

## REAL ESTATE AS A FACTOR OF INVESTMENT ATTRACTIVENESS OF POLISH VOIVODESHIPS

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**Purpose:** The purpose of the article is to identify the potential investment attractiveness of Poland's voivodeships in the context of the real estate market, and to compare this attractiveness with the actual attractiveness, i.e. with the opinions of enterprises regarding the determinants of making an investment in a particular location.

**Design/methodology/approach:** The measurement of the potential investment attractiveness of Poland's voivodeships in the context of the real estate market was made on the basis of secondary data derived from reports of the Central Statistical Office, the Bank of Local Data and the Polish Investment and Trade Agency. The identification of investment attractiveness was made on the basis of the numerical values of the synthetic index. Thus, four classes of voivodeships (A, B, C, D) were distinguished. The study of actual investment attractiveness was a primary survey and was conducted in two stages in the second half of 2022. The survey used proprietary research tools. To the first – expert survey, enterprises operating in the Kuyavian-Pomeranian region and entities representing the business environment were invited. In turn, the second stage of the research procedure covered the full set of enterprises with foreign capital, based in the voivodeship.

**Findings:** The highest level of potential investment attractiveness in the context of the real estate market (class A) is characterized by 8 Polish voivodeships: łódzkie, lubelskie, kujawsko-pomorskie, opolskie, wielkopolskie, śląskie, dolnośląskie and podkarpackie. A study of real investment attractiveness conducted among companies that have placed capital in Kujawsko-Pomorskie Voivodeship confirmed the importance of location factors related to the real estate market. In the ranking of factors influencing investment attractiveness, the described characteristics of the real estate market received high marks.

**Research limitations/implications:** Due to the variability over time of the determinants of business location choice, studies to identify them should be conducted successively. It should also be noted that due to the variability of assessments of investment attractiveness determined by the specifics of businesses, it is reasonable to take into account its types in future studies. A serious problem is the limitations in access to data, as well as the growing reluctance of entrepreneurs to participate in surveys.

**Practical implications:** The results of the study have practical applications in decision-making processes regarding the choice of business location, especially in cases where these choices are driven by resource and cost determinants. They can also be used by institutions working for the socio-economic development of regions to encourage investors to choose their areas as places to locate capital.

**Originality/value:** Although the topic of investment attractiveness has been addressed frequently in the available literature, the pillar of attractiveness that is the real estate market has not been considered comprehensively. In addition, the article presents the unique results of a study on identifying the importance of real estate market-related determinants that led foreign investors to choose the Kuyavian-Pomeranian region.

**Keywords:** investment attractiveness, foreign direct investment, real estate market.

**Category of the paper:** Research paper.

## 1. Introduction

In the majority of countries and regions around the world the aim is to stimulate the engagement of capital resources within their locality, thus driving anticipated economic intensification. The state and structure of these resources are fundamental in determining socio-economic development and, as a result, enhancing the living conditions of local populations. In the long term, nearly all key areas underpinning this enhancement are a consequence of the entrepreneurial activity occurring within a specific time and place. This informs the proactive efforts of countries and regions to promote themselves as suitable areas for conducting economic activities. For years, competition has been rising in the race for capital and investors, with the participation of not only entire countries but also their regional components. The source of the capital, be it domestic or foreign, is of little consequence. The issue boils down to the supply of capital and, subsequently, the development of entrepreneurship. Countries experiencing capital deficits and simultaneously lacking internal savings have a particular interest in attracting foreign capital. This is especially applicable to developing countries. They are frequently faced with the need for continuous improvement of location values determining investment attractiveness, understood as a set of factors considered in decisions about the place of conducting economic activity. The concept of location attractiveness in terms of business development is analysed from two distinct perspectives:

1. The country (region) assessing the values of its area for potential investors.
2. The enterprise assessing the values of possible locations for conducting (developing) economic activity.

Potential investment attractiveness is identified through the prism of values (characteristics) of specific locations (country, region) for business in a global context, based on the analysis of the characteristics of a specific location (country, region) conducted using statistical characteristics (macroeconomic indicators). This takes into account the so-called pillars of attractiveness, which are relatively homogeneous sets of its factors. It is relatively widely

described both in foreign literature on the subject (e.g. Rodionov, 2021; Grishina, Myakshin, 2021; Gushchenskaya et al., 2020; Kozlov et al., 2018; Vartsaba, Leshuk, 2017; Davydenko et al. 2018; Kireeva, Galiakhmetov, 2015; Kosinova et al., 2014; Nikolova, Platnikova, 2013) and in studies on Poland (Hildebrand et al., 2005; Godlewska-Majkowska, 2008, 2009, 2013; Marona et al. 2012; Nowicki et al., 2014; Marchewka, 2021; Godlewska-Majkowska, Komor, 2021). Although the topic of investment attractiveness is often discussed in the literature using statistical data, identifying potential attractiveness, the property market as a pillar of attractiveness has not been comprehensively considered. The scope of the analysis, the results of which are presented in this study, fills this gap.

