents decided that in-kind support was moderately, very, or extremely important with 44% of investors opting for very and extremely important response. Only to 22% these incentives were irrelevant.

Financial incentives ranked second. To 55% of respondents they were moderately, very, or extremely important for the location decision. However, only one in four entrepreneurs viewed financial assistance as very or extremely important. The proportion of those to whom it was irrelevant was the same as for the in-kind support (25%).

The last group of incentives which secured itself a place on the podium included fiscal instruments. Average score for their impact was slightly lower than for financial incentives. However, having examined the distribution of answers, one can clearly see that fewer respondents gave the highest scores (20%) while a bigger group decided that fiscal incentives exert moderate impact (33%). In total, over a half of investors (53%) saw these incentives as important for location decisions.

Opinions prevailing in the two remaining groups of incentives, i.e., information and technical and regulatory incentives informed about low (score 2), very low or no (score 1) impact on the choice of investment location. The first group scored slightly higher; 52% of respondents assessed the importance of information and technical support as low, very low or none with the lowest scores given by 29% of respondents. Regulatory incentives were little important or not at all important to almost 79% of the researched population, including 55% who believed that their impact was minor or negligible. This was the only category dominated with the lowest scores.

When it comes to information and technical instruments, the result can be surprising. Harding and Javorcik (2011) maintain that initiatives creating positive image of the host country, providing investors with free-of-charge business information or helping them to comply with formalities related with the project can prejudice the choice of location. They believe it is true, above all, of developing economies where market failures may occur and state structures work less effectively.

<sup>57</sup> Standard deviation and coefficient of variation (mean relative error) testify to big divergence in the assessment of the importance of investment incentives by individual investors (Tab. 2.39.).

**Table 3.2.** Impact of incentives on investment decision – distribution of answers

Group of incentives	Impact					No answer
	Very big (5)	Big (4)	Moderate (3)	Low (2)	Very low or none (1)	
Financial (e.g., grants, below-market prices of land and public services)	11	40	59	40	51	0
Fiscal/tax (allowances and exemptions, including local taxes and charges)	9	31	67	49	45	0
Regulatory (e.g., agreements, bilateral and international agreements enhancing FDI inflow)	3	7	33	48	110	0
Information and technical (services, consulting, assistance to investors usually rendered by government agencies and self-government administration)	4	30	62	46	58	1
In-kind support, such as accompanying infrastructure, e.g., access road	33	56	51	15	45	1

**Source:** author's own calculations based on the results of questionnaire-based study, N=201.

### 3.1.2. Differentiated importance of investment incentives based on overall ranking

To validate the second hypothesis ( $H_2$ ), like in the case of location premises, differences in the importance of investment incentives were examined. As evidenced by, inter alia, Overesch and Wamser (2008), James (2009), and Hebous, Ruf and Weichenrieder (2010), the impact exerted by instruments applied by the host country depends on investor's profile, e.g., on the type of investment. Thus, similarly to the analysis of reasons behind location choices, five differentiating features were selected:

- 1) the size of an enterprise;
- 2) type of investment;
- 3) involvement in exports;
- 4) innovation;
- 5) business profile.



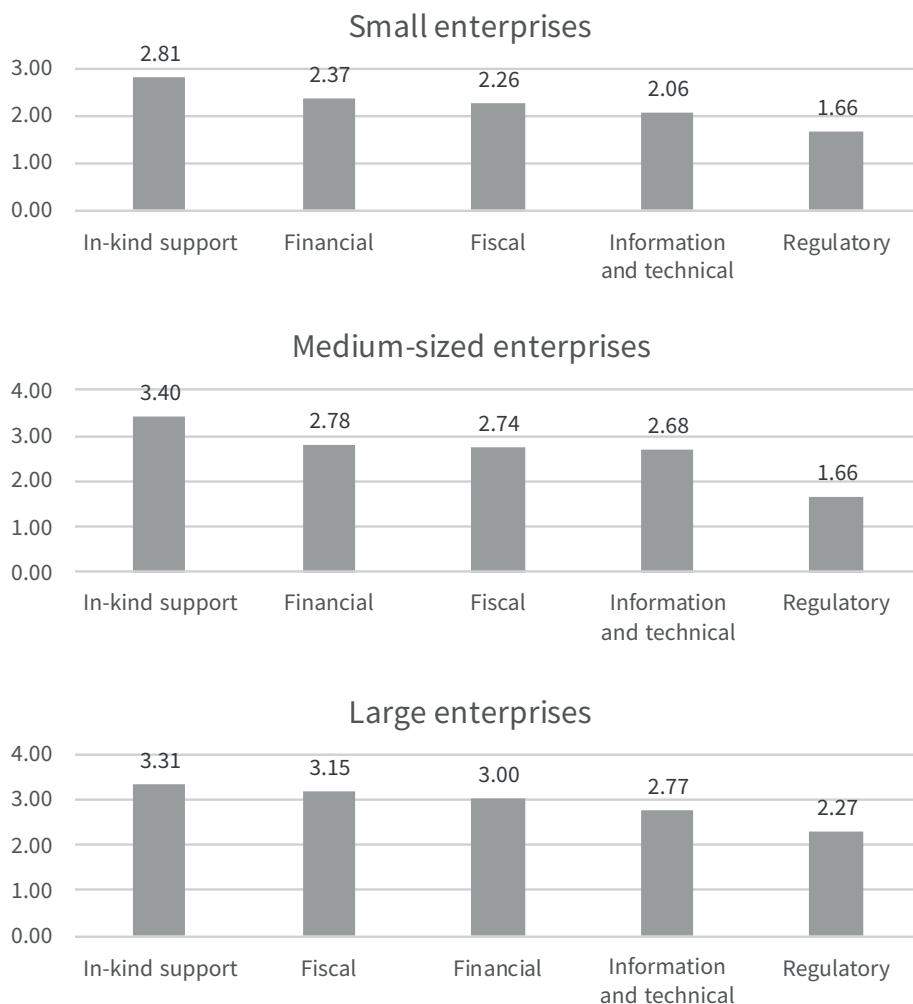
Enterprises of different sizes came up with rankings of incentives almost identical with the ranking for the entire population. A difference was reported only in the group of large companies, to which fiscal incentives turned out to be more important than financial ones (Tab. 3.3.).

However, considering the mean scores for individual groups of incentives, one can realise that their importance was growing in proportion to the size of enterprises. Small enterprises saw all incentives as little important. On the other hand, almost all incentives, in particular in-kind support as well as financial and fiscal incentives exerted moderate or even big impact upon large enterprises. It was confirmed not only by mean scores but also by the values of median and mode. In summary, the size of an enterprise was the differentiating factor for the importance of the impact of individual groups of incentives upon investment decision.

**Table 3.3.** Impact of incentives on investment decision – overall rankings based on mean scores awarded by enterprises of different employment sizes

Group of incentives	Group name	Ranking place	Mean	Median	Mode
<b>Small enterprises</b>					
FIN	Financial	<b>2</b>	2.37	2	1
FIS	Fiscal	<b>3</b>	2.26	2	3
REG	Regulatory	<b>5</b>	1.66	1	1
INF	Information and technical	<b>4</b>	2.06	2	1
IKS	In-kind support	<b>1</b>	2.81	3	1
<b>Medium-sized enterprises</b>					
FIN	Financial	<b>2</b>	2.78	3	3
FIS	Fiscal	<b>3</b>	2.74	3	3
REG	Regulatory	<b>5</b>	1.66	1	1
INF	Information and technical	<b>4</b>	2.68	3	3
IKS	In-kind support	<b>1</b>	3.40	4	4
<b>Large enterprises</b>					
FIN	Financial	<b>3</b>	3.00	3	4
FIS	Fiscal	<b>2</b>	3.15	3	3
REG	Regulatory	<b>5</b>	2.27	2	1
INF	Information and technical	<b>4</b>	2.77	3	4
IKS	In-kind support	<b>1</b>	3.31	4	4

**Source:** author's own calculations based on the results of questionnaire-based study, N=201.



**Figure 3.1.** Impact of incentives on investment decision – overall rankings for enterprises of different employment sizes

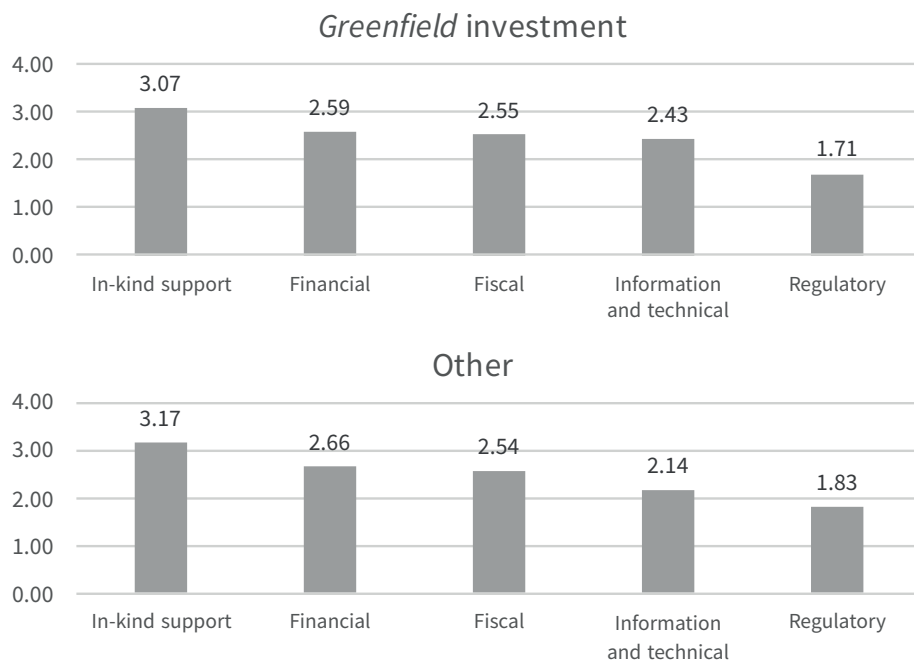
**Source:** author's own calculations based on the results of questionnaire-based study, N=201.

