
Analysis of the Agricultural Land Market in Selected Poviats of the West Pomeranian Voivodeship

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Bartosz Mickiewicz¹, Aneta Zaremba², Milena Bera³

Abstract:

Purpose: The research aimed to identify the regularities in the dynamics and structure of phenomena occurring on the agricultural land market, emphasizing treasury real estate. The transactions came from the primary market in 1996-2001 and 2014-2019. The seller was the Agricultural Property Agency of the State Treasury, later transformed into the Agricultural Property Agency.

Design/Methodology/Approach: In the scope of processing the collected data, the methods of inductive and deductive reasoning, descriptive and monographic, and statistical methods, were used. The research methodology was based on statistical measures in the field of structural analysis and changes over time. The structural analysis was carried out for the characteristics "price per ha" and "area" of agricultural land, for which empirical distributions were built and selected descriptive parameters were calculated.

Findings: The conducted research shows that the price of 1 ha of arable land is determined primarily by the location rent. The highest unit prices were achieved by land with an area of up to 0.5 ha located near the Szczecin agglomeration, which is confirmed in both analyzed periods. The dynamics of agricultural land prices in 1996-2001 showed no clear development tendency, which proves an unstable market was transforming, susceptible to the external environment's influence, including the shaping of demand.

Practical Implications: The article contains a lot of valuable information that may constitute a base material and a reference to further research carried out by scientific specialists researching the issues of the agricultural land market or agricultural property management institutions of the Agricultural Property Stock of the State Treasury.

Originality/Value: The results of the comparative analysis and theoretical considerations supplement the research conducted so far in the field of prices on the agricultural land market in Poland and may become a valuable resource of knowledge useful in the preparation of dissertations in the field of agricultural property management.

Keywords: Real estate market, arable land, transactions, prices, demand.

JEL Classification: Q13, Q18.

Paper type: Research paper.

¹Professor, Department of European and Regional Studies, West Pomeranian University of Technology in Szczecin, e-mail: bartosz.mickiewicz@zut.edu.pl;

²Doctor, Department of Real Estate, West Pomeranian University of Technology in Szczecin, e-mail: aneta.zaremba@zut.edu.pl;

³Doctor, Department of European and Regional Studies, West Pomeranian University of Technology in Szczecin, e-mail: milena.bera@zut.edu.pl;

1. Introduction

Land, due to its role in the economy and human life, has always been a value; it also added value to what was associated with it: the farmer's work, nature, place of residence, landscape, and folk culture. The appreciation of the land's multidimensional value and what is closely related to it becomes a symbol of the humanization of the economic development of modern civilizations (Wilkin, 1996). In economic sciences, the land is considered mainly as a production factor and a source of wealth (Hopfer, Krawczyk, and Żrobek, 1998). Owning the land as real estate makes it possible to derive income from its productive use or property income. This income is referred to as land rent (Dębniowski, Nowak, and Suchta, 1996).

The land is a source of wealth, which is expressed in money or exchange value in economic terms. Land value is an economic category that changes into the price as a result of transactions. This price may affect the elements of both the market and its environment. It is a measure of the real estate market condition, and its value is of interest to the parties to the transaction (Zaremba, 2003).

The land is a productive factor and, simultaneously, an indispensable component of the economic process, which is the unity of all forces of nature related to a given territorial unit. The land is both a source of raw materials and a place of agricultural and industrial production. Contrary to all other goods that can be bought and sold, it has unique features — it is not subject to the process of dislocation (Woś, 2008). Still, it is also indestructible mining, construction industry and a means of work for the manufacturing of products (Kapusta, 2008).

Historically, land ownership is often a source of political power (Binswanger, Deininger, and Feder, 1995; Banerjee and Iyer, 2005; Baland and Robinson, 2008) and for centuries has been a sign of a specific socioeconomic status, constituting a source of identity for the landowner (Platteau, 2000; Burton, 2004). Moreover, land may serve as transaction security or assume the role of social security (Falkowski, 2013).

The agricultural land market is a complex phenomenon, strongly related to the national economy. Its efficient functioning enables rational management of naturally limited spatial resources, from the area of communes to the country's area. Therefore, there is an urgent need for continuous research to search for regularities and mechanisms of its operation, particularly land price research, which is of interest to both individual users and institutional investors. Knowing prices is essential when dealing with inheritance and credit matters, as well as in business. Local governments use these studies' results, investors, persons conducting professional activities related to real estate management, and persons who are direct parties to the transaction.

