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## **INVESTMENT POTENTIAL OF RURAL COMMUNES IN THE WIELKOPOLSKA PROVINCE**

Key words: investment potential of communes, investment expenditures of communes, rural communes of the Wielkopolska Province

**ABSTRACT.** The study aimed to assess the investment potential of the rural communes of Wielkopolska Province in 2009-2017 and compare it with other administrative types of communes. Additionally, among all the rural communes a separate group located in the Metropolitan Area of Poznań (MAP) was distinguished. The study drew on data from the Local Data Bank maintained by the Central Statistical Office and on the database of indicators assessing the financial condition of local administrative units published by the Ministry of Finance. Descriptive statistics were used to compare the level of investment potential between communes, and dynamic statistics to measure changes in the phenomenon over time. An attempt was also made to assess the relationship between the investment potential of communes and the actual level of their investment expenditures. The investment potential of the Wielkopolska Province was found highest among rural communes of the Metropolitan Area of Poznań, which inflated its average levels for all rural communes. The observed course of potential – its decline up until 2013 and subsequent growth – was related to EU budget perspectives 2007-2013 and 2014-2020. Moreover, the relationship between investment potential and investment expenditures was statistically significant only in urban and metropolitan rural communes.

### **INTRODUCTION**

Communes, level 2 local administrative units (LAU-2), carry out the widest range of public tasks, both securing the essential needs of local communities and fostering their development. As Janina Kotlińska [2012] emphasizes in her research, the scope of these tasks has constantly been expanding since the reactivation of local government at the LAU-2 level in 1990. Communes are primarily concerned with essential tasks related to the provision and operation of public goods and services. They also strive to improve both the quality of services and access afforded to their residents. Beyond that, it is also the responsibility of communes to foster local development in all its forms and dimensions. Local governments possess a singular advantage to correctly identify obstacles to the further growth of their communities, analyze their social and economic problems, and take appropriate measures to resolve problems and overcome obstacles [cf. Katoła 2011, Zawora 2015].

The discharge of local government's responsibilities is predicated on securing sources of their financing. The legislator specifies the scope of various tasks performed by a commune and assigns them varying degrees of obligation. They can be broadly divided into own tasks of the local government and tasks commissioned by the legislator. A commune's income structure and the power of its government to shape it should be regulated accordingly [Jastrzębska 2012, p. 106].

Ewa Gubernat-Ulatowski [2016] notes that local economic growth mainly depends on a commune's own assets, but also on the local government's access to sources of external financing. Anna Katola [2012] mentions that communes often carry out infrastructure projects that are of great importance for their development: road, sewage, water or public utility constructions. Due to the high costs of these investments, communes supplement construction funds with money from external sources, such as loans, credits, or EU funds.

The income structure defines a commune's capabilities to invest and foster local entrepreneurship, increase productivity and maintain a competitive edge, and finally – to promote development and improve the quality of life. Consequently, the primary factor that ultimately affects the welfare of the community is its investment potential [cf. Kotlińska 2012, Zawora 2015, Wyszowska 2019]. As highlighted by Dorota Wyszowska [2019], there is no uniform definition of investment potential, though most studies point to the operating surplus as its basic component [Swianiewicz 2008, Surówka 2014, Dylewski 2017, Zawora 2018].

This study aimed to assess the investment potential of the rural communes of Wielkopolska Province in 2009-2017 and compare it with other administrative types of communes. The levels and changes in potential were assessed, and particular attention was paid to communes located in the Metropolitan Area of Poznań (MAP). This special consideration was owed to their residential and service-oriented character that stood out against typical rural communes outside of the MAP. Also, an attempt was made to assess the relationship between investment potential and the actual level of a communes' investment expenditure (investment activity).