The type of foreign investment made no difference for the impact of individual incentives. This is confirmed by both, the ranking sequence and mean scores. Higher values of the mode suggest that most incentives were more important to EFCs engaged in greenfield investment projects (Tab. 3.4.).

**Table 3.4.** Impact of incentives on investment decision – overall rankings based on mean scores awarded by enterprises engaged in different types of foreign investment

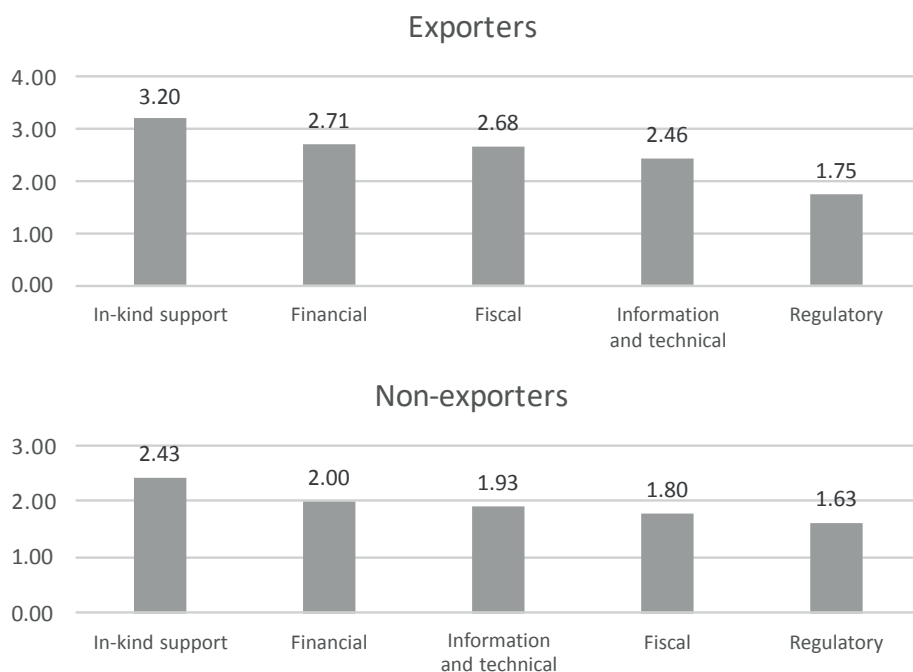
Group of incentives	Group name	Ranking place	Mean	Median	Mode
<b>Greenfield investment</b>					
FIN	Financial	2	2.59	3	3
FIS	Fiscal	3	2.55	3	3
REG	Regulatory	5	1.71	1	1
INF	Information and technical	4	2.43	2	3
IKS	In-kind support	1	3.07	3	3
<b>Other (joint venture, acquisition, purchase of shares)</b>					
FIN	Financial	2	2.66	3	4
FIS	Fiscal	3	2.54	2	2
REG	Regulatory	5	1.83	2	1
INF	Information and technical	4	2.14	2	1
IKS	In-kind support	1	3.17	4	1

**Source:** author's own calculations based on the results of questionnaire-based study, N=201.

**Figure 3.2.** Impact of incentives on investment decision – overall rankings based on mean scores awarded by enterprises engaged in different types of foreign investment

**Source:** author's own calculations based on the results of questionnaire-based study, N=201.

Exports differentiated the impact of incentives on investment decision (Tab. 3.5.). On average, all types of incentives were more important to exporters than to non-exporters. Besides, the importance of most incentives to non-exporters, above all, fiscal, regulatory, and information and technical was marginal.



**Figure 3.3.** Impact of incentives on investment decision – overall rankings based on mean scores awarded by exporting and non-exporting enterprises

**Source:** author's own calculations based on the results of questionnaire-based study, N=201.

**Table 3.5.** Impact of incentives on investment decision – overall rankings based on mean scores awarded by exporting and non-exporting enterprises

Group of incentives	Group name	Ranking place	Mean	Median	Mode
1	2	3	4	5	6
<b>Exporters</b>					
FIN	Financial	<b>2</b>	2.71	3	3
FIS	Fiscal	<b>3</b>	2.68	3	3
REG	Regulatory	<b>5</b>	1.75	1	1
INF	Information and technical	<b>4</b>	2.46	3	3
IKS	In-kind support	<b>1</b>	3.20	3	4

1	2	3	4	5	6
<b>Non-exporters</b>					
FIN	Financial	<b>2</b>	2.00	2	1
FIS	Fiscal	<b>4</b>	1.80	1.5	1
REG	Regulatory	<b>5</b>	1.63	1	1
INF	Information and technical	<b>3</b>	1.93	2	1
IKS	In-kind support	<b>1</b>	2.43	2	1

**Source:** author's own calculations based on the results of questionnaire-based study, N=201.

Innovation was another factor differentiating the impact of incentives upon the location decision. Mean scores awarded by innovative enterprises to all groups of incentives were significantly higher than those awarded by non-innovative enterprises.<sup>58</sup> It means that incentives may successfully attract innovative foreign investors. In addition to regulatory incentives, the impact of all the four groups, i.e., financial, fiscal, information and technical incentives, and in-kind support was at least moderate. Remarkably, to non-innovative investors financial incentives were clearly less important and their place in the ranking was lower than for the total researched population (Tab. 3.6.).

**Table 3.6.** Impact of incentives on investment decision – overall rankings based on mean scores awarded by innovative and non-innovative enterprises

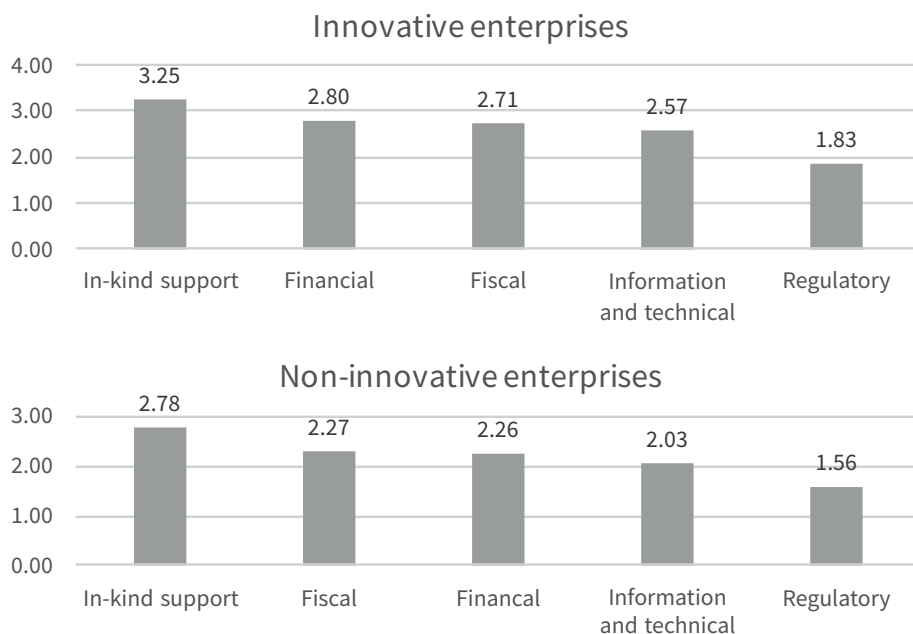
Group of incentives	Group name	Ranking place	Mean	Median	Mode
1	2	3	4	5	6
<b>Innovative enterprises</b>					
FIN	Financial	<b>2</b>	2.80	3	3
FIS	Fiscal	<b>3</b>	2.71	3	3
REG	Regulatory	<b>5</b>	1.83	1	1
INF	Information and technical	<b>4</b>	2.57	3	3
IKS	In-kind support	<b>1</b>	3.25	3	4
<b>Other</b>					
FIN	Financial	<b>3</b>	2.26	2	1

<sup>58</sup> Like in the study on reasons behind location choices it was assumed that an innovative firm is a firm which had implemented its own innovations (process, product, organisational, and other) or innovations developed by its parent or daughter companies.