Well-functioning land markets are a critical factor in the development of agriculture. Scholars point to their fundamental role in states' economic growth and development (Feder and Deininger, 1999). Institutions dealing with property issues are of particular importance, as property rights directly affect every legal sphere (Platteau, 2000; Deininger, 2003). Land ownership rights and the possibility of their exchange affect market operation's formation and efficiency (Prokurat, 2012). A well-functioning land market plays a vital role in economic growth and development (Feder and Deininger, 1999).

The freedom to conduct a business, including the purchase of real estate, is one of the basic principles of the European Community's functioning. Each Member State has autonomy regarding detailed legal regulations in this area, which, however, cannot hinder the conduct of a business or differentiate access to general facilities (Marks-Bielska and Zielińska, 2015). Polish legal regulations regarding the acquisition of agricultural real estate (also by foreigners) are among the most stringent in the European Union. The control of land trading aims to prevent irrational divisions of farms and excessive land concentration (Maśniak, 2011).

The agricultural land market in Poland since 1990 consists of a private market, where farmers are both buyers and sellers, and a market where land is traded from the Agricultural Property Stock of the State Treasury (Przychodzeń, 2015). Legal regulations of the agricultural land market have a substantial impact on life plans and the economic situation of people working in agriculture and the agricultural sector issues of managing agricultural land, which is an essential component of the property of several million people, mainly farmers and their family members.

The act of April 27, 2016, was intended to curb land speculation, protect against buyout by foreigners and prevent situations in which, according to unofficial reports, citizens of the European Union (EU) would buy in Poland with the help of substitutes. Hence, according to Polish scientists' opinion, land sale, primarily state-owned, is entirely justified. It is evidenced by the excessively fragmented agrarian structure of Polish agriculture, the negative consequences of land concentration and rural polarization, "land hunger" in some regions of the country with intensive agriculture, as well as the dynamic increase in agricultural land prices, which is speculative (Czyżewski and Stępień, 2010). Contemporary considerations on the development of land markets are dominated by the policy of indirect and direct support for landowners or tenants, support for market prices, subsidies, the effect of which is to change the incentives affecting the actions of landowners and increase farmers' income (Hertel, 1989; Dewbre, Anton, and Thompson, 2001; Guyomard, Mouël, and Gohin, 2004).

2. Materials and Methods

The research was empirical and concerned purchase, and sale transactions of agricultural land concluded by free tender. They were based on information on

transactions, prices, and attributes of agricultural land. The transactions came from the primary market in 1996-2001 and 2014-2019. The seller was the Agricultural Property Agency of the State Treasury⁴, later transformed into the Agricultural Property Agency⁵ and since September 1, 2017, into the National Agricultural Support Center⁶, which due to the size of the acquired resource and the tasks assigned to it, is the most crucial supply institution on the agricultural real estate market. In total, information on 3,317 agricultural real estate transactions was collected. The collected statistical material was compiled in 2 time periods for agricultural land sales transactions in 1996-2001 and 2014-2019. The study covered 2081 transactions of agricultural land sold in 1996-2001 and 1234 transactions made in 2014-2019. The spatial scope of the research covered five poviats of the West Pomeranian Voivodeship located within the influence of the city of Szczecin selected poviats are Goleniów, Gryfino, Police, Pyrzyce, and Stargard. The selection of the research area was deliberate, considering the direct location of the poviats around the Szczecin agglomeration and their socioeconomic diversity.

In the scope of processing the collected data, the methods of inductive and deductive reasoning, descriptive and monographic, and statistical methods, were used. The research methodology was based on statistical measures in the field of structural analysis and changes over time. The structure analysis was carried out for the characteristics: "price per ha" and "area" of agricultural land, for which empirical distributions were built and selected descriptive parameters were calculated. The study of measurement and evaluation of the phenomenon of changes over time was based on analyzing the quarterly dynamics of the number of concluded agricultural land transactions. Graphical and tabular-descriptive techniques were used to present the research results.

⁴*Agricultural Property Agency of the State Treasury - established in October 1991 pursuant to the Act on the management of the State Treasury's agricultural real estate and amending certain acts (Journal of Laws of 2020, No. 396). On January 1, 1992, the Agricultural Property Agency of the State Treasury was established (after changing its name in 2003 - the Agricultural Property Agency), whose task was to take over state-owned agricultural land and manage the resources under the terms of the Act of October 19, 1991 (Journal of Laws of 1991, No. 107, pos. 464). The transferred property constituted a separate part of the property of the State Treasury, which constitutes the Agricultural Property Stock of the State Treasury.*