## RESEARCH SOURCES AND METHODS

The study drew on data from the Local Data Bank (LDB) maintained by the Central Statistical Office and on the financial indicators of local administrative units published by the Ministry of Finance. The research spanned from 2009 to 2017 and highlighted the rural communes of Wielkopolska Province, which totaled 117 in 2009 (roughly half of all communes in that province). That number decreased, in 2017, by four (communes of Dobrzyca, Chocz, Jaraczewo and Opatówek) as they changed their administrative status from rural to urban-rural.

The analysis made a distinction between metropolitan (located in MAP) and other rural communes. It followed previous research on functional types of rural communes in the Wielkopolska Province [Wołoszyn et al. 2016] and on transformations of their demographic and social makeup [Stanisławska, Głowicka-Wołoszyn 2017]. Both studies described how metropolitan communes had lost its agricultural character due to intense suburbanization, a phenomenon that involved an increasing share of the population working in services and industry and growing economic activity. These communes also proved to achieve the highest income potential of all Wielkopolska Province communes [Głowicka-Wołoszyn et al. 2018].

The research subject was investment potential. The study adopted a definition of own investment potential, first introduced by Teresa Lubińska et al. [2007, p. 81]. It was described as budgetary revenue that remains after covering mandatory obligations: current expenses, the repayment of loans and credit installments as well as the redemption of issued bonds. Following Teresa Lubińska et al. [2007, pp. 80-81], the study distinguishes three levels of the communes' own investment potential illustrated in Figure 1:

- first-degree – current revenue net of transfer payments, such as current expenses and debt repayment;
- second-degree – 1<sup>st</sup>-degree own investment potential augmented by (transitory) property income;
- third-degree – 2<sup>nd</sup>-degree own investment potential supplemented by funds from external sources, e.g. the EU.

To account for inflation, the nominal values of investment potential were adjusted by annual inflation rates [GUS 2017] and presented in constant 2017 values.

In order to identify the link between investment potential in a given year and investment expenditure in the subsequent year, Pearson's linear correlation coefficients were determined and their statistical significance examined.

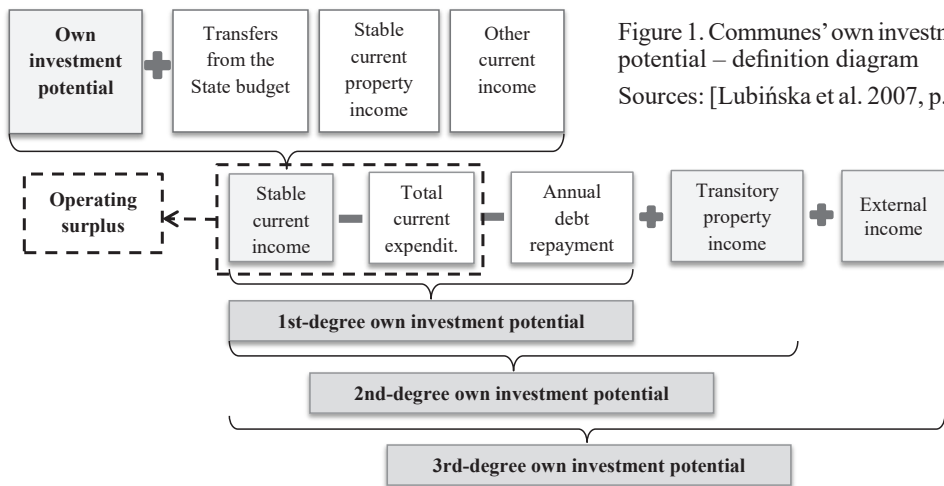


Figure 1. Communes' own investment potential – definition diagram

Sources: [Lubińska et al. 2007, p. 80]

## RESULTS

First-degree investment potential among all province communes, defined as operating surplus minus annual debt repayment, shrank considerably between 2009 and 2013 (from 190.8 PLN/per capita to 28.9 PLN/per capita), but then grew to reach an even higher than initial value (293.2 PLN/per capita in 2017) (Figure 2). The picture for urban-rural communes was similar to that of all province communes. In rural communes however, both the 2009-2013 drop and the 2013-2017 growth were even more acute, since the potential's initial and final high levels peaked 45% and 25% higher than in the overall case, while the 2013 low was almost the same. The lowest level of first-degree potential and its most adverse changes