Tab. 3.6 (cont.)

1	2	3	4	5	6
FIS	Fiscal	2	2.27	2	3
REG	Regulatory	5	1.56	1	1
INF	Information and technical	4	2.03	2	1
IKS	In-kind support	1	2.78	3	1

**Source:** author's own calculations based on the results of questionnaire-based study, N=201.



**Figure 3.4.** Impact of incentives on investment decision – overall rankings based on mean scores awarded by innovative and non-innovative enterprises

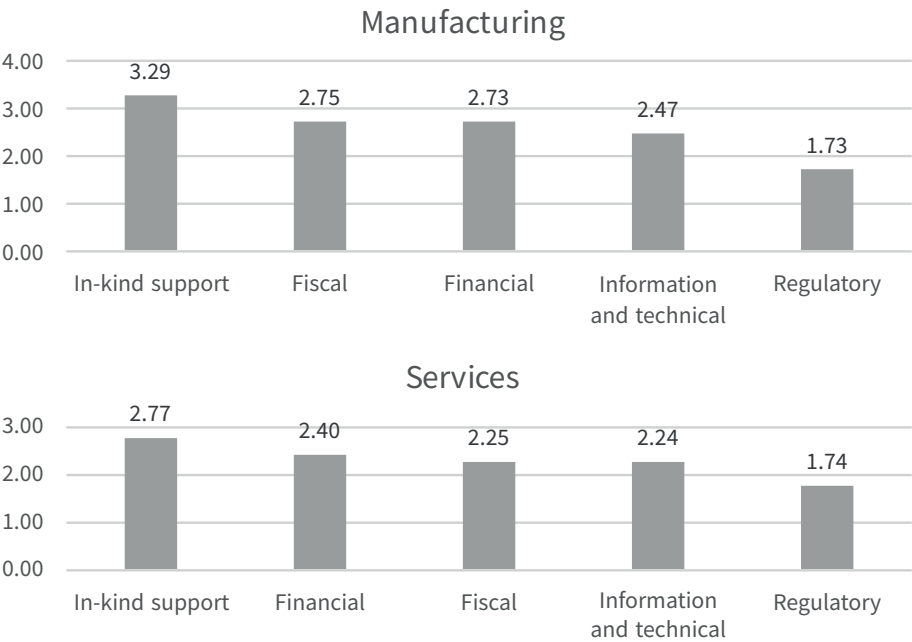
**Source:** author's own calculations based on the results of questionnaire-based study, N=201.

The impact of individual groups of incentives on manufacturing and service enterprises was clearly different (Tab. 3.7.). First, mean scores as well as median and mode for all incentives, except the regulatory ones, indicate bigger importance of state aid to manufacturing enterprises. Second, the latter were more interested in in-kind support than service enterprises, most probably because manufacturing enterprises need accompanying infrastructure in their everyday operations. Third, manufacturing sector viewed fiscal incentives as more important than financial ones, which could be explained by their bigger presence in special economic zones where tax allowances are the main tool.

**Table 3.7.** Impact of incentives on investment decision – overall rankings based on mean scores awarded by manufacturing and service enterprises

Group of incentives	Group name	Ranking place	Mean	Median	Mode
Manufacturing					
FIN	Financial	3	2.73	3	3
FIS	Fiscal	2	2.75	3	3
REG	Regulatory	5	1.73	1	1
INF	Information and technical	4	2.47	3	3
IKS	In-kind support	1	3.29	3	4
Services					
FIN	Financial	2	2.40	3	3
FIS	Fiscal	3	2.25	2	3
REG	Regulatory	5	1.74	1	1
INF	Information and technical	4	2.24	2	1
IKS	In-kind support	1	2.77	3	1

**Source:** author’s own calculations based on the results of questionnaire-based study, N=201.



**Figure 3.5.** Impact of incentives on investment decision – overall rankings based on mean scores awarded by manufacturing and service enterprises

**Source:** author’s own calculations based on the results of questionnaire-based study, N=201.

### 3.1.3. Differentiated importance of investment incentives based on the Mann-Whitney test

To validate the above results and the second hypothesis ( $H_2$ ), the same procedure was followed as for the grounds for location choices. The normality of the distribution was tested with Kolmogorov-Smirnov test. The Mann-Whitney test was used because the distribution of variables diverged from normal. This time, the following were adopted as grouping variables:

- 1)  $x_{11}$  – small enterprises,  $x_{12}$  – medium-sized enterprises,  $x_{13}$  – large enterprises<sup>59</sup>;
- 2)  $x_{21}$  – *greenfield* investment,  $x_{22}$  – other types of investment (*joint venture*, acquisition, purchase of shares);
- 3)  $x_{31}$  – exporting enterprises and  $x_{32}$  – non-exporting enterprises;
- 4)  $x_{41}$  – innovative enterprises,  $x_{42}$  – non-innovative enterprises;
- 5)  $x_{51}$  – manufacturing enterprises,  $x_{52}$  – service enterprises.

The test was performed for the following five variables that represent groups of incentives:

- 1) financial (FIN);
- 2) fiscal (FIS);
- 3) regulatory (REG);
- 4) information and technical (INF);
- 5) in-kind (IKS).

To validate the Mann-Whitney test the following hypotheses were adopted:<sup>60</sup>

$H_{0(MW)}$ : two independent samples come from the population with the same distribution;

$H_{1(MW)}$ : ~ (two independent samples come from the population with the same distribution).

For the purpose of the study, the above hypotheses can be formulated as follows:

$H_{0(MW)}$ : grouping variables  $p$  ( $p = 1, 2, \dots, 5$ ) do not differ for incentive  $k$  ( $k = 1, 2, \dots, 5$ );

$H_{1(MW)}$ : grouping variables  $p$  ( $p = 1, 2, \dots, 5$ ) are different for incentive  $k$  ( $k = 1, 2, \dots, 5$ ).

In total, 35 hypotheses were validated. Almost half of differences (17) turned out to be statistically significant at the level of  $p < 0.05$ .<sup>61</sup> Obtained results confirm

59 The Mann-Whitney test is used when there are two factors. When the number of factors is 3 or more, analysis of variance (ANOVA) or its non-parametric equivalent, the Kruskal-Wallis test. In this case, for a grouping variable identifying the size of an enterprise differences in mean scores were tested in pairs respectively for small and medium-sized enterprises, small and large enterprises, and for medium-sized and large enterprises. Thus, the condition for the applicability of the Mann-Whitney test was met.

60 When calculated empirical significance  $p \geq 0.05$ , there are no grounds for rejecting  $H_{0(MW)}$  hypothesis, while when  $p < 0.05$  zero hypothesis can be rejected which, in this case, means that the grouping variable is the differentiating factor for tested variable.

61 Table 3.8. presents statistically significant results of test; the rest were ignored.



conclusions drawn from rankings. They show that involvement in exports ( $x_3$ ), innovations ( $x_4$ ), and the size of an enterprise ( $x_1$ )<sup>62</sup> made significant difference for the impact of incentives on investment decision (Tab. 3.8.).

For the grouping variable  $x_5$  (business profile) significant differences were found only for fiscal incentives and in-kind support. The type of investment ( $x_2$ ) did not differentiate their impact. One needs to bear in mind, that for none of grouping variables any significant differences have been found with regard to regulatory incentives, evaluated concordantly in all rankings as having the least impact on investment decision.

**Table 3.8.** Impact of incentives on investment decision – results of the Mann-Whitney test

Group of incentives	Group name	Mean scores for grouping variables		Significance p
1	2	3	4	5
<b>Groups of incentives</b>		<b><math>x_{11}</math> – small enterprises</b>	<b><math>x_{13}</math> – large enterprises</b>	<b><math>p &lt; 0.05</math></b>
FIN	Financial	2.37	3.00	0.043
FIS	Fiscal	2.26	3.15	0.003
INF	Information and technical	2.06	2.77	0.005
<b>Groups of incentives</b>		<b><math>x_{11}</math> – small enterprises</b>	<b><math>x_{12}</math> – medium-sized enterprises</b>	<b><math>p &lt; 0.05</math></b>
FIN	Financial	2.37	2.78	0.024
FIS	Fiscal	2.26	2.74	0.005
INF	Information and technical	2.06	2.68	0.001
IKS	In-kind support	2.81	3.40	0.006
<b>Groups of incentives</b>		<b><math>x_{31}</math> – exporting enterprises</b>	<b><math>x_{32}</math> – non-exporting enterprises</b>	<b><math>p &lt; 0.05</math></b>
FIN	Financial	2.71	2.00	0.004
FIS	Fiscal	2.68	1.80	0.001
INF	Information and technical	2.46	1.93	0.013
IKS	In-kind support	3.20	2.43	0.008

62 Statistically significant differences were found for relations between small and large enterprises and between small and medium-sized enterprises. No statistically significant differences were found in the impact of incentives on medium-sized and large enterprises.