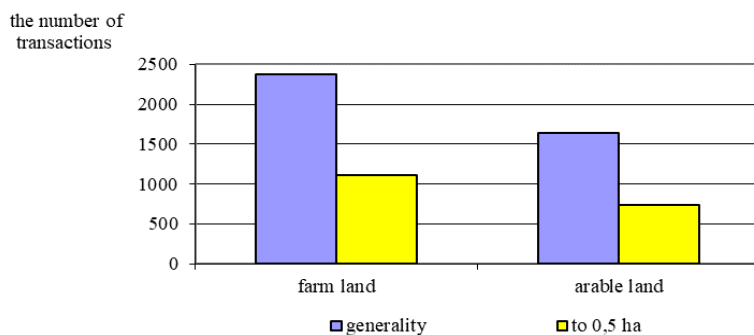
⁵*Agricultural Property Agency - a state agency established in place of the Agricultural Property Agency of the State Treasury on the basis of the Act of April 11, 2003 on shaping the agricultural system (Journal of Laws of 2012, No. 803, as amended).*

⁶*National Agricultural Support Center (KOWR) - Polish state legal entity which is an executive agency, operating pursuant to the Act of February 10, 2017 on the National Center for Agricultural Support (Journal of Laws of 2020, No. 481). Based on the Act of February 10, 2017 on the National Agricultural Support Center and the Act - Regulations introducing the Act on the National Agricultural Support Center, on September 1, 2017, the Agency was merged with the Agricultural Market Agency and transformed into the National Agricultural Support Center.*

3. Results and Discussion

The treasury land market in the areas around the Szczecin agglomeration was characterized by an intensive sale of small land plots with an area of up to 1 ha, especially up to 0.5 ha (Figure 1). The data show that in 1996-2001 transactions in agricultural plots of up to 0.5 ha accounted for 47% of all concluded transactions, while in 2014-2019, they accounted for 37%. An analysis of transactions involving small acreage plots (up to 1 ha) showed that in 1996-2001 in the Police and Pyrzyce poviats, approximately 75% of the sold land had an area of less than 0.40 ha. In 2014-2019, as much as 50% or more of agricultural land transactions concerning plots of land with an area of up to 1 ha (95% of Goleniów, 57% of Pyrzyce, 50% of Police and 50% of Gryfino poviat), except for the Stargard poviat (43%).

Figure 1. Number of farmland and arable land transactions with an area of up to 0.5 ha



Source: Own study.

The research shows that in 1996-2001 the smallest average sales area was 3.37 ha and was related to the area of the Police poviat, similar to 2014-2019, and amounted to 3.49 ha. The unit price of land was related to the sales area. It was found that the smaller the area of agricultural land, the higher its unit price, and the highest price level was achieved by agricultural land with an area of up to 0.5 ha (Table 1). This regularity is repeated in each of the examined counties. The highest prices were obtained for agricultural land sold in the Police poviat, where the average unit price of land with an area of up to 0.5 ha was PLN 139.65 thousand PLN. The lowest agricultural land price was obtained in the Goleniów poviat, where the average price was PLN 2.97 thousand PLN per 1 ha in a large complex of land over 20 ha. Relatively low unit prices of land with an area of up to 0.5 ha (19.97 thousand PLN), and simultaneously, relatively high prices of land with a larger area, above 5 ha, were obtained in the Pyrzyce poviat (Table 1). The lower demand for small plots of land in the Pyrzyce poviat (a typically agricultural region), which are most often purchased with a purpose other than agricultural, proves that it is impossible or difficult to reclassify them. Besides, the lack of direct vicinity of the Pyrzyce poviat from the border of the city of Szczecin means

that these areas are not as popular as, for example, the areas adjacent to the city, which can serve as accommodation for people working in the city.

Table 1. Average prices of farmland by sales area (PLN thousand per 1 ha)

administrative units	area (ha)						
	to 0.5	0.5-1	1-3	3-5	5-10	10-20	over 20
Goleniów	26.58	10.86	5.49	5.03	4.49	3.59	2.97
Gryfino	28.27	7.06	4.78	5.08	4.38	3.02	3.36
Police	139.65	66.28	11.47	23.78	10.72	5.51	5.18
Pyrzyce	19.79	11.28	7.10	5.52	5.18	3.35	3.49
Stargard	23.98	8.50	6.10	7.74	6.41	4.09	3.03

Source: Own study.

Table 2 shows that in 2014-2019 the highest prices of agricultural land and 1996-2014 were obtained in the Police poviat, where on average for 1 ha of agricultural land with an area of up to 0.5 ha, PLN 414.81 thousand was paid. Much lower but relatively high prices were obtained for land located in the Stargard poviat -168.9 thousand PLN/ha and the Pyrzyce poviat — PLN 137.63 thousand/ha, and these were transactions with small areas up to 0.5 ha. Relatively high agricultural land prices were obtained in the Gryfino poviat, and they concerned transactions with an area of 3-5 ha — PLN 318.00 thousand/ha. The analysis of average unit prices in terms of the sales area showed that agricultural land with an area of 0.5-1 h in each examined poviats achieved exceptionally high prices.

