

CAN SUBSIDIES DISPLACE THE NEED TO IMPROVE PRODUCTIVITY AS A SOURCE OF INCOME MAXIMIZATION? EVIDENCE FROM POLAND

Aleksandra Pawłowska¹, Włodzimierz Rembisz² ✉

¹Institute of Rural and Agricultural Development of the Polish Academy of Sciences, Poland

²Institute of Agricultural and Food Economics – National Research Institute, Poland

ABSTRACT

Aim: The article addresses the fundamental issue of agricultural producers' choice regarding two sources of income maximisation, i.e. economic rent resulting from improving labour productivity and political rent as an expression of the institutional conditions in force. In particular, attention is focused on the possible substitutability between economic and political rents. **Methods:** The effect of displacement of economic rent by political rent was measured for Polish farms by economic size class in the period 2008–2015, using inverse probability of treatment weighting, based on a counterfactual approach. **Results:** The study indicated that despite the fact that farms with improved labour productivity achieved higher incomes, in some years there was a significant displacement effect of the economic rent by the political rent. This meant that significantly higher incomes were earned by inefficient farms whose operations linked to production were supported by agricultural policy instruments than by unsubsidised farms where labour productivity increased. As farm size increased, the need to improve productivity was thus replaced more often and on a larger scale by the use of agricultural policy mechanisms. **Conclusions:** The results confirmed the conclusions of studies carried out in other countries, thus indicating the possible contribution of agricultural policy to undermining the need to improve productivity as a source of maximising agricultural income. So while farm incomes should be supported, if only because of the persistent disparity between incomes from agriculture and those from other sectors of the economy, there is still room for improvement in the efficiency of public expenditure allocation.

Keywords: economic rent, political rent, labour productivity, agricultural policy, counterfactual method, inverse probability of treatment weighting

JEL codes: D04, D24, Q18, C31

INTRODUCTION

One of the basic policies implemented in the European Union (EU) is the Common Agricultural Policy (CAP), which provides the framework for the institution-

al environment of agriculture. The justification for active and multifaceted state intervention, including through EU policies in the agricultural sector, is market failure. This concept grew out of Keynesian theory and welfare economics. Economic theory points to six different caus-

Aleksandra Pawłowska <https://orcid.org/0000-0001-8964-3624>; Włodzimierz Rembisz <https://orcid.org/0000-0001-9941-3398>

✉apawlowska@irwirpan.waw.pl

es of this failure that can make an economy inefficient in the Pareto sense: imperfect competition, failure due to the existence of public goods, failure due to externalities, incomplete markets, failure due to incomplete information, and unemployment and other macroeconomic distortions [Stiglitz 2004]. In the case of agriculture, attention is primarily focused on the first three forms of failure. While the CAP has the advantage of great stability over budget programming periods, the disadvantage is the decision-making mechanism itself, involving the European Commission, the EU Agriculture Council, the European Parliament, and COPA-COGECA (the Committee of Professional Agricultural Organisations and the General Confederation of Agricultural Cooperatives). This can lead to internal conflicting objectives and transfer inefficiencies, manifested, among others, in rent-seeking.

The concept of political rent refers to the meaning of the term “rent” used in the economic literature, which, as Wilkin [2012] points out, is not clearly defined. In classical terms, rent is the benefit derived from the possession of a scarce resource [Schoemaker 1990]. Obtaining this type of surplus is, therefore, due to having limited inputs that are used for productive activities. The economic rent here is the difference between the income from a given factor of production and the minimum amount that induces its owner to use the resource in that particular way. The excess of income over the cost of maintaining a resource in its current use, and thus also over its opportunity cost, is obtainable in the short term [Mahoney 1995, McChesney 1998].

The economic rent is then the result of an increase in the marginal productivity of a given factor of production that has not yet been reflected in the price of that factor in the market (its remuneration). In economic theory, there is a reduction in marginal costs in the long run due to the pursuit of allocative efficiency. Thus, there is an optimal allocation of resources, which results from equating factor of production remunerations with their marginal productivities. Thus, in this case, the economic rent theoretically disappears [Czyżewski 2013]. According to Wilkin [2012], since in a free-competitive economy, any excess of price over marginal cost can be considered a rent, in the modern economy, rent is identified with the income earned by using factors of production for income-oriented activities in excess of the cost level. Therefore,

even a non-zero profit is considered an economic rent. Rent-seeking as a result of improved production efficiency refers to the concept of rent, according to Ricardo or Schumpeter. It is a kind of natural form of rent that is derived from the price mechanism and production activity [Tollison 1982]. Thus, in this context, economic rent has the incentive function of encouraging producers to use production factors efficiently, promoting economic development.