Tab. 3.8 (cont.)

1	2	3	4	5
Groups of incentives		$X_{41}$ – innovative enterprises	$X_{42}$ – non-exporting enterprises	$p < 0.05$
FIN	Financial	2.80	2.26	0.002
FIS	Fiscal	2.71	2.27	0.011
INF	Information and technical	2.57	2.03	0.001
IKS	In-kind support	3.25	2.78	0.027
Groups of incentives		$X_{51}$ – manufacturing enterprises	$X_{52}$ – service enterprises	$p < 0.05$
FIS	Fiscal	2.75	2.25	0.004
IKS	In-kind support	3.29	2.77	0.018

**Source:** author's own calculations using the SPSS software.

### 3.1.4. Detailed ranking of investment incentives

Scores from the overall ranking are reflected in detailed rankings, in which respondents assessed 15 forms of support. This time again the reliability of the measurement was validated using Cronbach's  $\alpha$  coefficient (Ferguson, Takane, 2004). The coefficient reached 0.995 which suggests very high reliability of the measurement. Average scores on a scale from 1 (very low or no impact) to 5 (very big impact) ranged between 2.87 and 1.49, meaning in general that individual forms of support have little impact on location decisions, which, in turn, coincides with the overall assessment of factors encouraging to invest (Tab. 3.9.).

To EFCs, in-kind support was the most important, i.e., ensuring access to accompanying infrastructure and access to investment plots with utilities. In the first case, 4 was the most often given score. In the second case, although the mode amounted to 1, a relatively big group of respondents evaluated the impact of this category of assistance as very big, big, or moderate (coefficient of variation amounted to 0.56 and was one of the highest in this ranking). That was the reason why mean score was relatively high (2.46).

Detailed ranking confirmed that investors appreciated financial assistance, in particular loans and preferential borrowings as well as grants for creating new jobs and buying equipment for workplaces. Respondents evaluated their impact as bigger than the impact of various investment grants, e.g., EU grants. On the one hand, this may be a sign of investors' good financial standing and the lack of demand for grants but, on the other hand, it may mean investors do not want to go through arduous application procedures filled with myriads of regulations and criteria to benefit from such assistance.

**Table 3.9.** Impact of incentives on investment decision – detailed ranking based on mean scores

Ranking place	Support instrument	Group of incentives <sup>*</sup>	Mean	Median	Mode	Standard deviation	Coefficient of variation <sup>**</sup>
1.	Ensuring access to accompanying infrastructure	IKS	2.87	3	4	1.41	0.49
2.	Access to developed investment land (outside of SEZ)	IKS	2.46	2	1	1.37	0.56
3.	Preferential loans and borrowings	FIN	2.38	3	1	1.18	0.50
4.	Grants for creating new jobs and purchasing equipment for workplaces	FIN	2.31	2	3	1.13	0.49
5.	Assistance in carrying out investment procedure	INF	2.28	2	3	1.08	0.48
6.	Legal assistance	INF	2.23	2	3	0.98	0.44
7.	Investment grants (other than funds from the EU)	FIN	2.07	2	1	1.07	0.51
8.	Other advisory and investment assistance	INF	2.04	2	2	0.94	0.46
9.	Income tax allowances (outside of SEZ)	FIS	1.95	2	1	0.98	0.50
10.	Property tax exemptions (outside of SEZ)	FIS	1.88	2	1	0.98	0.52
11.	Access to investment in industrial and technology parks	IKS	1.69	1	1	0.83	0.49
12.	Investment grants co-financed from the EU funds	FIN	1.68	1	1	0.96	0.57
13.	Tax exemptions for R&D centres	FIS	1.63	1	1	0.87	0.53
14.	Other grants co-financed with the EU funds, e.g., licences, patents, implementations	FIN	1.57	1	1	0.83	0.53
15.	Grants from the <i>Programme for supporting investment of major importance to Polish economy</i>	FIN	1.49	1	1	0.72	0.48

<sup>\*</sup> FIN – financial, FIS – fiscal, REG – regulatory, INF – information and technical support, IKS – in-kind support

<sup>\*\*</sup> Mean relative error.

**Source:** author's own calculations based on the results of questionnaire-based study, N=201.

**Table 3.10.** Impact of incentives in SEZ – overall ranking based on mean scores

Ranking place	Incentive	Mean	Median	Mode	Standard deviation	Coefficient of variation*
1.	Exemption from PIT and CIT	2.28	1	1	1.59	0.70
2.	Developed investment plots offered at a below-market price	2.24	1	1	1.67	0.74
3.	Assistance in handling investment-related formalities	2.18	1	1	1.50	0.69
4.	Exemptions from property tax in some municipalities available to investments in SEZ	2.15	1	1	1.50	0.70
5.	Office space offered at below-market prices	2.11	1	1	1.51	0.72

\* Mean relative error.

**Source:** author's own calculations based on the results of questionnaire-based study, N=54.**Table 3.11.** Impact of incentives in SEZ – detailed rankings based on mean scores

Investors in SEZ					Investors outside of SEZ				
Rank	Incentive	Mean	Median	Mode	Rank	Incentive	Mean	Median	Mode
1.	Exemption from PIT and CIT	3.52	4	4	1.	Exemptions from property tax in some municipalities available to investments in SEZ	1.39	1	1
2.	Developed investment plots offered at a below-market price	3.43	4	5	1.	Office space offered at below-market price	1.39	1	1
3.	Assistance in handling investment-related formalities	3.29	4	4	3.	Exemptions from CIT and PIT	1.35	1	1
4.	Exemptions from property tax in some municipalities available to investments in SEZ	3.23	4	4	3.	Developed investment plots offered at below-market price	1.35	1	1
5.	Office space offered at below-market prices	3.09	4	4	5.	Assistance in handling investment-related formalities	1.32	1	1

**Source:** author's own calculations based on the results of questionnaire-based study, N=54.

Information and technical incentives also appeared to be important to respondents, especially consulting and provision of information in the course of the implementation of the investment project. This may testify, on the one hand, to high degree of complexity of binding provisions and procedures. On the other hand, it reflects demand for advisory services and information connected with the carrying out of the investment project.

Fiscal incentives exerted a moderate impact on investment decisions. Tax allowances and exemptions from property tax ranked in the second half of the ranking. Both types of incentives were available outside of special economic zones. Only a few investors were interested in tax allowances offered to entities with R&D centre status.

### 3.2. Special economic zones

Respondents evaluated incentives offered by special economic zones (SEZ) separately (Tab. 3.10, p. 124). Their impact was assessed by investors operating in the SEZ and outside of it. All incentives scored similarly between 2.11 and 3.10. It means their importance to investment location decision was on average smaller than moderate but bigger than low.

The results are different when we compare scores awarded by investors operating in the Łódź Special Economic Zone with those of other entrepreneurs (Tab. 3.11, p. 124). All investors from the SEZ evaluated the impact of all incentives as very positive. Moreover, they rated them higher than all incentives offered outside of the zone to investors in the Łódzkie province. Fiscal incentives in the form of income tax exemption and availability of developed investment plots offered at competitive prices (in-kind support) scored the highest. In the latter case the highest score (5) was the most frequently selected answer. This may mean that aid offered in the SEZ met the expectations of potential beneficiaries.

### 3.3. The role of State aid in making location choices

State aid is available across the country, however, with different intensity<sup>63</sup> depending on the goal for which the aid is granted, place where it is granted and to whom (Ambroziak, 2013). These issues are regulated by the regulations on the so called regional aid map.<sup>64</sup>

63 Intensity shows the degree (in %) of involvement of public resources in the total value of an undertaking calculated as a relationship between the amount of State aid and eligible costs.

64 See the Regulation of the Council of Ministers of 13 October 2006 on regional aid map, (Dz.U./Journal of Laws of 19 October 2006); Regulation of the Council of Ministers of 30 June 2014 on the regional aid map for 2014–2020 (Dz.U. of 1 July 2014, item 878).

In Poland State aid differs across regions (at NUTS II level<sup>65</sup>) and is reversely proportional to the affluence of regions understood as a relation of GDP per capita to average GDP per capita for EU-28. Thus, investors may expect bigger support spectrum in less developed regions. However, according to respondents, this was not the decisive factor considered in investment decision. Over 90% of respondents decided that the maximum State aid intensity had no impact upon their investment location decision. Only 9% of respondents viewed the factor as important (Tab. 3.12.).