Table 2. Average prices of arable land by sales area (PLN thousand per 1 ha)

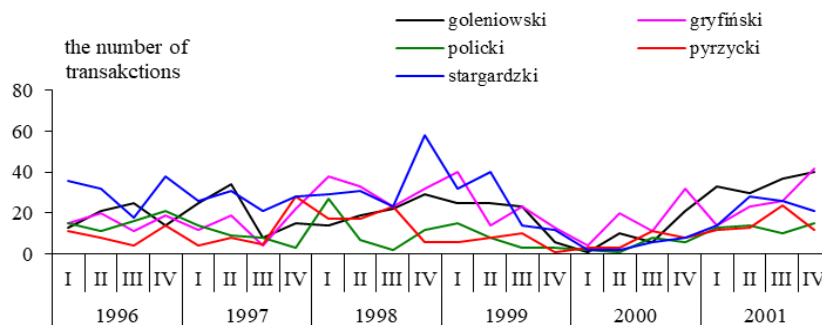
administrative units	area (ha)						
	to 0.5	0.5-1	1-3	3-5	5-10	10-20	over 20
Goleniów	133.57	35.48	38.35	68.14	18.87	28.03	23.05
Gryfino	102.94	44.93	90.57	318	98.88	29.11	23.17
Police	414.81	118.28	22.84	n.d.	n.d.	n.d.	n.d.
Pyrzyce	137.63	43.77	47.23	30.65	26.13	36.68	34.03
Stargard	168.99	191.43	59.79	17.31	20.23	19.46	22.89

Source: Own study.

The dynamics of the number of transactions in 1996-2001 in all examined poviats showed similar trends, both for transactions in which agricultural land was traded (Figure 2). It confirms the general statement that the number of purchase and sale transactions of agricultural real estate is susceptible to all signals coming from outside, such as unstable political situation, the prospect of integration with the European Union, the condition of agriculture, or recipients' crisis of agricultural raw materials. It should be noted that the turn of 1998/1999 was characterized by a revival in the agricultural land market. After the dynamic increase in the number of transactions in 1998, there was a slow decline in 1999, caused by the progressive downturn in agriculture. The year 2000 was characterized by the continuation of the tendency — the weakening of the agricultural land turnover, which was revealed in

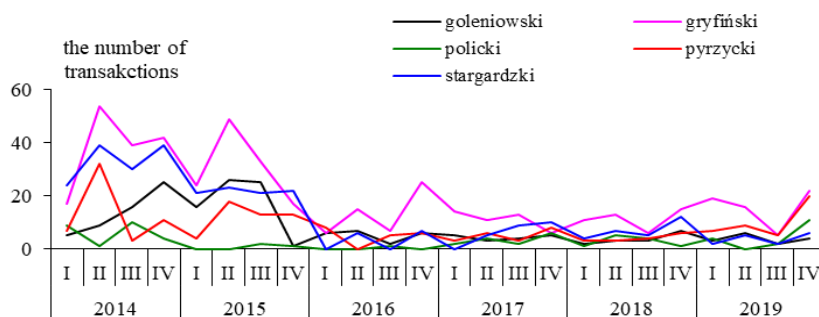
the previous period. The unfavorable microeconomic conditions for the development of agriculture, muted internal demand, low ability of the economy to invest, and, above all, the shortage of equity capital influenced this situation. The recovery took place only in the fourth quarter of 2000. The increase in demand resulted in a significant increase in unit prices of land. The 2001 Afforestation Act resulted in a sudden interest in agricultural land, reflected in the fourth quarter of 2000⁷.

Figure 2. Dynamics of the number of agricultural land sales transactions in 1996-2001 in the analyzed poviats



Source: Own study.

Figure 3. Dynamics of the number of transactions of agricultural land in 2014-2019 in the analyzed poviats



Source: Own study.

In 2014 and 2015, one should notice an increased interest in agricultural land in all surveyed poviats (Figure 3), translating into the number of transactions. This time was marked primarily by the announcement of changes in the rules of market land trading. It was related to the approaching end of 2016 for the purchase of land in Poland by EU citizens. Although in 2014, the amendment to the act was only at the

⁷Act of June 8, 2001 on the designation of agricultural land for afforestation, *Journal of Laws 2001 No. 73, pos. 764, of 2003, No. 46, pos. 392.*

planning stage, it nevertheless influenced the attitudes of people intending to sell or buy land. Potential sellers of agricultural properties delayed their plans, anticipating an increase in the price of land.