The concept of rent has also carried over into political economy due to the significant role of state aid programs in shaping income and, thus, farm operations. In this case, there is only a transfer of funds from one entity to another within the functioning mechanisms of political power. It is, therefore, both an economic and political transaction [Czyżewski and Matuszczak 2016a]. Therefore, the fact that political rent is created artificially is emphasized [Hindmoor 1999]. In the case of rent obtained through political mechanisms, on one hand, it is said that the supply of rent is produced by political institutions that can “sell” regulations, among other things, in exchange for the support of the electorate. According to Acemoglu and Robinson [2006], the political replacement effect applies here, whereby political elites are reluctant to initiate economic and institutional changes for fear of losing power (replacement). Political elites will, therefore, block favorable economic and institutional changes if they could increase the likelihood of destabilizing the current arrangement and thus losing political power and future rents. On the other hand, we are dealing here with the submission of demand for desired regulations (demand for political rent) by interest groups in the form of associations of producers or consumers, for whom a given regulation will bring tangible benefits, such as the protection of the internal market, price maintenance, or increased income [Czyżewski and Matuszczak 2016b].

In simple terms, two sources of income growth for agricultural producers are considered, which are related not only to market activities, but also to interventionism. A rational agricultural producer chooses factor involvement to achieve the highest possible outcomes, which is the same as optimizing agricultural income. The allocation of production factors can be determined through typical production activities that result in new products or services, or it can be influenced by specific institutional conditions that aim to achieve benefits. As a result,

agricultural producers may face a choice between two methods of achieving their income objective, taking into account the utility of economic and political rents in relation to the cost of obtaining the income effect. Therefore, the purpose of this paper is to examine whether rent-seeking through political mechanisms still motivates agricultural producers to take actions aimed at increasing labor productivity, or if it weakens this need. This leads to the question of measuring the effect of displacement (substitution) of economic rent by political rent¹.

MATERIALS AND METHODS

The study uses microdata from the Polish FADN (Farm Accountancy Data Network) for the years 2008–2015, which covers the implementation of the Rural Development Programme 2007–2013. The FADN focuses on farms with an area used for agriculture of at least 1 ha, or farms that, if their area of arable land does not exceed 1 ha, deliver an appropriate part of their production to the market or produce more than a certain volume of production. The observation field of the FADN includes commodity farms, i.e., farms that produce more than 90% of the standard output² (SO) in a given region or country. Each year, over 10,000 farms are included in the Polish FADN sample. To account for the diversity of farms in Poland, a stratified selection of units from the observation field of FADN is applied. The sampling frame is divided into layers based on three criteria: regional location, economic size, and agricultural type.

The degree of substitutability between economic rent and political rent was assessed by comparing the income from family farms (per full-time family work-

er) in two groups of farms. Family farm income per family full-time worker was calculated by adding net value added to the balance of investment subsidies and taxes and subtracting the cost of external factors. This income was only calculated for farms with non-zero own labor inputs [Floriańczyk et al. 2018].

The first group consisted of farms that received political rent, which means they received subsidies for their operating activity but did not show an increase in labor productivity in a given year³. In the surveyed sample, the size of this group ranged from 2,507 to 6,190 farms. The second group, on the other hand, included farms that received economic rent. These farms experienced an increase in labor productivity but did not receive support for their operating activity in a given year. The size of this group was much smaller, ranging from 96 to 264 farms (see Table 1). Subsidies for operating activity include payments for crop and livestock production, rural development (environment-related), intermediate consumption, external factor costs, single-area payments, and other subsidies. An increase in labor productivity was measured as the year-on-year change in the ratio of total production to total labor input. Due to the limitations of the study sample, calculations could only be performed separately for each year covered by the analysis.

In order to answer the question of whether subsidies may replace or limit the need for productivity improvement in farming in the pursuit of income maximization, an essential part of the analysis was comparing the income situation between potentially homogeneous groups. These groups would differ only in terms of the support they received under the CAP and their production efficiency. To accomplish this, the study utilized the inverse probability of treatment weighting (IPTW)

¹ It should be noted that agricultural policy instruments also include those aimed at improving labor productivity on farms. These are mainly investment support measures. However, measures of this type focus on increasing the capital factor on the farm rather than improving the allocation of all factors of production.