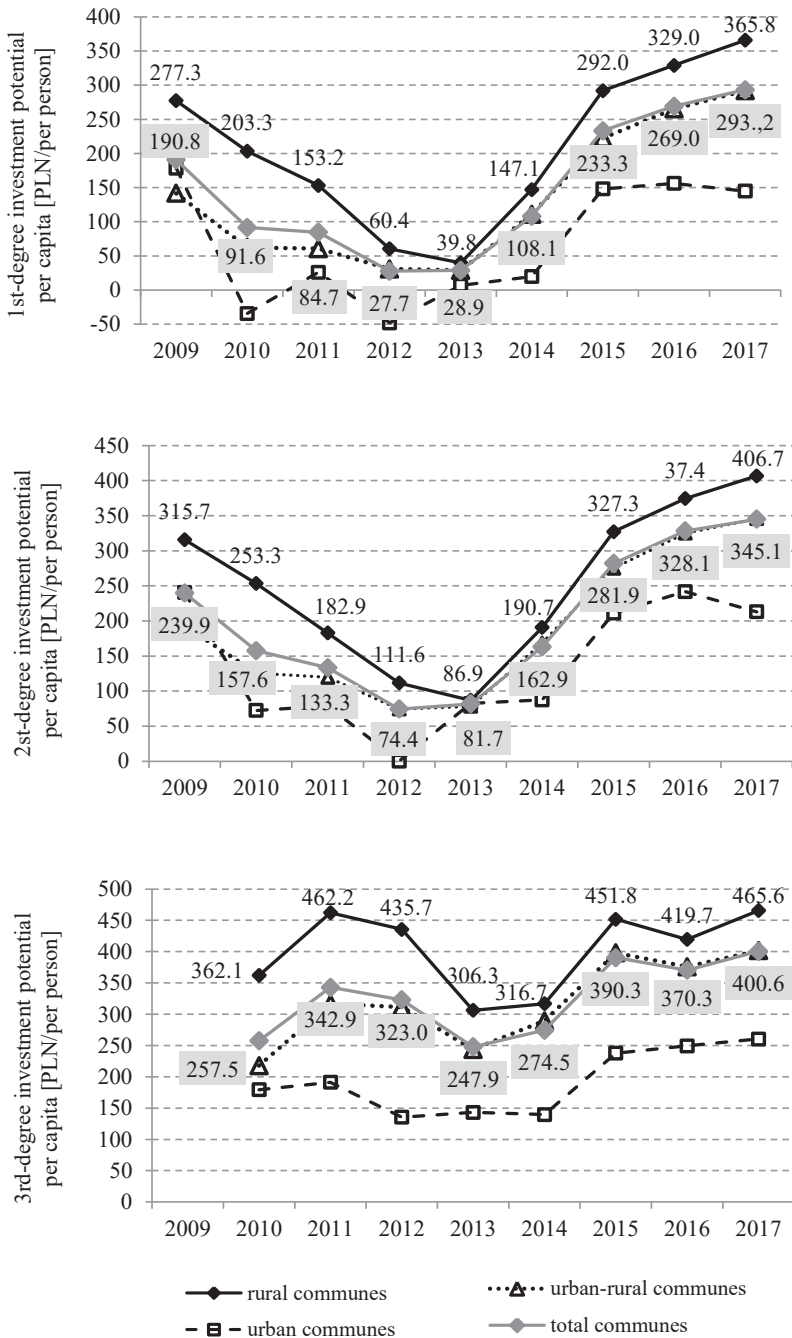


Figure 2. First-, second- and third-degree investment potential by administrative types of Wielkopolska province communes in 2009-2017

Source: own elaboration based on data from the Ministry of Finance and Local Data Bank

were observed for urban communes. Here, the drop that had already begun in 2010 was 120% – reached a negative level of PLN -34.2 per capita – and trended around zero until 2014. Moreover, the 2017 recovery level was still 19% lower than the initial 2009 value.