On the other hand, people planning to buy it accelerated the implementation of this intention due to the expected bureaucratic difficulties in this area (Market of Agricultural Land, 2015). The prospect of the approaching date (May 2016) of the end of the transitional period limiting the possibilities of purchasing land in Poland by EU citizens has activated legislative measures increasing institutional control over the market land trade. The anticipated unification of the requirements for all potential land buyers and concerns about the possible surge in land prices contributed to a marked increase in interest in purchasing land. The demand pressure was intensified by the increasingly modest offer of the Agricultural Property Agency since 2016 (most of the land from the Stock had already been developed) and the expected changes in the so-far preferred rules for selling land (Market of Agricultural Land, 2016).

In these circumstances, land properties' purchase became an attractive form of capital investment, which also increased their prices. Potential land buyers strived to finalize the transaction as quickly as possible, as legislative changes were also expected regarding the requirements for trading in agricultural land (Market of Agricultural Land, 2017). Since 2016, there has been a clear downward trend in the number of concluded transactions. It should be remembered that 2016 and 2017 are when the early period of real estate trading is respected based on the Act of April 16, 2016, increasing institutional control over the agricultural land market. Within the land market, not only a slowdown in purchase and sale transactions were recorded, but also a relatively small increase in the prices of agricultural land throughout the country.

4. Conclusions

The conducted empirical research is the basis for the following conclusions:

1. The conducted research shows that the price of 1 ha of agricultural land is determined primarily by the location rent. Comparing the examined parameters in individual poviats, it was noticed that the Police poviat stood out among the others. Most traded were lands with small areas (up to 0.1 ha) and high prices. The increased demand for land in the Police poviat was caused by the poviat's specific location, which became almost a part of the Szczecin agglomeration, fulfilling complementary functions for the city of Szczecin. Convenient connections and the proximity of the voivodeship's capital make agricultural land in this poviat significantly eagerly purchased.
2. The price of agricultural land is shaped by the essential attributes of the attractiveness of a given property. For agricultural use, the land features in terms of economical use, i.e., the area's quality and size, are essential. In 1996-

2001, in a typical agricultural region (Pyrzyce powiat), where class II soils dominate, the highest prices were achieved by land with an area of 5-10 ha and over 20 ha. For non-agricultural activities, the property's location is of greater importance than the quality of the soil. The highest unit prices were achieved by land with an area of up to 0.5 ha located near the Szczecin agglomeration, which is confirmed in both analyzed periods.

3. The price of 1 ha of arable land is related to their total area. This relationship's characteristics differed in the examined poviats, but the primary dependence was that the larger the agricultural land's sales area, the lower the unit price (Table 1 and Table 2).
4. The dynamics of agricultural land prices in 1996-2001 showed no clear development tendency, which proves an unstable market was transforming, susceptible to the external environment's influence, including the shaping of demand. Changes in the price level were visible along with the change in macroeconomic factors, mainly the economic situation in agriculture and farmers' income situation. When analyzing the period 2014-2019, a slow stabilization in the number of concluded transactions should be noted from 2017, although there has been a clear downward trend in the domestic market since 2016. It should be remembered that 2016 and 2017 are when the early period of real estate trading is respected based on the Act of April 16, 2016, increasing institutional control over the agricultural land market. Within the land market, not only a slowdown in purchase and sale transactions were recorded, but also a relatively slight increase in prices throughout the country.
5. In general, it should be stated that from the beginning of the political transformation in Poland, a high dynamics of structural and ownership changes has been observed in the agricultural land market sector. Moreover, Poland has become part of the Common Agricultural Policy of the European Union, which is based on a system of subsidizing production and financial support for agriculture and rural areas. It is one of the main catalysts of changes in the agricultural land market, which results in an increase in the dynamics of turnover and an increase in land prices. Besides, the factors that may affect the increase in the value of agricultural land may include the possibility of non-agricultural land use, a tendency towards the equalization of land prices in Poland and Western European countries, limited supply of land in the KOWR resources, or the abolition of restrictions on the purchase of land by foreigners from May 2016. Agricultural land in Poland ceased to be treated solely as a means of production for people associated with agriculture.

The conducted research is in line with the general regularity on the agricultural land market in other EU countries. The factors determining the demand on the agricultural land market include the economic environment of this market, which is always subject to significant changes related to the European Union's accession. The introduction of new legal regulations and an increase in the scale of transfers to agriculture affect changes in the prices of agricultural land and the growing demand for them.

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