² This category defines the average five-year value of production for a specific agricultural activity (plant or animal) obtained from 1 ha or from 1 animal during the year, under average production conditions for a given region.

³ Murphy, Shleifer, and Vishny [1993] pointed out that political rent-seeking can lead to the capture of benefits by low-productivity farms and, consequently, the unproductive use of available inputs. This ultimately results in lower social welfare at the economy-wide level. Our definition of political rent refers to this approach. However, it should be mentioned that Teng [2013] challenges the approach that links political rent-seeking to a decline in productivity. Teng proposes a theory of complementarity, where the rent seekers must be producers, and the products are also inputs in the rent-seeking effort. As Czyżewski and Matuszczak [2016b] acknowledge, it is challenging to apply this concept to agriculture. However, it may be applicable if one assumes that one of the production outputs is public goods.

Table 1. Number of farms in the sample of the Polish FADN and in the research sample

	2008	2009	2010	2011	2012	2013	2014	2015
Polish FADN sample	12 305	12 263	11 004	10 890	10 909	12 117	12 123	12 105
Research sample	6 338	6 268	2 771	2 868	3 598	5 190	5 676	6 250
including:								
Farms with political rent*	6 190	6 079	2 507	2 621	3 341	5 094	5 536	6 014
Farms with economic rent**	148	189	264	247	257	96	140	236

*farms which received subsidies for operating activities in a given accounting year and at the same time in which there was no increase in labor productivity, **farms which did not receive subsidies for operating activities in a given accounting year but in which there was an increase in labor productivity.

Source: Own study based on Polish FADN data.

based on a counterfactual approach. The counterfactual state refers to the hypothetical value of the outcome variable (in this case, income from the family farm) that would have been achieved if the unit had been in a different state than it actually was [Rosenbaum and Rubin 1983]. For the farms that achieved a political rent (which make up the experimental group in the study), the counterfactual state is the hypothetical value of the income that the same farms would have obtained if the income effects achieved had resulted from the acquisition of an economic rent. The value of the substitution effect between political rent and economic rent among the farms was determined based on the formula of the average treatment effect on treated (ATT) [Imbens 2004, Pan and Bai 2015]:

$$\tau_{ATT} = E(Y_1|D = 1) - E(Y_0|D = 0)$$

where: $E(Y_1|D = 1)$ – the expected value of family farm income among farms that obtained a political rent, $E(Y_0|D = 0)$ – the expected value of family farm income among farms that obtained an economic rent. The estimation of the counterfactual state is made based on available data, with the selection of an appropriate comparison (control) group being crucial due to two key assumptions of the counterfactual approach, collectively referred to as a condition of strong

ignorability⁴. All assumptions of the counterfactual method were met in this study. They were verified using the unpaired *t*-test (for continuous variables) or chi-square test (for nominal or ordinal variables) and the Kolmogorov-Smirnov test. Balance between the experimental and control groups was achieved for all observable characteristics considered.

The more variables used to assign an individual (i.e., a farm) in the experimental group to its counterpart in the control group, the more accurate the estimate of the counterfactual state. As a solution to this multidimensional matching problem, Rosenbaum and Rubin [1983] proposed selecting the control group not based on multiple characteristics but only on the propensity score, which is defined as the probability of treatment assignment conditional on observed baseline covariates. When using the IPTW method, the selection of individuals for the control group consisted of weighting the nontreated group according to the formula:

$$w_{i,ATT} = d_i + \frac{(1 - d_i)PS(X_i)}{1 - PS(X_i)}$$

where: $d_i = \{1\}$ for farms in the experimental group or $d_i = \{0\}$ otherwise, $PS(X_i) = P(d_i = 1|X_i)$ – propensity score (i.e., the probability of a farm being in the experimental group), estimated on the basis of selected

⁴ The first is the assumption of conditional independence [Barnow 1980]. When determining ATT, meeting this assumption means that the family farm income (per full-time family worker) in the control group should not depend on whether the farm is seeking political or economic rent, considering the propensity score vector. The second is the overlap condition, which states that the distribution of observable characteristics of farms in the experimental group should be similar to the distribution of these characteristics in the control group [Guo and Fraser 2015].

economic and financial characteristics, such as: own labor input, agricultural area included and excluded from production, animal stock, crop, animal and other production, internal and indirect consumption, depreciation, cost of external factors of production, subsidies and taxes on investment activity, fixed and current assets, short- and long-term liabilities, investments, cash flow, and the age and education of the farmer.