**Table 3.12.** Impact of maximum State aid intensity on location investment decision – distribution of answers<sup>\*</sup>

No.	Answer	No. of enterprises	
		Absolute	in %
1.	definitely yes	1	0.5
2.	yes	1	0.5
3.	I guess so	16	8.0
4.	I guess not	60	29.8
5.	No	72	35.8
6.	definitely not	50	24.9
7.	no answer	1	0.5
8.	<b>Total</b>	<b>201</b>	<b>100.0</b>

<sup>\*</sup> Mean – 2.24, median – 2, mode – 2. The following response anchor was used: definitely yes (6), yes (5), I guess so (4), I guess not (3), no (2), definitely not (1).

**Source:** author's own calculations based on the results of questionnaire-based study, N=201.

Most respondents (82%) decided that the lack of State aid would not impact their investment location decision. Only one investor (*sic!*) was of a different opinion. The rest (17%) remained undecided (Tab. 3.13.).

65 The Classification of Territorial Units for Statistics – NUTS (from French: Nomenclature des Unités territoriales statistiques) is a geographic standard for referencing the subdivisions of EU Member States (their territories) for statistical purposes. EU Member States are subdivided into three NUTS regional levels with specific classes of population sizes. The standard was established to collect, process, and disseminate comparable data used in specific regional statistics (e.g., regional accounts, demography, market). NUTS classification is also used in drafting regional policies of the EU Member States and is indispensable for analysing social and economic development of regions (Regulation (EC) no. 1059/2003 of the European Parliament and of the Council of 26 May 2003 on the establishment of a common classification of territorial units for statistics (NUTS) (OJ L 154 of 21 June 2003).

**Table 3.13.** Impact of State aid absence in any form whatsoever on changes in investment location decision – distribution of answers\*

No.	Answer	No. of enterprises	
		Absolute	in %
1.	definitely yes	0	0
2.	yes	1	0.5
3.	I guess so	4	2.0
4.	I guess not	31	15.4
5.	No	88	43.8
6.	definitely not	77	38.3
7.	no answer	0	0
8.	<b>Total</b>	<b>201</b>	<b>100.0</b>

\* Mean – 1.83, median – 2, mode – 2. The following response anchor was used: definitely yes (6), yes (5), I guess so (4), I guess not (3), no (2), definitely not (1).

**Source:** author's own calculations based on the results of questionnaire-based study, N=201.

According to almost half of respondents (43.8%) State aid granting scheme in Poland discourages potential beneficiaries (investors) from using it. Investors claimed that at least one out of four groups of barriers (financial, legal, procedure, and culture-related) restricted access to investment incentives (Tab. 3.14.).

**Table 3.14.** Factors restricting access to incentives/State aid to foreign investors in Poland – distribution of answers\*

No.	Restrictions	No. of enterprises	
		Absolute	in %
1.	<b>No restrictions</b>	<b>113</b>	<b>56.2</b>
2.	<b>Restrictions, including:</b>	<b>88</b>	<b>43.8*</b>
3.	Procedural	68	33.8
4.	Legal	49	24.4
5.	Financial	40	19.9
6.	Culture-related	6	3.0
7.	Other	49	24.4
8.	<b>Total</b>	<b>201</b>	<b>100.0</b>

\* Respondents could choose more than one answer.

**Source:** author's own calculations based on the results of questionnaire-based study, N=201.

According to 1/3<sup>rd</sup> of respondents, procedures were the biggest barrier in access to State aid and every fourth investor could not cope with Polish legal regulations. Slightly fewer investors saw financial aspects (e.g., the co-financing requirement) as a serious impediment to access to State aid.

Amongst procedural barriers, investors highlighted in particular complex and protracting procedures involved in applying for State aid and excessive red-tape. In their opinion, the complexity of procedures was disproportional to potential benefits from investment incentives. On top of that, foreign investors claimed they needed to ask a specialised agency (consulting, advisory services, law firm) to help them in handling these procedures which increased the cost of the whole project. They also complained about the lack of access to reliable information on available support instruments. Some did not like the fact that most incentives were available in special economic zone only putting the non-zone investors at a disadvantage.

There were many complaints about legislation. Main problems were caused by overly complex tax regulations, unclear decisions and interpretations issued by tax offices, frequently changing regulations, their contradictory interpretation, cumbersome court procedures, and public procurement procedures.

Respondents also criticised the quality of service at public administration offices they experienced in connection with applying for State aid, including the language barrier. They complained about the scarcity of public administration staff having good command of foreign languages when many regulations, documents, guides, information materials, and guidelines were available only in Polish creating yet another barrier in access to public resources and increasing the cost of the project.

### 3.4. Post-investment assistance

Collaboration between local, regional, and central authorities or business environment institutions with investors does not stop when they launch their economic operations in the host country. Host country authorities should seek to ensure good relationships with foreign enterprises in the region (Danielak, 2014). Its main goal is to retain the investor and support the growth of his business. Otherwise, EFCs may relocate to another region or country.

Respondents assessed the quality of cooperation with territorial self-government, public administration, and other business environment institutions after they launched their business operations (Tab. 3.15.). Local authorities scored the best in this ranking and their efforts and activities were assessed as good. Slightly lower score was awarded to regional self-government. Other business environment institutions were more appreciated by foreign investors than cooperation with public administration.



**Table 3.15.** Evaluation of cooperation with business environment institutions after the project has started – ranking based on mean scores<sup>\*</sup>

Ranking place	Institution	Mean	Median	Mode	Variance	Standard deviation	Coefficient of variations <sup>**</sup>
1.	Local self-government administration	3.85	4	4	0.67	0.82	0.21
2.	Regional self-government administration	3.56	4	4	0.51	0.72	0.20
3.	Business environment institutions	3.44	3	3	0.44	0.66	0.19
4.	Public administration (government)	3.04	3	3	0.38	0.62	0.20

<sup>\*</sup> Cooperation was evaluated on a scale 1–5 where 1 – very poor, 2 – poor, 3 – fair, 4 – good, 5 – very good.

<sup>\*\*</sup> Mean relative error.

**Source:** author's own calculations based on the results of questionnaire-based study, N=201.

However, data from a direct study suggest that relatively few investors were interested in receiving State aid at the post-investment stage (Tab. 3.16.). Nearly 17% of respondents benefited from public funds. Clear majority in this group were operators based in the LSEZ. Besides, investors were using information, advisory, and consulting assistance and benefited from access to investment land, office and warehouse space offered at below-market prices. There was one investor who received aid from the Zone Fund.<sup>66</sup>

**Table 3.16.** Benefiting from State aid in post-investment stage – distribution of answers

Answer	No. of enterprises	
	Absolute	in %
Enterprise <b>benefited</b> from State aid	34	16.9
Enterprise <b>did not benefit</b> from State aid	138	68.7
I do not know	29	14.4
Total	201	100.0

**Source:** author's own calculations based on the results of questionnaire-based study, N=201.

<sup>66</sup> The Zone Fund was established to offer some compensation to entrepreneurs who started operating in the SEZs before the end of 2000 and lost certain benefits as a result of the provisions of the Accession Treaty (Dz.U. 2004 No. 90, item 864).

Foreign investors only marginally benefited from other aid schemes available from public authorities, including information and promotional measures (Tab. 3.17.). Only one in seven respondents availed himself of this form of aid. Provision of information and advisory services, participation in fairs and trade missions, and assistance in promotional activities, including publications and advertisements were the most popular amongst foreign investors.

**Table 3.17.** Using support schemes outside of State aid regulations in post-investment stage – distribution of answers

Answer	No. of enterprises	
	Absolute	in %
Enterprise <b>benefited</b> from aid	29	14.4
Enterprise <b>did not benefit</b> from aid	135	67.2
I do not know	37	18.4
Total	201	100.0

**Source:** author's own calculations based on the results of questionnaire-based study, N=201.

Most foreign investors did not plan to apply for public resources in a medium-term perspective. Only 13% of respondents confirmed they had intended to do so by 2020. Almost all foreign investors were definitely positive or positive that they would earmark these newly acquired public funds to increase their capacity, purchase new technologies and machinery, upgrade their employees skills, and implement new IT/ICT solutions (Tab. 3.18.).

**Table 3.18.** Plans to apply for public funds until 2020 – distribution of answers

Answer	No. of enterprises	
	Absolute	in %
Yes	6	3.0
I guess so	20	9.9
I guess not	61	30.4
No	70	34.8
I do not know/ have an opinion	44	21.9
<b>Total</b>	<b>201</b>	<b>100.0</b>

**Source:** author's own calculations based on the results of questionnaire-based study, N=201.

### 3.5. Location factors and the use of State aid

In this part of the study the aim was to examine the relationship between location factors of FDI and the use of State aid by companies with foreign capital.