The picture of the actual investment attractiveness of the country (region), form the premises for the location decision. Hence, the actual investment attractiveness is assessed on the basis of investors' opinions/appraisals. It should be noted that studies on identifying the determinants that lead investors to choose where to locate investments are rare (e.g. Wilson, 1990; Tatoglu, Glaise, 1998; Bitzenis, 2007; Gorynia et al., 2015; Jaworek et al., 2018). This is understandable, as it is more costly and time-consuming to obtain data at the enterprise level. In addition, there is an observed aversion on the part of entities to share information that can be considered strategic for businesses. There is also relatively little research on the undertaking of investments within a region on a national scale. Among the few are studies whose purpose was to identify the determinants of undertaking investments in particular regions of Poland (Różanski, 2010; Dorozinski, Urbaniak, 2012; Starzyńska, 2012, p. 182).

The issue of determinants of business location has found a particularly important place in the theoretical explanations of foreign direct investment (FDI). These point out that numerous factors influence the choice of country/region for the location of FDI (Athukorala, 2009, pp. 365-408; Mottaleb, Kalirajan, 2010, p. 2).

The purpose of the article is to identify the potential investment attractiveness of Poland's voivodeships in the context of the real estate market, and to compare this attractiveness with the actual attractiveness, i.e. with the opinions of enterprises regarding the determinants of making an investment in a particular location.

## 2. Methods

There is a distinction between the potential and real investment attractiveness of a country (region). The former considers factors that could potentially be weighed in the selection of location. The latter is understood as stemming from specific rationales for picking the location of an investment and the retrospective appraisal by investors, incorporating also factors that were not previously considered. Potential attractiveness is created by secondary data and information, while actual attractiveness is based on primary information.

Investment attractiveness can be identified within three groups of locational factors<sup>1</sup>. The first group includes institutional and legal factors, comprising tax and trade policies or legal norms (e.g. legislation on the purchase of real estate by foreigners). These are essentially the same, regardless of which region of the country an investor is considering for making an investment. The subsequent group comprises economic determinants, which can be subdivided into resource, market, efficiency, and strategic asset-oriented. This group of factors varies, sometimes significantly within a country. The final group includes factors facilitating economic activity, which encompass investment promotion, investment incentives, and social amenities. These factors are within the control of the host countries and regions (Dunning, 2006, p. 206). Within each of these groups one can find factors related to the real estate market.

In terms of the real estate market, the potential investment attractiveness of individual Polish voivodeships was evaluated taking into account five characteristics henceforth called factors (Table 1). Statistical data – sourced predominantly from the Local Data Bank of the Statistics Poland, as well as provided by the Polish Investment and Trade Agency – were utilised.

The choice of variables was determined by the availability of data. Unfortunately, many of the real estate market characteristics presented in numerous reports refer to the largest Polish agglomerations. The database presenting variables for all provinces is limited.

Each of the characteristics was standardised based on the following formulae:

$$F'_{ij} = \frac{F_{ij} - F_{minj}}{F_{maxj} - F_{minj}} \cdot 100 \quad (1)$$

for a stimulant, and

$$F'_{ij} = \frac{F_{maxj} - F_{ij}}{F_{maxj} - F_{minj}} \cdot 100 \quad (2)$$

for a destimulant.

The value of the potential investment attractiveness of a voivodeship in terms of the property market was calculated as a weighted average of the values of individual factors and their allocated weights. Weights were adopted based on an expert survey, conducted in May 2023, of representatives from the academic world studying investment attractiveness, as well as from business and quasi-business environments. According to J. Lutynski's (1968) nomenclature of research techniques, a standardized technique was used, in which the research tool was a survey questionnaire. The results of the survey revealed that the variables under consideration carried different levels of importance. The highest-ranking factor was "availability of investment areas", followed by "average price of land intended for investment construction". Subsequent in order were the "share of the area covered by valid local spatial development plans", "share of legally protected lands in the total land area", and "median price

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<sup>1</sup> In breaking down the factors of investment attractiveness, the taxonomy proposed by J.H. Dunning (2006) was adopted. The author proposed it by identifying the determinants of location choice for foreign direct investment.

of residential premises sold in market transactions". This order was taken into account in assigning weights to individual determinants. The division of voivodeships into classes of property market investment attractiveness (A, B, C, D) was made based on a natural division according to Jenks' method. The set of location factors related to the property market used in this study is presented in Table 1.

**Table 1.**

*Investment Attractiveness Factors in the Context of the Real Estate Market*

Pos.	Factor Group/Factor Type	Designation	Character	Weight
Resource factor ( $F_{res.}$ )				
1	Availability of investment areas (surface area)	$F_{res.1}$	Stimulant	0.30
2	Percentage of area covered by current local spatial development plans (%)	$F_{res.2}$	Stimulant	0.20
3	Percentage of legally protected areas in total surface area (%)	$F_{res.3}$	Destimulant	0.15
Efficiency determinants ( $F_{eff.}$ )				
4	Average price of real estate designated for development (for investment purposes) (PLN/m <sup>2</sup> )	$F_{eff.1}$	Destimulant	0.25
5	Median prices of residential properties sold in market transactions (PLN/m <sup>2</sup> )	$F_{eff.2}$	Destimulant	0.10

Source: own study.