Second-degree investment potential – obtained by augmenting the first-degree by transitory property income – was characterized by a similar course, though with a gentler decline in 2009-2013 (Figure 2). The sale of assets helped urban communes maintain their potential at a positive level. Property income from the sale augmented the 2017 second-degree investment potential of all Wielkopolska Province communes by 17%. The respective figure for rural communes (with the highest potential) was only 11%, for urban-rural communes 17%, and for urban communes (with the lowest potential) a substantial 47% (Figure 1).

Building sizable second-degree potential makes communes eligible to apply for EU funds and thereby increase their investment potential even further. Accounting for income from other sources, most notably EU funds, gives a picture of third-degree investment potential that differs from the previous two. Mainly due to EU funds, third-degree potential during its first peak in 2011 was roughly 2.5 times higher than the second-degree. In 2017, it was only 14-16% higher, except for urban communes where the figure was 22% (Figure 2).

The application for EU funds also explains the evolution of investment potential in 2009-2017. This is because the period straddles two EU budget perspectives: 2007-2013 and 2014-2020. Therefore, the lowest levels of operating surplus, and thus the lowest levels of the potential coincide with 2013 – the last year of the EU 2007-2013 perspective, when communes were in the height of the investment phase. Only from 2014 onwards would they resume surplus accumulation to qualify for funds from the next 2014-2020 perspective.

Throughout the study period, the highest investment potential of all commune types was recorded in rural communes and this was equally true for the 1st-, 2nd- and 3rd-degree (Figure 2). To explain this phenomenon, the investment potential of rural communes was controlled for their vicinity to the city of Poznań proxied by their membership in the Metropolitan Area of Poznań (MAP) (Figure 3).

In the first year of the study period, metropolitan rural communes exhibited 3.5 times higher values of first- and second-degree potential than communes outside MAP. In the last year it was 2 times higher. Although MAP only consisted of 8 communes (Czerwonak, Dopiewo, Kleszczewo, Komorniki, Rokietnica, Suchy Las and Tarnowo Podgórne), they greatly inflated the average investment potential for all rural communes and made them appear to fare better than other administrative types of Wielkopolska Province communes.

The analysis of the investment potential of rural commune investment controlled by membership in the MAP shows the importance of accounting for the neighborhood of large urban centers. The observed differences stem from a change in the functionality of metropolitan communes and a radically better financial situation than that of typically agricultural peripheral communes [cf. Głowicka-Wołoszyn 2016, Głowicka-Wołoszyn, Wysocki 2016]. Marian Kachniarz [2011, p. 93] draws attention to the underrated but significant role of the geographical rent that shapes local development stating that “local government becomes a beneficiary of this development (in the form of increased income) – regardless of own effort involved”. It should not be surprising then that geographical rent “explains much about development processes, which by their nature are spatially diverse” [Kopczevska 2008, p. 10]. When examining links between investment potential in a given