The eta coefficient<sup>67</sup> was used as it measures the strength of association between a categorical or nominal variable (independent variable) and a scale- or interval-level variable (dependent variable) (Rószkiewicz, 2002).

Eta coefficient can be expressed by the following formula:

$$\eta = \sqrt{\frac{\sum_{i=1}^k (\bar{x}_i - \bar{x})^2 \cdot n_i}{\sum_{i=1}^k \sum_{j=1}^{n_i} (x_{ij} - \bar{x})^2}} \quad (3.1),$$

where:

$\eta$  – eta coefficient,

$x_{ij}$  – is the value for dependent variable for jth unit in ith group distinguished based on independent variable value,

$\bar{x}_i$  – is the mean value of a dependent variable in the ith group distinguished based on independent variable value,

$n_i$  – is the number of units in the ith group distinguished based on the value of independent variable,

$\bar{x}$  – is the mean value of the dependent variable,

$k$  – is the number of categories of the independent variable.

The eta coefficient adopts values from the interval [0,1]. The higher its value, the stronger the dependence of the scale- or interval-level on the cardinal variable. The strength of correlation associations may differ.

There are diverse intervals that are being adopted to assess the strength of correlation. For the needs of this study, Guilford classification (1965)<sup>68</sup> was adopted:

- 1)  $|r| = 0$  – no correlation;
- 2)  $0.0 < |r| \leq 0.1$  – little if any correlation;
- 3)  $0.1 < |r| \leq 0.3$  – weak correlation;
- 4)  $0.3 < |r| \leq 0.5$  – moderate correlation;
- 5)  $0.5 < |r| \leq 0.7$  – high correlation;
- 6)  $0.7 < |r| \leq 0.9$  – very high correlation;
- 7)  $0.9 < |r| < 1.0$  – nearly full correlation;
- 8)  $|r| = 1$  – full correlation.

<sup>67</sup> The eta coefficient is a statistical measure of association.

<sup>68</sup> One may also come across another classification:  $0.0 \leq |r| \leq 0.2$  – no correlation;  $0.2 < |r| \leq 0.4$  – weak correlation;  $0.4 < |r| \leq 0.7$  – moderate correlation,  $0.7 < |r| \leq 0.9$  – strong correlation;  $0.9 < |r| \leq 1.0$  – very strong correlation.

Next, the significance of the eta coefficient was tested. Assessment focused on the  $F$  statistics which can be described by the following formula:

$$F = \frac{\sum_{i=1}^k (\bar{x}_i - \bar{x})^2}{\sum_{i=1}^k \sum_{j=1}^{n_i} (x_{ij} - \bar{x}_i)^2} \cdot \frac{n - k}{k - 1} \quad (3.2),$$

where:

$F$  – is the statistics defining statistical significance of the eta coefficient,

$k$  – is the number of categories of the independent variable,

$n$  – is the number of categories of the dependent variable,

other symbols carry the same meaning as in formula (3.1).

If calculated value of the  $F$  statistics is higher than what can be found in the Snedecor's  $F$  distribution tables (theoretical  $F$ ), the result obtained from the sample can be considered statistically significant for the adopted level of significance ( $\alpha$ ) and  $v_1 = k - 1$ ,  $v_2 = n - k$ .

The first part of the study focuses on the evaluation of the relationship between reasons behind foreign investment location in the Łódzkie province and the use of State aid scheme by an EFC. To this end, results of direct interviews amongst 201 foreign investors were used. Six groups of location grounds made up of 41 detailed factors were independent variables scored by respondents on a five-point Likert scale. These were:

- 1) costs of production, including, e.g.: total costs of production, costs of labour, taxes, and charges ( $x_1$ );
- 2) human resources, including, e.g.: availability of skilled workers, quality of education at different levels, and the number of graduates ( $x_2$ );
- 3) economic potential of the province, including, e.g.: its market, rating, access to suppliers and business partners in the region, universities and R&D centres ( $x_3$ );
- 4) relations with self-government administration in the province, including, e.g.: quality of services addressed to investors, fast and flexible performance, stable regulations, financial and non-financial aid ( $x_4$ );
- 5) infrastructure, including, e.g.: developed investment land, office space, warehouse space, road, telecommunication, railway, and air infrastructure, and natural environment ( $x_5$ );
- 6) other, including, e.g.: public safety, fairs and events in the region, access to international schools, geographic and cultural distance, and workers' attitude towards work ( $x_6$ ).

The above variables were juxtaposed with dependent variables received from the System Providing Data on State Aid (SUDOP). The following were used as dependent variables:

- 1) the number of cases when State aid was used ( $y_1$ );

- 2) nominal value of State aid, i.e., the total amount of financial resources used as a basis for calculating the amount of granted aid ( $y_2$ );
- 3) gross State aid value, i.e., gross grant equivalent ( $y_3$ ).

Results of the study, in which the eta coefficient was deployed are presented in Tables 3.19., 3.20., and 3.21. respectively for each dependent variable.

**Table 3.19.** Relationships between grounds for location decision and the number of cases when State aid was used – results of the eta coefficient test

Dependent variable	No. of cases of using State aid ( $y_1$ )						
Independent variables	Eta coefficient ( $\eta$ )	Calculated $F$ statistics	Number of categories of independent variable ( $k$ )	$v_1$	$v_2^*$	Critical value of $F$ distribution**	Significance of the eta coefficient
$x_1$	0.124	0.432	8	7	193	2.057	Insignificant
$x_2$	0.367	1.198	24	23	177	1.590	insignificant
$x_3$	0.235	0.626	18	17	183	1.679	insignificant
$x_4$	0.387	2.029	17	16	184	1.699	Significant
$x_5$	0.504	3.059	21	20	180	1.629	Significant
$x_6$	0.387	2.759	13	12	188	1.804	Significant

\* All calculations performed for  $n=201$  categories of the dependent variable.

\*\* Critical values of  $F$  distribution for  $\alpha = 0.05$ .

**Source:** author's own calculations based on the data from the questionnaire-based study and the SUDOP database (UOKIK – Office for Competition and Consumer Protection, accessed: November–December 2017).

**Table 3.20.** Relationships between grounds for location decision and nominal value of State aid – results of the eta coefficient test

Dependent value	Nominal value of State aid ( $y_2$ )						
Independent values	Eta coefficient ( $\eta$ )	Calculated $F$ statistics	Number of categories of independent variable ( $k$ )	$v_1$	$v_2^*$	Critical value of $F$ distribution**	Significance of the eta coefficient
1	2	3	4	5	6	7	8
$x_1$	0.113	0.356	8	7	193	2.057	Insignificant
$x_2$	0.656	5.799	24	23	177	1.590	Significant
$x_3$	0.411	2.191	18	17	183	1.679	Significant

Tab. 3.20 (cont.)

1	2	3	4	5	6	7	8
$x_4$	0.470	3.257	17	16	184	1.699	Significant
$x_5$	0.372	1.441	21	20	180	1.629	Insignificant
$x_6$	0.421	3.379	13	12	188	1.804	Significant

\* All calculations performed for  $n=201$  categories of the dependent variable.

\*\* Critical values of  $F$  distribution for  $\alpha = 0.05$ .

**Source:** author's own calculations based on the data from the questionnaire-based study and the SUDOP database (UOKIK, accessed: November–December 2017).

**Table 3.21.** Relationships between grounds for location decision and gross value of State aid – results of the eta coefficient test

Dependent variable	Gross value of State aid ( $y_3$ )						
Independent-variable	Eta coefficient ( $\eta$ )	Calculated $F$ statistics	Number of categories of independent variable ( $k$ )	$v_1$	$v_2^*$	Critical value of $F$ distribution **	Significance of eta coefficient
$x_1$	0.150	0.638	8	7	193	2.057	Insignificant
$x_2$	0.852	20.301	24	23	177	1.590	Significant
$x_3$	0.365	1.650	18	17	183	1.679	Insignificant
$x_4$	0.370	1.820	17	16	184	1.699	Significant
$x_5$	0.356	1.302	21	20	180	1.629	Insignificant
$x_6$	0.162	0.421	13	12	188	1.804	Insignificant

\* All calculations performed for  $n=201$  categories of the dependent variable.

\*\* Critical values of  $F$  distribution for  $\alpha = 0.05$ .

**Source:** author's own calculations based on the data from the questionnaire-based study and the SUDOP database (UOKIK, accessed: November–December 2017).

Eighteen relationships were examined. Half of them turned out to be statistically significant at  $\alpha = 0.05$  (Tab. 3.22.). Obtained results suggest that there is a relationship between using State aid in qualitative terms and value-wise and the assessment of relations with public administration.

In addition, for two independent variables, i.e., human resources ( $x_2$ ) and other grounds for location decision, including, e.g.: public safety, fairs and exhibitions, international schools, geographic and cultural distance, and workers' attitude towards work ( $x_6$ ), statistically significant results were obtained for two out of three dependent variables. Assessment of economic potential of the province ( $x_3$ ) was

statistically significant for the nominal value of State aid while the assessment of infrastructure ( $x_5$ ) for the number of cases when State aid was used.