Actual investment attractiveness was evaluated through the lens of the already discussed real estate market characteristics, using the results of two studies: an expert (panel) study and a survey among enterprises with foreign capital participation. These two studies were conducted in 2022<sup>2</sup>. Participants in the expert study were representatives of enterprises diversified in terms of capital ownership (exclusively with Polish capital and with foreign capital participation), operating in the Kujawsko-Pomorskie Voivodeship. Fifty entities recognised as important for the development of the voivodeship were invited to the study, including: the largest companies in the voivodeship according to the Lista 2000 Rzeczpospolita (2020 edition); companies identified as the largest exporters of the voivodeship; companies indicated by the voivodeship's public institutions among SMEs, including those distinguished in terms of CSR (fairplay group entities). All of them had experience in making decisions about the location of their own investments, hence their assessments were considered crucial for the evaluation of a given location.

The second study covered the entire population of foreign-owned enterprises based in the voivodeship. The research tool was a survey questionnaire. Forty-seven correctly completed questionnaires were obtained. Relating the number of enterprises participating in the survey to the number of enterprises with foreign capital based in the Kujawsko-Pomorskie Voivodeship indicated by the Central Statistical Office (434 enterprises at the end of 2020), it can be indicated that nearly 11% of the surveyed population participated in the study.

<sup>2</sup> The study was commissioned by the Pomeranian Special Economic Zone Ltd. as part of the implementation of the scientific research project "Investment attractiveness of the Kuyavian-Pomeranian Voivodeship".

Conclusions regarding the actual investment attractiveness were based on assessments formulated by investors in response to a specially prepared survey questionnaire. They have a particular cognitive value. These assessments that take into account the reasons for specific decisions about the choice a location for business operations. As can be assumed, these decisions were guided by the recognition of potential attractiveness, which certainly influenced the assessments expressed in the present study. However, what is important, the investors formulated them post factum – thus having the opportunity to compare the reasons for location decisions with the actual state of investments.

It should be emphasised that the results presented here pertain only to the Kujawsko-Pomorskie Voivodeship, so they cannot be standardized to other voivodeships of Poland.

### 3. Results

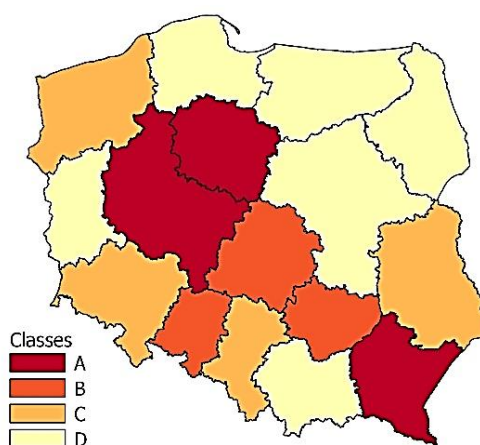
#### 3.1. The Real Estate Market of Polish Voivodeships – Potential Attractiveness

As indicated earlier, the adopted characteristics of the real estate market fit into the image of investment attractiveness by referring to its resource and efficiency factors.

The main resource factor is the availability of suitably prepared investment areas ( $F_{res.1}$ ). As of 17 April 2023, the Polish Agency for Trade and Investment (PAIH) database of investment areas contained 1189 offers, of which 1058 were undeveloped areas with a total area of 15,357.8 ha, while 92 related to built-up areas (mainly warehouses, storage-production, production, service-production halls). This database also included 34 offers of office space and 5 properties intended for tourist activity. The Wielkopolskie Voivodeship had the highest number of undeveloped investment areas (157). In the second place, with 120 offers, was the Kujawsko-Pomorskie Voivodeship. The next places in this list were occupied by the following voivodeships: Lubelskie (80), Pomorskie (78), Małopolskie and Śląskie (ex aequo 69 each). The voivodeships with the smallest offer of undeveloped investment areas were: Świętokrzyskie (22), Lubuskie (30), Podlaskie (33) and Warmińsko-Mazurskie (37). The most extensive investment areas were located in the Łódzkie, Opolskie and Wielkopolskie voivodeships (the median area of these areas was: 6.95, 6.05 and 6.00 ha respectively). The voivodeships with the largest investment areas were Podkarpackie (822 ha), Świętokrzyskie (600 ha), Kujawsko-Pomorskie (468 ha) and Wielkopolskie (316 ha) (Table 2, Appendix).

Built-up areas and office space constituted a small part of the investment properties listed in the described database. The largest number of offers concerning built-up areas was found in the Opolskie (17), Kujawsko-Pomorskie (12), Pomorskie (12), Podkarpackie (10) and Wielkopolskie (10) voivodeships, while in the case of office space: Mazowieckie (6), Kujawsko-Pomorskie (5), Pomorskie and Śląskie (4 each) (Table 2, Appendix).