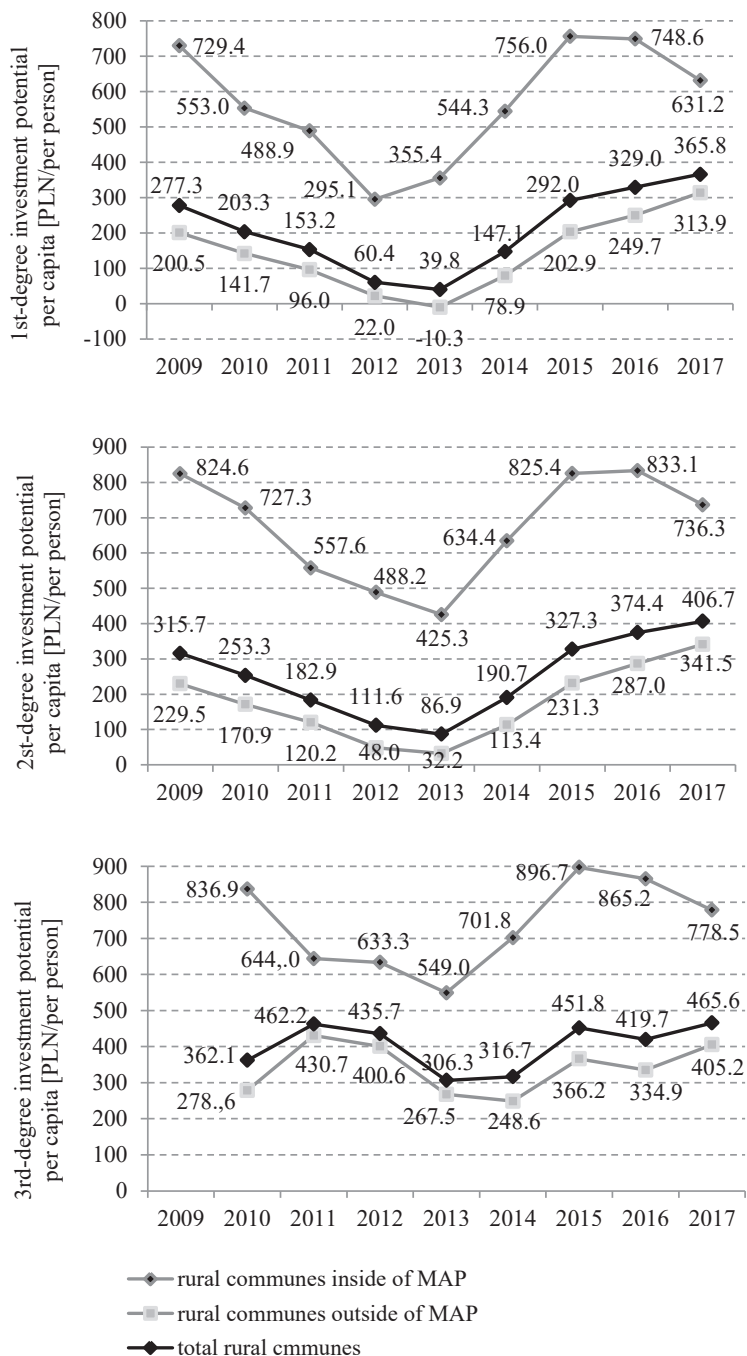


Figure 3. First-, second- and third-degree investment potential in rural Wielkopolska province communes by membership in the Metropolitan Area of Poznań in 2009-2017

Source: own elaboration based on data from the Ministry of Finance and Local Data Bank

year and investment expenditure per capita in the subsequent year, a strong and statistically significant correlation was only found among urban communes and metropolitan rural communes (Table 1). In the remaining groups, correlations between first- and second-degree investment potential and investment expenditure were mild and non-significant. For third-degree investment potential, no such correlation was observed. It is difficult to unequivocally decide whether observed links are a result of the more effective use of investment potential by governments of urban or wealthy rural communes. They may be spurious artifacts of employed methods. One reason why some local authorities did not allocate growing operating surplus to development purposes may be the need to repay outstanding debt [Krzemińska 2018]. A clear-cut answer to the question requires further research with a refined methodological approach.