Thus, only for the first independent variable, i.e., for the assessment of costs of production as grounds for location decision ( $x_1$ ) all relationships turned out to be statistically insignificant. Amongst significant relationships, the highest values of the eta coefficient were reported for independent variable  $x_2$ , 0.656 for  $y_2$  and 0.852 for  $y_3$ , which, according to Guilford classification, meant high and very high correlation.

In summary, results of the eta coefficient test indicate a relationship ranging from very strong (maximum value 0.852) to average (minimum value 0.370) between the use of State aid in quantitative terms (the number of events) and value-wise (nominal value of State aid and gross State aid) and the evaluation of the impact of grounds for foreign investment location in the Łódzkie province.

**Table 3.22.** Relationships between grounds for foreign investment location and the use of State aid by economic entities with foreign capital in the Łódzkie province

Dependent variables Independent variables	Number of cases of using State aid ( $y_1$ )	Nominal value of State aid ( $y_2$ )	Gross State aid value ( $y_3$ )
$x_1$	Insignificant	Insignificant	insignificant
$x_2$	Insignificant	Significant	Significant
$x_3$	Insignificant	Significant	insignificant
$x_4$	Significant	Significant	Significant
$x_5$	Significant	Insignificant	Insignificant
$x_6$	Significant	Significant	Insignificant

**Source:** author’s own compilation based on Tables 3.19., 3.20., and 3.21.

### 3.6. Investment incentives and the use of State aid

The last study aimed to find out whether there is a relationship between the impact of investment incentives and the use of State aid by the EFC. This time again results of the questionnaire-based study conducted on a sample of 201 investors were used. Five categories of incentives were used as independent variables (Johnson, Toledano et al., 2013); their impact on the investment decision was assessed by respondents on a five-point Likert scale. They included the following incentives:

- 1) financial (e.g., grants, subsidies, loans, real estate offered at below-market prices) ( $x_7$ );
- 2) fiscal (tax allowances and exemptions) ( $x_8$ );
- 3) regulatory (e.g., agreements, bilateral and international agreements that enhance FDI inflow) ( $x_9$ );
- 4) information and technical (services, consulting, aid in handling investment procedures usually offered by government agencies and self-government administration) ( $x_{10}$ );
- 5) in-kind support in the form of accompanying infrastructure (e.g., land development, access road) ( $x_{11}$ ).

Dependent variables were:

- 1) the number of cases of using State aid ( $y_1$ );
- 2) nominal value of State aid, i.e., the total amount of financial resources used as a basis for calculating the amount of granted aid ( $y_2$ );
- 3) gross State aid value, i.e., gross grant equivalent ( $y_3$ ).

In calculations, the eta coefficient was used together with the same calculation methodology as for the grounds for location (section 3.5.). Results for each dependent variable are presented in Tables 3.23, 3.24., and 3.25.

**Table 3.23.** Relationships between the impact of groups of incentives on the location decision and the number of cases when State aid was used – results of the eta coefficient test

Dependent variable	No. of cases of using State aid ( $y_1$ )						
Independ-entvariable	Eta coefficient ( $\eta$ )	Calculated $F$ statistics	Number of categories of independent variable ( $k$ )	$v_1$	$v_2^*$	Critical value of $F$ distribution**	Significance of eta coefficient
$x_7$	0.194	1.909	5	4	196	2.418	insignificant
$x_8$	0.245	3.120	5	4	196	2.418	significant
$x_9$	0.376	8.065	5	4	196	2.418	significant
$x_{10}$	0.268	3.786	5	4	196	2.418	significant
$x_{11}$	0.135	0.915	5	4	196	2.418	Insignificant

\* All calculations performed for  $n=201$  categories of the dependent variable.

\*\* Critical values of  $F$  distribution for  $\alpha = 0.05$ .

**Source:** author's own calculations based on the data from the questionnaire-based study and the SUDOP database (UOKIK, accessed: November–December 2017).



**Table 3.24.** Relationships between the impact of groups of incentives on the location decision and the nominal value of State aid – results of the eta coefficient test

Dependent variable	Nominal value of State aid ( $y_2$ )						
Independent-variable	Eta coefficient ( $\eta$ )	Calculated $F$ statistics	Number of categories of independent variable ( $k$ )	$v_1$	$v_2^*$	Critical value of $F$ distribution**	Significance of eta coefficient
$x_7$	0,280	4,163	5	4	196	2,418	significant
$x_8$	0,303	4,948	5	4	196	2,418	significant
$x_9$	0,426	10,879	5	4	196	2,418	significant
$x_{10}$	0,261	3,587	5	4	196	2,418	significant
$x_{11}$	0,154	1,187	5	4	196	2,418	Insignificant

\* All calculations performed for  $n=201$  categories of the dependent variable.\*\* Critical values of  $F$  distribution for  $\alpha = 0.05$ .**Source:** author's own calculations based on the data from the questionnaire-based study and the SUDOP database (UOKIK, accessed: November–December 2017).**Table 3.25.** Relationships between the impact of groups of incentives on the location decision and gross State aid value – results of the eta coefficient test

Dependent variable	Gross State aid value( $y_3$ )						
Independent-variable	Eta coefficient ( $\eta$ )	Calculated $F$ statistics	Number of categories of independent variable ( $k$ )	$v_1$	$v_2^*$	Critical value of $F$ distribution**	Significance of eta coefficient
$x_7$	0,222	2,552	5	4	196	2,418	significant
$x_8$	0,212	2,303	5	4	196	2,418	insignificant
$x_9$	0,188	1,795	5	4	196	2,418	insignificant
$x_{10}$	0,264	3,681	5	4	196	2,418	Significant
$x_{11}$	0,144	1,037	5	4	196	2,418	Insignificant

\* All calculations performed for  $n=201$  categories of the dependent variable.\*\* Critical values of  $F$  distribution for  $\alpha = 0.05$ .**Source:** author's own calculations based on the data from the questionnaire-based study and the SUDOP database (UOKIK, accessed: November–December 2017).

Fifteen relationships were examined; 60% of them were found to be statistically significant at  $\alpha = 0.05$  (Tab. 3.26.).

Obtained results suggest there is a relationship between the use of State aid in quantitative terms and value-wise and the assessment of the impact of information and technical incentives by foreign investors ( $x_{10}$ ).

For three independent variables, i.e., financial ( $x_7$ ), fiscal ( $x_8$ ), and regulatory ( $x_9$ ) incentives, statistically significant results were obtained for two out of three dependent variables. Thus, only for the last independent variable, i.e., for the assessment of in-kind support ( $x_{11}$ ), all relationships were statistically insignificant.

The values of the eta coefficients were contained in the interval between 0.222 (minimum value) to 0.426 (maximum value), which indicates weak or moderate correlation in Guilford classification.

**Table 3.26.** Relationships between groups of incentives and the use of State aid by enterprises with foreign capital in the Łódzkie province – results of the eta coefficient test

Dependent variables Independent variables	Number of cases of using State aid ( $y_1$ )	Nominal value of State aid ( $y_2$ )	Gross State aid value ( $y_3$ )
$x_7$	Insignificant	Significant	Significant
$x_8$	significant	Significant	insignificant
$x_9$	significant	Significant	insignificant
$x_{10}$	significant	Significant	Significant
$x_{11}$	insignificant	Insignificant	insignificant

**Source:** author's own compilation based on Tables 3.23., 3.24., and 3.25.

In summary, the results of the eta coefficient test indicate there is a relationship between using State aid in quantitative terms (the number of events) and value-wise (nominal value of State aid and gross State aid value) and the evaluation of the importance of incentives offered to foreign investors in the Łódzkie province.

# Conclusion

The principal scientific goal of the book lies in assessing the importance of incentive schemes offered to foreign direct investors by evaluating their effects understood as investor sensitivity to their application. The focus is on the role of host country measures in location decisions made by enterprises with foreign capital. Empirical part is organised around a questionnaire-based study conducted on a sample of 201 the largest EFCs from the Łódzkie province. The study helped to assess the impact of individual grounds on location choices. These grounds were broken down into selected categories of enterprises, ranked and statistically analysed.