Numerical values calculated for the variable concerning the total area of undeveloped investment areas allowed for the identification of 3 voivodeships in class A – Wielkopolskie, Kujawsko-Pomorskie and Podkarpackie. Another 3 voivodeships were placed in class B. These included: Łódzkie, Opolskie and Świętokrzyskie. In class C, 4 voivodeships were grouped: Dolnośląskie, Lubelskie, Zachodniopomorskie and Śląskie, while in class D, the remaining 6 – Pomorskie, Warmińsko-Mazurskie, Małopolskie, Podlaskie, Mazowieckie and Lubuskie.

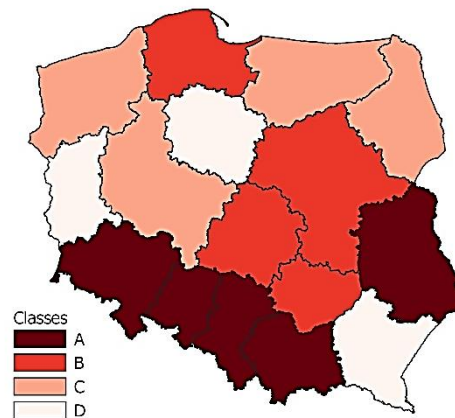


**Figure 1.** Classes of Polish voivodeships within the "availability of investment areas" factor.

Source: own study.

Planning conditions – more specifically, the "coverage of areas with zoning plans" – measured by the proportion of the area covered by valid local spatial development plans (Fres.2), are indicated as an important factor determining attractiveness. The southern regions of Poland – Śląskie (73%), Małopolskie (69.1%) and Dolnośląskie (66.2%) voivodeships – are characterised by the highest level of area coverage by local spatial development plans. The average indicator for the entire country is at the level of 31.7%. Taking this into account, the worst-performing voivodeships are: Kujawsko-Pomorskie (7.9%), Lubuskie and Podkarpackie (ex aequo 9.3%) and Warmińsko-Mazurskie (13.9%). It should be noted that zoning plans are mainly prepared for areas with a higher degree of urbanisation, less often for agricultural, forest and lake areas. Therefore, when interpreting this indicator, the natural values of a given voivodeships (lake districts, large forest complexes, river valleys) should be borne in mind.

Numerical values calculated for the discussed variable formed the basis for distinguishing 5 voivodeships in class A – Śląskie, Małopolskie, Dolnośląskie, Lubelskie, and Opolskie. In class B, there are 4 voivodeships: Mazowieckie, Łódzkie, Świętokrzyskie, and Pomorskie. In class C, the voivodeships of Wielkopolskie, Zachodniopomorskie, Podlaskie and Warmińsko-Mazurskie were grouped, while in class D – Lubuskie, Podkarpackie, and Kujawsko-Pomorskie.

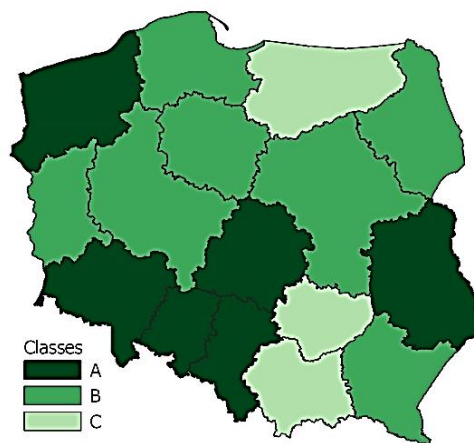


**Figure 2.** Class of Polish voivodeships in terms of "coverage of areas with local spatial development plans".

Source: own study.

Another location factor affecting investment attractiveness, and thus potentially influencing the decision to locate capital, is the proportion of legally protected land in the total land area ( $F_{res.3}$ ).

The numerical values calculated for the presented variable situated 6 voivodeships in class A: Dolnośląskie, Łódzkie, Zachodniopomorskie, Śląskie, Lubelskie, and Opolskie. In class B, seven: Wielkopolskie, Mazowieckie, Podlaskie, Kujawsko-Pomorskie, Pomorskie, Lubuskie, and Podkarpackie. In class C, there are 3 voivodeships: Warmińsko-Mazurskie, Małopolskie, and Świętokrzyskie. Class D was not distinguished.



**Figure 3.** Class of Polish voivodeships in terms of "proportion of legally protected land in the total land area".

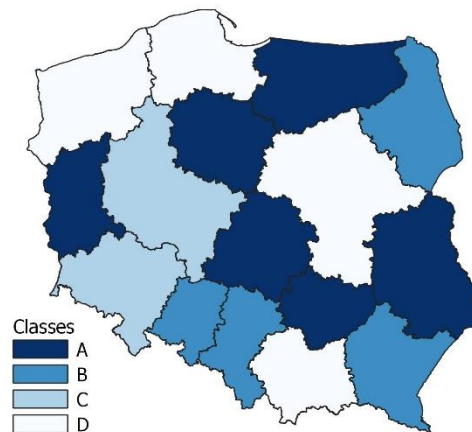
Source: own study.