Farms in the experimental group were, therefore, given a weight of 1. The higher the similarity between farms that received an economic rent (control group) and farms that received a political rent (experimental group), the higher the weight. Parametric methods, such as logis-

tic regression, are usually used to estimate a propensity score from available data [Holmes 2014, McCaffrey 2013]. However, this requires a priori choice of a functional form for the relationship between the probability of achieving political rent (because of the definition of the experimental group in this study) and farm characteristics. It also limits the number of regressors in the propensity score model due to the decreasing number of degrees of freedom. To address these limitations, the nonparametric generalized boosted models (GBM) method proposed by McCaffrey et al. [2013] for use in observational studies was used to estimate the propensity score.

Table 2. Basic descriptive statistics on income from a family farm per full-time family worker (in PLN/FWU, at constant 2007 prices)

	2008	2009	2010	2011	2012	2013	2014	2015
Polish FADN sample								
Mean	42 977.41	45 425.14	49 010.78	43 153.47	48 340.92	40 585.42	42 484.83	40 076.33
Median	24 603.08	24 304.47	29 228.85	25 454.90	24 576.60	23 146.55	24 208.40	22 380.02
Sd	83 524.02	87 144.05	80 330.35	87 871.28	36 5045.21	118 698.09	80 019.62	125 431.72
Research sample								
Mean	32 290.57	34 115.30	32 874.89	30 914.28	29 753.51	33 894.35	32 696.30	32 874.14
Median	19 490.43	19 293.90	18 507.12	17 393.93	17 906.23	19 005.60	18 999.15	19 405.44
Sd	46 972.46	58 229.49	52 352.05	48 632.37	53 136.92	54 014.93	55 364.15	54 200.99
including:								
Farms with political rent*								
Mean	31 665.95	33 149.01	31 764.22	30 682.38	29 523.63	33 774.01	32 579.49	32 490.07
Median	19 349.81	19 073.72	17 899.79	17 146.84	17 840.68	18 941.21	18 901.53	19 230.07
Sd	45 444.70	55 289.16	51 788.06	48 457.15	53 962.74	54 100.73	55 646.14	54 017.60
Farms with economic rent**								
Mean	58 415.25	65 195.27	43 422.03	33 375.05	32 741.99	40 280.00	37 315.11	42 661.18
Median	31 500.07	32 789.89	28 104.57	19 086.66	21 291.83	24 797.50	25 228.61	23 638.92
Sd	86 384.68	114 884.81	56 456.89	50 490.09	40 877.67	49 082.35	42 646.01	57 949.09

*farms which received subsidies for operating activities in a given accounting year and at the same time in which there was no increase in labor productivity, **farms which did not receive subsidies for operating activities in a given accounting year but in which there was an increase in labor productivity.

Source: Own study based on Polish FADN data.

Table 3. Estimation of the effect of displacement of economic rent by political rent (in PLN/FWU, at constant 2007 prices) by economic size

	2008	2009	2010	2011	2012	2013	2014	2015
Small (8 000 ≤ EUR <25 000)	1 248 (2 108)	5 411*** (1 999)	-300.3 (1 892)	2 832** (1 167)	-1 259 (1 628)	3 316 (2 531)	2 122 (1 748)	3 503** (1 659)
Medium–small (25 000 ≤ EUR <50 000)	730.3 (5 418)	-259.2 (2 392)	-278.8 (2 777)	-2 904 (5 824)	-4 806 (2 929)	11 363*** (4 040)	-3 076 (3 046)	691.7 (2 025)
Medium–large (50 000 ≤ EUR <100 000)	854.6 (5 225)	-6 949 (4 682)	-3 353 (4 098)	10 107** (4 057)	2 916 (4 312)	-2 242 (6 399)	-2 901 (5 315)	13 083*** (4 123)
Large (100 000 ≤ EUR <500 000)	37 206*** (11 412)	27 006* (15 274)	20 159 (14 375)	-790.7 (13 324)	16 442 (12 572)	-10 352 (28 576)	28 635* (15 448)	-50 056* (29 394)

The table presents values τ_{ATT} with the estimation error and the level of significance of the estimation: *** – p -value <0.01, ** – p -value < 0.05, * – p -value <0.1.

Source: Own calculations based on Polish FADN data.