**Table C1.** Results of validation of research hypotheses

Symbol	Research questions and hypotheses	Validation outcome
1	2	3
Q <sub>1</sub> : What is the impact of investment incentives on location choices made by enterprises with foreign capital?		
H <sub>1</sub>	Host country measures impact location choices of foreign investors but their importance is not decisive.	Positive
Q <sub>2</sub> : Do the characteristics of enterprises differentiate the impact of investment incentives on location choices?		
H <sub>2</sub>	The role of reasons behind location choices of enterprises with foreign capital, including the impact of incentives, is a derivative of investor characteristics, i.e., the size of an enterprise, its business profile, innovation, exports activities, and type of investment.	Positive
Q <sub>3</sub> : What is the role of business environment institutions in location choices?		
H <sub>3</sub>	The quality of business environment institutions in the host country is an important determinant of location choices made by foreign investors and the effectiveness of support offered to them.	Positive

**Source:** author’s own compilation.

A detailed assessment of the impact of host country measures on location decisions taken at the micro level and based on primary data should be seen as a valid input in FDI-related research. Within this context, relationships between location determinants and investment incentives and selected enterprise characteristics were investigated. Consideration was given to enterprise size, business profile, innovation, engagement in export activities, and the type of foreign investment. The study stands out as being based on a very highly representative sample (over 30% of the overall population) and in-depth statistical analysis covering six groups of grounds for location comprising 41 factors, 5 categories of investment incentives, and 15 aid measures enriched with the existing data on the use of State aid by the EFCs. With regard to the main goal, the following three research questions and hypotheses were formulated (Tab. C1).

Studies discussed in this publication were primarily intended to validate the first hypothesis ( $H_1$ ). The overview of theories demonstrated that the effects of FDI inflows to the host economy are ambiguous and numerous empirical analyses conducted in many countries suggest that their welfare effects vary although in most cases they are positive. This regularity can be observed for both: countries and regions. Investment incentives are being universally offered by national, regional, and local authorities across the globe. Studies that have been conducted so far in Poland and in other countries have led to the conclusion that the role of incentive schemes in investment location decisions was secondary and sometimes even marginal. However, one may not forget that it differed depending on circumstances in which incentives were offered, meaning that if fundamental factors in competitive locations were similar, aid schemes made available by the host country might prejudice the outcome of location considerations (see, e.g., Morisset, Pirnia, 2000; Blömsstrom, Kokko, 2003; Moran, 2005; Javorcik, Spatareanu, 2008; James, 2009a,b; 2013; Róžański, 2010; Klemm, Van Parys, 2012; Tuomi, 2012; Karaszewski, ed., 2016; Freund, Moran, 2017). The questionnaire-based and statistical study conducted amongst the largest EFCs in the Łódzkie province have permitted drawing the following conclusions:

1. When choosing Łódzkie province, investors were motivated, above all, by low costs, good quality infrastructure in the region, and high market potential. Incentive schemes offered by public administration exerted little impact and clear majority of respondents (82%) decided that the lack of access to State aid would not have changed their location decision.
2. Detailed assessments of groups of incentives differed. Definitely, the most important was in-kind support taking the form of accompanying infrastructure. Financial and fiscal incentives exerted slightly smaller impact.
3. 2/3<sup>rd</sup>s of investors at least once benefited from State aid schemes after they had launched business operations in the region while more than a fifth of them availed themselves of such schemes at least ten times. It means that State aid measures attracted a great deal of interest from enterprises with foreign capital.

4. Statistical survey conducted using the eta coefficient confirmed that there is a relationship between using State aid and the assessment of the importance of incentives to foreign investors in the Łódzkie province. Having in mind that most EFCs benefited from State aid, one may assume that incentives received positive evaluation.

The above conclusions validate the first hypothesis, with one reservation, however, that host country measures are not amongst the principal determinants of location choices. Their impact depends on the type of measures and features of enterprises – aid beneficiaries. The absence of investment incentives usually does not lead to giving up a project in a specific location.

The second hypothesis ( $H_2$ ) addressed the differentiation of reasons for location choices, including the impact of incentives from the point of view of five characteristics of enterprises, such as, the size, business profile, innovation, exports operations, and the type of investment. These features were selected based on the overview of literature and data obtained from a direct study. By using statistical methodology, the differentiation of six (aggregated) groups of reasons for FDI location (costs of production, human resources, economic potential of the province, relationships with the administration, infrastructure, and other) and five (aggregated) categories of investment incentives (financial, fiscal, regulatory, information and technical, and in-kind) was investigated. It turned out that characteristics of enterprises played a differentiating role for reasons for location choices and the impact of host country measures. Most statistically significant differences were obtained for variables determining the size of an enterprise, their export activities, and innovation. Investment incentives turned out to be relatively the most important for large innovative enterprises which received revenue from overseas sales.

Differences in the type of investment (*greenfield*, other) were the only ones which were statistically insignificant.<sup>69</sup> Analyses based on rankings and statistical tests authorise to positively validate the second hypothesis which coincides with findings from other studies (see, e.g., Dunning, Lundan, 2008; Strange et al., 2009; Nielsen, Asmussen, Weatherall, 2017).

The third hypothesis ( $H_3$ ) was connected with the role of business environment institutions as a determinant of location selection made by foreign investors. Literature overview leaves no doubts as to the fact that broadly understood quality of institutions is an important determinant of FDI inflows (see, e.g., Globerman, Shapiro, 2003; Acemoglu, Johnson, Robinson, 2004; Nielsen, Asmussen, Weatherall, 2017). The study confirmed that there is a statistically significant relationship between using State aid and the evaluation of relationships between investors and public administration and the assessment of the importance

<sup>69</sup> Hebous, Ruf and Weichenrieder (2010) provided evidence demonstrating that tax incentives exerted stronger impact on location decisions made by investors in *greenfield* rather than *brownfield* projects.

of incentives offered to foreign investors. In addition, the questionnaire-based study has demonstrated, firstly, that over 90% of EFCs used institutional support when looking for investment location. Secondly, out of all institutions, territorial self-government units received the highest scores. According to 2/3<sup>rd</sup>s of respondents, aid offered by municipal self-government administration was the most important for location decision. Thirdly, local authorities also scored the best in the ranking assessing cooperation with institutions in the post-investment stage in the Łódzkie province. These opinions may come as a surprise since at the same time respondents negatively evaluated many aspects of self-government administration performance in the province. Investors were critical about, *inter alia*, stable regulatory framework and decisions, fast and flexible operations, quality of service and command of foreign languages amongst the staff of public administration. This may mean, that EFCs are looking forward to collaborating with business environment institutions when choosing location for future investment project. At the same time, services offered by, among others, territorial self-government units in the Łódzkie province fell far short of their expectations. Summing up, findings from this study positively validated the third hypothesis. The quality of business environment institutions in the host country is an important determinant of location decision and the effectiveness of aid offered to investors.

Conclusions from the study have provided foundations for recommending the undertaking of the following actions in the field of policy targeting foreign investors pursued by public administration in Poland:

1. The system of services to the EFCs needs to be simplified and decentralised. Currently, competence of central government administration overlaps with those of territorial self-government units (TSUs) at different levels which hinders investors' access to information about, e.g., investment land. In their opinions, TSUs, mainly local self-government, are the most closely engaged in taking location decisions.
2. Investors formulated reservations as to the competences and skills of public administration staff. They believe, there are not enough public administration officials who would have sufficient command of foreign languages and great deal of information material is available exclusively in Polish which additionally restricts access to public funds and increases the cost of the project. The above means, that the system of training public administration staff dealing with EFCs needs to be improved.
3. Many investors receive first pieces of information on potential location of a project in promotion and trade sections of Polish embassies. This is an important argument in favour of the development and professionalisation of pro-investment services rendered outside of the country borders (in capital home country).
4. Foreign investors were critical about the legislative and procedural context of business investment projects in Poland. To comply with all requirements,

they are often forced to seek assistance from specialised agencies rendering, e.g., advisory, consulting, or legal services which obviously increases the cost of the project. Hence, attempts should be made to streamline regulations and administrative procedures, in particular with regard to tax, construction, environmental, and public procurement law.

There were some constraints experienced in the study. The main problem was the evaluation of reliability of responses to questions about intentions and motivations from several or over a dozen years ago. A big hurdle was also created by a clear change in corporate communication policy with researchers. Investors were very reluctant to provide interviewers with data, especially those concerning received public resources. As a result of using the PAPI (*Paper and Pen Personal Interview*) quantitative methodology and the engagement of a team of trained interviewers, the impact of such constraints could be minimised. Obtained results of Cronbach's  $\alpha$  coefficient for all parts of the study mean that the measurement was highly reliable and results could be subject to further statistical analyses. In addition, trap questions were used with regard to crucial aspects to validate responses (Churchill, 2002). In a situation when a relatively big group of respondents did not have complete knowledge about the use of State aid, complementary study was performed based on secondary sources and was juxtaposed with direct interviews.

The problem, which we failed to overcome, was the lack of access to enterprises with foreign capital which had contemplated investing in the Łódzkie province but ultimately chose another location. Despite numerous requests, data of investors who had negotiated with, inter alia, representatives of the Łódź Special Economic Zone, Regional Investor and Exporter Assistance Centre, or Office of Investor and Exporter Services of the Łódź City Office were not made available. Being aware of this constraint, in the future, to be able to carry out comparative analyses, another attempt should be made to collect opinions from investors who chose competitive locations.





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