Among the investment attractiveness factors covered by the study, two fall into the efficiency group, namely: average prices of properties intended for development ( $F_{eff.1}$ ) and average prices of residential premises ( $F_{eff.2}$ ). The first one, as stated above, was placed second among all determinants in the expert study. The price of potential investment sites undoubtedly constitutes an investment attractiveness of the region. The voivodeships with the lowest prices, and therefore the most attractive considering this determinant, are: Warmińsko-Mazurskie



(29.50 PLN/m<sup>2</sup>), Świętokrzyskie (33.86 PLN/m<sup>2</sup>) and Łódzkie (42.70 PLN/m<sup>2</sup>). The highest prices of properties intended for development characterise the Zachodniopomorskie (145.96 PLN/m<sup>2</sup>), Mazowieckie (137.38 PLN/m<sup>2</sup>) and Małopolskie (136.92 PLN/m<sup>2</sup>) voivodeships. The average price per square metre for the entire country is 84.90 PLN/m<sup>2</sup>.

Numerical values calculated for the presented variable formed the basis for distinguishing four classes of voivodeships. 6 were identified in class A, characterised by lowest prices: Warmińsko-Mazurskie, Świętokrzyskie, Łódzkie, Lubelskie, Lubuskie, and Kujawsko-Pomorskie. In class B, there are 4 voivodeships: Podkarpackie, Opolskie, Podlaskie, and Śląskie. In class C, there are 2 voivodeships: Dolnośląskie and Wielkopolskie, while in class D: Pomorskie, Małopolskie, Mazowieckie, and Zachodniopomorskie.

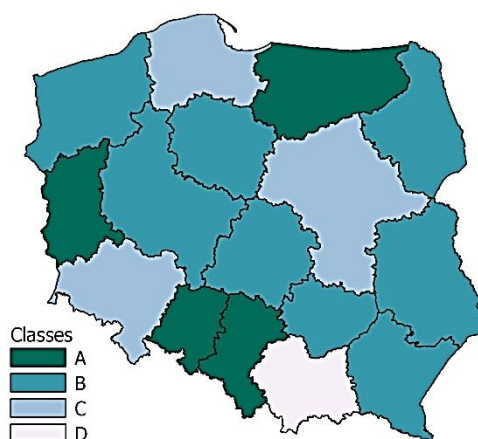


**Figure 4.** Class of Polish voivodeships in terms of "prices of properties intended for development".

Source: own study.

According to the experts, the least important factor shaping investment attractiveness through the prism of the real estate market concerns the average prices of residential premises. The voivodeships characterised by the lowest levels of this variable are: Opolskie (4,091 PLN/m<sup>2</sup>), Lubuskie (4,272 PLN/m<sup>2</sup>), and Śląskie (4,449 PLN/m<sup>2</sup>). The voivodeships with the highest average prices of local properties are: Małopolskie (8,032 PLN/m<sup>2</sup>), Mazowieckie (7,845 PLN/m<sup>2</sup>), and Pomorskie (6,878 PLN/m<sup>2</sup>).

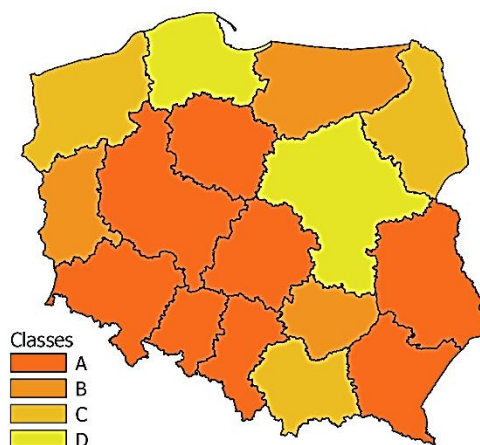
Numerical values calculated for the presented variable were the criterion for indicating four classes. 4 voivodeships were situated in class A, characterised by the lowest prices of premises, namely: Opolskie, Lubuskie, Śląskie, and Warmińsko-Mazurskie. Class B includes as many as 8 voivodeships: Wielkopolskie, Kujawsko-Pomorskie, Zachodniopomorskie, Świętokrzyskie, Podkarpackie, Łódzkie, Podlaskie, and Lubelskie. In class C, there are 3 voivodeships: Dolnośląskie, Pomorskie, and Mazowieckie, while in class D there is the Małopolskie Voivodeship, which was characterised by the highest prices of residential premises.



**Figure 5.** Classes of Polish voivodeships according to the "prices of residential premises" factor.

Source: own study.