RESULTS

In the group of farms from the sample of the Polish FADN, the average agricultural income (per full-time family worker) remained at a similar level throughout the entire analyzed period, ranging from approximately 40,100 to 49,000 PLN/FWU (see Table 2). However, the median income from a family farm was significantly lower, indicating a relatively high skewness in the income distribution of the entire sample. Among the selected farms that received an economic or political rent, which constituted the research sample, the average agricultural income was lower, ranging from about 29,800 to about 34,100 PLN/FWU. The income of farms benefiting from agricultural policy mechanisms fluctuated around a similar level, amounting to approximately 29,500–33,800 PLN/FWU. On the other hand, there was a noticeably higher average agricultural income in farms where there was an improvement in labor productivity. In this group, during the analyzed period, the average income from a family farm (per full-time family worker) varied from about 32,700 to about 65,200 PLN/FWU.

The substitution effect between political and economic rent was determined for farms in Poland based on their economic size. Table 3 presents the results of estimating the ATT, along with the standard error (values in

brackets), in constant 2007 prices and the significance level of the estimation. A positive value of the ATT estimate indicated that, on average, higher income was achieved by subsidized farms where labor productivity had not increased. This positive value indicated the effect of crowding out economic rent by political rent. On the other hand, a negative value of the ATT estimate indicated that higher income was achieved on average by farms that improved their labor productivity over the year, but did not receive support under the agricultural policy. The negative value, thus, indicated a preference for income effects associated with economic rent over those associated with political rent.

On the smallest farms, higher incomes were typically achieved by agricultural producers who received CAP payments compared to farms that improved labor productivity, especially in 2009, 2011, and 2015. Subsidized farms then had approximately 2,800–5,400 PLN/FWU more income than farms that increased labor productivity without agricultural policy support. In farms with an economic size between EUR 25,000 and EUR 50,000 SO, the only significant difference between the experimental and control groups occurred in 2013, when agricultural producers receiving support for their operating activities had about 11,400 PLN/FWU more income than farms in the comparison group. The effect of displacing economic rent with

political rent in farms with an economic size between EUR 25,000 and EUR 50,000 SO was at a similar level, especially in 2011 and 2015. Farms receiving subsidies for operating activities achieved about 10,100–13,100 PLN/FWU higher income than farms with improved production techniques. In the largest farms, higher income was made possible by agricultural policy mechanisms, especially in 2008–2009 and 2014. Agricultural producers benefiting from the analyzed CAP payments then achieved about 27,000–37,200 PLN/FWU more income than the comparison group. Importantly, in 2015, higher incomes were instead achieved by farms that increased labor productivity without support for their operational activities. As farm size increased, the need to improve productivity was more frequently and extensively replaced by the use of agricultural policy mechanisms. However, towards the end of the analyzed period, there was a shift in preferences among the largest farms regarding the sources of maximizing income, and the effects resulting from pursuing political rent were replaced by those resulting from economic rent.

DISCUSSION AND CONCLUSIONS

In this study, we examined the concept of economic and political rent as two sources of income maximization for agricultural producers. We addressed the problem of how agricultural policy influences the improvement of production techniques on farms, specifically focusing on the substitution effect between these two rents. To assess the extent to which CAP payments may weaken the need for labor productivity improvement as a source of increasing income for agricultural producers, we analyzed data on commodity farms from the Polish FADN database. The prevailing belief in theoretical studies on the impact of agricultural policy on farm performance is that subsidies weaken the motivation of agricultural producers to improve production techniques, as they increase income [Hennessy 1998, Ciaian and Swinnen 2009]. The negative impact of subsidies on farm productivity may also be attributed to inefficient allocation of production factors, soft budget constraints, and the subsidization of less productive farms [Rizov et al. 2013]. Support is often directed towards economically