Based on the numerical values of the synthetic parameter, calculated as the average value of partial parameters characterising individual factors and their assigned weights, four classes of voivodeships were distinguished. In class A, characterised by the highest level of potential investment attractiveness in the residential real estate market, there were 8 voivodeships: Łódzkie, Lubelskie, Kujawsko-Pomorskie, Opolskie, Wielkopolskie, Śląskie, Dolnośląskie and Podkarpackie. The next two classes each grouped 3 voivodeships - in class B: Świętokrzyskie, Warmińsko-Mazurskie and Lubuskie; in class C: Podlaskie, Zachodniopomorskie and Małopolskie. Voivodeships; Pomorskie and Mazowieckie were placed in class D.



**Figure 6.** Potential investment attractiveness of Polish voivodeships in the real estate market area.

Source: own study.

### 3.2. Real Estate Market Characteristics – Actual Attractiveness

The study conducted among companies that invested capital in the Kujawsko-Pomorskie Voivodeship confirmed the importance of location factors related to the real estate market. In the ranking of factors influencing investment attractiveness, the described characteristics of the real estate market received high ratings.

Companies pointed out as a significant factor of investment attractiveness of the Kujawsko-Pomorskie Voivodeship the possibility of owning large areas of land (plots). As much as 80% of companies indicated that the availability of adequately prepared areas for conducting business activities positively affects the investment attractiveness of the voivodeship, including 10% indicating that this impact is definitely positive. For 5% of respondents, this factor did not matter, and only 15% perceived its influence as negative.

The assessment of the possibility of implementing investments based on a zoning plan was similarly high – 80% defined this factor as positively shaping the investment attractiveness of the voivodeship, with as many as 30% of respondents indicating that this is a definitely positive factor. However, it should be noted that some companies perceive this factor as negatively affecting investment attractiveness, which can be interpreted in two ways: either that a low percentage of the voivodeship is covered by zoning plans, or that zoning plans established under the Act of 2003 on planning and spatial development (Ustawa, 2003) are excessively detailed and therefore limit the flexibility of design and preparation of investment processes (Hajduk, Baran, 2013, p. 122).

Slightly fewer companies positively assessed the availability of premises for conducting business activities (75%). Another 15% indicated that the factor does not matter for investment attractiveness, and 25% believed that it has a moderately negative (20%) and negative (5%) impact.

The importance of efficiency factors related to the real estate market was confirmed by studies conducted among companies with foreign capital in the Kujawsko-Pomorskie Voivodeship. Property prices and rental, lease prices were ranked third among the determinants of investment location choice. This is confirmed by the results of the analysis regarding this characteristic in the potential attractiveness presented above. The Kujawsko-Pomorskie Voivodeship was in the highest attractiveness class (A) considering the prices of properties intended for construction, and in class B considering the price of residential properties.

#### **4. Discussion**

Individual countries/regions around the world differ in their level of investment attractiveness, which is derived from various factors grouped into so-called “pillars of attractiveness”. Investors choose where to invest capital based on an assessment of how much a particular location allows for the fulfilment of intentions related to the expected combination of these factors. The factors of investment attractiveness and their combinations are not constant, nor do they form closed sets. Their evaluation in the context of specific investment decisions is individual.

In Poland, a significant differentiation is observed among individual voivodeships and their areas in terms of potential investment attractiveness (Gawlikowska-Hueckel, 1999, 2000; Wdowicka, 2006; Godlewska-Majkowska, 2008, 2009, 2013; Anholcer, 2009; Nazarczuk, 2013; Jaworek et al., 2023).

Potential investment attractiveness also differentiates individual Polish voivodeships in the context of the real estate market (Jaworek et al., 2023). According to the study, an important place for investment attractiveness in the context of the real estate market is the availability of land and housing stock. Similar conclusions were formulated by Lizinska and Kisiel who emphasize that, the procurement of suitable property is a fundamental factor influencing the location decision. When assessing a particular property, a range of both quantitative and qualitative attributes are taken into consideration (Lizińska, Kisiel, 2012, p. 290). It is clear that regions with land prepared for development and high levels of infrastructural development have an advantage.

In countries whose laws contain regulations on how to make determinations about land use, as is the case in Poland, both the existing regulations and their execution play a critical role in location decisions. In this context, for Poland, the determinant related to the so-called coverage with spatial development plans is also significant. The existence of a zoning plan considerably reduces investment risk, and also shortens the time it takes to apply for a construction permit, hence shortening the investment process itself. Zoning plans can serve as an economic instrument (Sztando, 2003; see: Kukulska et al., 2017, p. 98) and be a stimulator of the economic development of the region (Heldak, 2006; see: Kukulska et al., 2017, p. 98).

Factors reducing potential investment attractiveness may include constraints on land availability tied to their specific purposes defined in the local spatial development plan, or nature protection, exemplified by “Natura 2000” areas, national parks, landscape parks, nature reserves, and so forth. Not only the protected status of an area, but also proximity to such areas can significantly limit the location of investments related to industrial activity, contrasting with investments for the provision of tourist services. In Poland, areas under nature protection cover 12,561,226 hectares, accounting for as much as 40.2% of the country's area (Ambrozik, 2015, p. 65). As Pawlewicz et al. (2017, p. 725) points out, the presence of a “Natura 2000” areas can have a potentially limiting effect on an area's attractiveness to investors. It is worth emphasising that investors often decide to situate investments in areas characterised by significant natural assets and located a considerable distance from large agglomerations (Simon, 1999, 184).

The results of research conducted for many years show that the significance of factors considered by enterprises in location decisions varies. However, the investment attractiveness of countries/regions is invariably rooted in their advantages: resource-based (access to specific resources), market-based (absorption of the local market or markets accessible to entities located in a given country), efficiency-based (costs of doing business, achievable productivity), institutional. Significant locational factors also include those related to the real estate market,

which mainly fall within the groups of resource-based and efficiency-based factors, as confirmed by the study results presented above. Their importance was already confirmed in the studies conducted in the 1960s by Bergin and Eagan (1964, cited in: Dziemianowicz, 1997) and K. Brenke (1996, cited in: Dziemianowicz, 1997). The possibility and conditions for acquiring real estate have been identified also among the most important factors for choosing Poland as a location for FDI in studies conducted in the late-1990s by W. Karaszewski (Karaszewski, 2001, pp. 294-300) and M. Stawicka (Stawicka, 2007, p. 148). Throughout the past three decades, property market prices have been high on the hierarchy of determinants of FDI location decisions in Poland (Jaworek, Karaszewski, 2022), with different placements in individual voivodeships (Sokołowicz, 2006; Jaworek et al., 2016).

Qualities of the real estate market measured by its characteristics are significant in investment decisions concerning the choice of country. However, attention should be paid to the fact that locational factors related to efficiency aspects, such as property prices, differ for individual regions of the country. The results presented above regarding the location of investments in the Kujawsko-Pomorskie Voivodeship prove that purchase and rental prices were important determinants in choosing this region for conducting business activities. This is also confirmed by earlier research results concerning the Kujawsko-Pomorskie Voivodeship, in which these factors were among the most important determinants of location decisions (Karaszewski, 2004; p. 234; Czaplewski et al., 2005, 89; Szałucka, Szóstek, 2012, 75; Jaworek et al., 2016, p. 127). They were also important for enterprises that invested in the Łódzkie or Warmińsko-Mazurskie Voivodeships (Kisiel et al., 2015, p. 31; Różanski et al., 2015, p. 29). Investment land prices were also important determinants of undertaking foreign investment in the West Pomeranian region (Woźniak-Miszewska, 2011). By contrast, characteristics related to property prices turned out to be decidedly less important for investors who undertook an investment in the Wielkopolskie Voivodeship (Pawlak et al., 2015, p. 34).

## 5. Summary

There is no doubt that the diversification of investment attractiveness of countries/regions results in differential interest from investors considering the choice of investment location. Therefore, countries/regions interested in economic intensification must undertake actions aimed at achieving a sufficiently high attractiveness for investors looking for the most favourable capital placements. To effectively formulate actions aimed at increasing the investment attractiveness of the country/region, it is necessary to conduct research aimed at identifying its factors, especially since they change over time. Recognising them is also an important determinant of effective promotion of the country/region as a place for investment.

The majority of publications devoted to the issue of investment attractiveness of countries/regions cite results of studies of potential attractiveness. These results are parametrised with values calculated on the basis of secondary data, taking into account separated groups of factors comprising potential attractiveness, including factors related to local real estate markets. Such studies, like research conducted with the participation of the authors of this study, have confirmed the significant importance of this group of factors.

The in-depth study of the role of the real estate market in the assessment of investment attractiveness conducted by the article's authors shows a significant diversification of individual characteristics of this market, considered among the attractiveness factors of the Polish voivodeships. Both the results of the study of potential investment attractiveness, and actual attractiveness based on investor assessments, point to the highest importance of the availability of land and premises, which is one of the resource attractiveness factors. In second place came in price characteristics of the real estate market, which belong to the group of efficiency factors. Also important are planning conditions measured by the share of area covered by current local spatial development plans – a parameter commonly referred to as "coverage of areas with zoning plans". This characteristic of the real estate market belongs both to the group of resource factors and of institutional factors. It is also worth noting the share of legally protected land in the total land area. Although a high numerical value of this parameter may indicate a limitation in the availability of land for investment purposes, it does not necessarily mean that it is a deterrent to investment attractiveness. It is the premises arising from the assessment of actual investment attractiveness that justify the initiation of a discussion aimed at answering the question about the actual place of this characteristic among the factors of investment attractiveness.

The present in-depth study of real estate market characteristics among investment attractiveness factors aimed to fully illuminate their diversification in Poland. The assessment of individual Polish voivodeships in relation to these characteristics has brought forth a picture that can be used in the activities of authorities aimed at increasing the level of attractiveness and promoting the voivodeship as a potential place of investment.