weaker farms, which delays the decision to reallocate production factors. Bergström [2000] reaches similar conclusions, arguing that payments can have a negative effect on farm productivity for at least two reasons. Firstly, subsidies increase farm incomes, reducing the incentive for agricultural producers to improve production techniques [Giannakas 2001]. Secondly, subsidies often help inefficient farms survive, postponing the decision to reallocate production factors and improve productivity. Guyomard et al. [2004] emphasize that the negative impact of payments on farm efficiency is also observed at the agricultural sector level, as less efficient farms are enabled to remain on the market. Previous empirical studies, although varying in methods and scope, generally reach similar conclusions. Latruffe et al. [2009] find a negative effect of direct payments on farm efficiency in France, focusing on selected plant and animal specializations. Similar conclusions are drawn in the works by Latruffe [2010], Sekokai and Moro [2009], and Zhu and Lansink [2010], considering all CAP instruments together. The findings of Mary [2013] suggest that although some CAP instruments have a negative impact on farm productivity in France, unlike previous studies, this impact was not significant for all CAP payments. Conversely, Ratering, Medonos, and Hruska [2013] show a positive effect of subsidies on labor productivity in medium-sized farms in the Czech Republic. This study aimed to contribute empirically and methodologically by using a counterfactual approach to evaluate agricultural producers' choices in maximizing sources of income. The study assessed the effect of agricultural policy instruments on agricultural income in relation to labor productivity, allowing for the determination of the “crowding out effect” of political rent on economic rent. Throughout the analyzed period spanning the CAP financial perspective from 2007 to 2013, Polish farms that improved labor productivity without receiving agricultural-policy support achieved noticeably higher incomes. However, the study also found a significant displacement effect (substitution effect) of economic rent by political rent in some years when examining the relationship between agricultural policy and productivity growth's impact on agricultural income. As farm size increased, the utilization of agricultural policy mechanisms increasingly replaced

the need to improve productivity. However, towards the end of the analyzed period, preferences regarding income maximization sources shifted in the group of largest farms. The effects resulting from seeking political rent were replaced by the effects resulting from seeking economic rent.

Therefore, despite the fact that farms with improved labor productivity achieved higher incomes, some years demonstrated a significant displacement effect of economic rent by political rent. This meant that inefficient farms supported by agricultural policy instruments (mainly payments under Pillar I of the CAP) obtained significantly higher incomes compared to unsubsidized farms with increased labor productivity. These findings align with studies conducted in other countries, indicating the potential undermining contribution of agricultural policy to the necessity of productivity improvement as a source of maximizing agricultural income. While it remains important to support farm incomes, particularly due to the persistent income disparity between agriculture and other sectors of the economy, there is still room for improving the efficiency of public expenditure allocation.

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CZY SUBSYDIA MOGĄ ZASTĄPIĆ POTRZEBĘ POPRAWY PRODUKTYWNOŚCI JAKO ŹRÓDŁA MAKSYMALIZACJI DOCHODU? ANALIZA DANYCH Z POLSKI

STRESZCZENIE

Cel: W artykule podjęto fundamentalną kwestię wyboru producenta rolnego odnośnie do dwóch źródeł maksymalizacji dochodu, tj. renty ekonomicznej wynikającej z poprawy produktywności pracy i renty politycznej stanowiącej wyraz obowiązujących uwarunkowań instytucjonalnych. W szczególności uwagę skupiono

na ewentualnej substytucyjności między rentą ekonomiczną a polityczną. **Metody:** Pomiaru efektu wypierania renty ekonomicznej przez rentę polityczną dokonano dla polskich gospodarstw rolnych w podziale na klasy wielkości ekonomicznej w okresie 2008–2015, przy wykorzystaniu metody ważenia odwrotnością prawdopodobieństwa poddania oddziaływaniu, opartej na podejściu kontrfaktycznym. **Wyniki:** Przeprowadzone badania wskazały, iż pomimo osiągania wyższych dochodów przez gospodarstwa rolne, w których nastąpiła poprawa wydajności pracy, w niektórych latach odnotowano istotny efekt wypierania renty ekonomicznej przez rentę polityczną. Oznaczało to, że znacząco wyższe dochody uzyskiwały nieefektywne gospodarstwa, których działalność operacyjna wspierana była przez instrumenty polityki rolnej niż niesubsydiowane gospodarstwa, w których nastąpił wzrost wydajności pracy. Wraz ze wzrostem wielkości gospodarstw potrzeba poprawy produktywności była więc częściej i na większą skalę zastępowana przez wykorzystanie mechanizmów polityki rolnej. **Wnioski:** Uzyskane wyniki potwierdziły wnioski z badań przeprowadzonych w innych krajach, wskazując tym samym na możliwy wpływ polityki rolnej na osłabianie potrzeby poprawy produktywności jako źródła maksymalizacji dochodów rolniczych. O ile więc dochody gospodarstw rolnych powinny być wspierane, choćby ze względu na utrzymujące się dysproporcje między dochodami z rolnictwa a dochodami z innych sektorów gospodarki, to wciąż istnieje pole do poprawy efektywności alokacji wydatków publicznych.

Słowa kluczowe: renta ekonomiczna; renta polityczna; wydajność pracy; polityka rolna; metoda kontrfaktyczna; ważenie odwrotnością prawdopodobieństwa