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## Appendix

**Table 2.**

*Investment areas in Poland – data from the Polish Investment and Trade Agency (as of 17.04.2023)*

No.	Voivodeship	Undeveloped areas				Built-up areas	Office space
		Number of offers	Surface area [ha]				
			Total	Median	Maximum	Number of offers	
1	Dolnośląskie	64	825.00	4.49	154.00	6	—
2	Kujawsko-Pomorskie	120	2,455.82	5.29	468.00	12	5
3	Lubelskie	80	765.58	2.91	88.00	2	2
4	Lubuskie	30	212.34	3.52	38.92	1	—
5	Łódzkie	68	1,162.06	6.95	203.00	2	3
6	Małopolskie	69	401.74	2.40	88.20	4	3
7	Mazowieckie	50	310.86	2.81	88.41	1	6
8	Opolskie	66	1,065.19	6.05	158.00	17	2
9	Podkarpackie	52	1,906.85	4.30	822.00	10	2
10	Podlaskie	33	391.48	2.10	150.00	—	1
11	Pomorskie	78	520.36	2.65	82.16	12	4
12	Śląskie	69	563.22	3.88	64.00	3	4
13	Świętokrzyskie	22	868.22	5.05	600.00	5	—
14	Warmińsko-Mazurskie	37	495.62	5.90	114.50	2	—
15	Wielkopolskie	157	2,725.50	6.00	316.00	10	2
16	Zachodniopomorskie	63	687.87	2.10	203.00	5	—
	<b>Total</b>	<b>1058</b>	<b>15,357.71</b>	<b>4.04</b>	<b>822.00</b>	<b>92</b>	<b>34</b>

Source: own study based on (Polish Investment and Trade Agency, 2023).

**Table 3.**

*Determinants of real estate investment attractiveness of Polish voivodships*

Voivodeship	F <sub>res.1</sub>		F <sub>res.2</sub>		F <sub>res.3</sub>		F <sub>eff.1</sub>		F <sub>eff.2</sub>	
	Di	Dij	Di	Dij	Di	Dij	Di	Dij	Di	Dij
	ha	%	%	%			PLN/m <sup>2</sup>	%	PLN/m <sup>2</sup>	%
Dolnośląskie	825.00	24.38	66.2	89.55	18.6	100.00	84.90	41.53	6 105	48.90
Kujawsko-Pomorskie	2455.82	89.27	7.9	0.00	32.2	70.63	97.59	65.48	5 180	72.37
Lubelskie	765.58	22.01	57.2	75.73	22.7	91.14	69.70	83.79	6 093	49.20
Lubuskie	212.34	0.00	9.3	2.15	37.4	59.40	48.37	80.32	4 272	95.41
Łódzkie	1162.06	37.79	32.9	38.40	19.5	98.06	52.42	88.67	5 692	59.38
Małopolskie	401.74	7.54	69.1	94.01	53.1	25.49	42.70	7.76	8 032	0.00
Mazowieckie	310.86	3.92	33.9	39.94	29.7	76.03	136.92	7.36	7 845	4.74
Opolskie	1065.19	33.94	42.1	52.53	27.6	80.56	137.38	63.11	4 091	100.00
Podkarpackie	1906.85	67.43	9.3	2.15	44.9	43.20	72.46	65.13	5 369	67.57
Podlaskie	391.48	7.13	16.5	13.21	31.6	71.92	70.10	58.84	5 763	57.57
Pomorskie	520.36	12.26	21.8	21.35	33.0	68.90	77.43	11.11	6 878	29.28
Śląskie	563.22	13.96	73.0	100.00	22.1	92.44	133.02	42.75	4 449	90.92
Świętokrzyskie	868.22	26.10	31.3	35.94	64.9	0.00	96.18	96.26	5 211	71.58
Warmińsko-Mazurskie	495.62	11.27	13.9	9.22	46.7	39.31	33.86	100.00	4 873	80.16
Wielkopolskie	2725.50	100.00	21.5	20.89	29.6	76.24	29.50	21.12	5 109	74.17
Zachodniopomorskie	687.87	18.92	20.9	19.97	21.8	93.09	121.36	0.00	5 199	71.89

Note. F<sub>i</sub> – level of the variable; F<sub>ij</sub> – level of the standardised variable; F<sub>res.1</sub> – availability of investment areas (surface area) according to the database of the Polish Investment and Trade Agency (as of 17.04.2023); F<sub>res.2</sub> – percentage of area covered by current local spatial development plans (%) (as of 31.12.2021, update 15.09.2022); F<sub>res.3</sub> – percentage of legally protected areas in total surface area (%) (as of 31.12.2021, update 27.03.2023); F<sub>eff.1</sub> – average price of real estate designated for development (for investment purposes) (PLN/m<sup>2</sup>) (for residential, industrial, commercial and service development and real estate for other development; as of 31.12.2021); F<sub>eff.2</sub> – median prices of residential properties sold in market transactions (PLN/m<sup>2</sup>) (as of 31.12.2021, update 14.10.2022).

Source: own study based on (Polish Investment and Trade Agency, 2023; Local Data Bank of the Statistics Poland, 2023).