Table 1. Pearson's linear correlation coefficients between the investment potential and investment expenditure of Wielkopolska province communes by administrative type and in the case of rural commune MAP membership

Communes		1 <sup>st</sup> -degree investment potential		2 <sup>nd</sup> -degree investment potential		3 <sup>rd</sup> -degree investment potential	
		correlation coefficient	p-value	correlation coefficient	p-value	correlation coefficient	p-value
Rural communes	inside MAP	<b>0.83</b>	<b>0.011*</b>	<b>0.89</b>	<b>0.003*</b>	<b>0.88</b>	<b>0.008*</b>
	outside MAP	0.51	0.199 <sup>ns</sup>	0.52	0.187 <sup>ns</sup>	-0.21	0.647 <sup>ns</sup>
	overall rural	0.59	0.124 <sup>ns</sup>	0.62	0.104 <sup>ns</sup>	-0.03	0.949 <sup>ns</sup>
Urban communes		<b>0.76</b>	<b>0.029*</b>	<b>0.81</b>	<b>0.014*</b>	<b>0.69</b>	<b>0.085*</b>
Urban-rural communes		0.47	0.245 <sup>ns</sup>	0.50	0.210 <sup>ns</sup>	-0.08	0.866 <sup>ns</sup>
All communes		0.54	0.170 <sup>ns</sup>	0.57	0.136 <sup>ns</sup>	-0.01	0.980 <sup>ns</sup>

\* indicates statistically significant correlations ( $p < 0.10$ ), and the symbol <sup>ns</sup> –not significant  
Source: own elaboration based on data from the Ministry of Finance and Local Data Bank

## SUMMARY AND CONCLUSIONS

The research found that the highest investment potential in the Wielkopolska Province was recorded in metropolitan rural communes, which resulted in inflated ratings of the whole group of rural communes. The results confirm once again that, in the case of rural communes, it is particularly important to account for geographical rent in the analysis of such phenomena as the financial situation or the level of social and economic development.

The course of the communes' investment potential was characterized by a decline that continued until 2013 and a recovery in subsequent years. It can be credibly explained by the timetable of EU budget perspectives 2007-2013 and 2014-2020.

An attempt to quantify the relationship between the investment potential and investment expenditure found it strong and statistically significant only in urban and metropolitan rural communes. However, this result is difficult to interpret unequivocally and it is advisable to carry out in-depth research with more refined methods that would deepen the understanding of the relationship.



## BIBLIOGRAPHY

- Bank Danych Lokalnych GUS (Local Data Bank, CSO), [www.stat.gov.pl](http://www.stat.gov.pl).
- Dylewski Marek. 2017. Nadwyżka operacyjna a decyzje finansowe jednostek samorządu terytorialne (Operational surplus vs financial decisions of local government units). *Annales Universitatis Mariae Curie-Skłodowska Lublin. Oeconomia* LI (6): 75-84.
- Głowicka-Wołoszyn Romana. 2016. Identyfikacja efektów przestrzennych w ocenie sytuacji finansowej gmin województwa wielkopolskiego (Identification of spatial effects in evaluation of financial condition of Wielkopolska voivodeship communes). *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu, Gospodarka lokalna w teorii i praktyce* 432: 42-53, DOI: 10.15611/pn.2016.432.04.
- Głowicka-Wołoszyn Romana, Feliks Wysocki. 2016. Kondycja finansowa gmin wiejskich a źródła ich dochodów w województwie wielkopolskim (Financial condition and income sources of Wielkopolska Province rural communes). *Roczniki Naukowe SERiA XVIII* (1): 50-58.
- Głowicka-Wołoszyn Romana, Feliks Wysocki, Agata Wieczorek. 2018. Potencjał dochodowy gmin wiejskich w województwie wielkopolskim w latach 2005-2016 (Income potential of rural communes of Wielkopolska Province in 2005-2016). *Roczniki Naukowe SERiA XX* (1): 30-36, DOI: 10.5604/01.3001.0011.7225.
- Gubernat-Ulatowski Ewa. 2016. Potencjał finansowy i inwestycyjny a aktywność inwestycyjna jednostek samorządu terytorialnego. *Studia Ekonomiczne. Zeszyty Naukowe UE w Katowicach* 294: 47-58.
- GUS (Central Statistical Office, CSO). 2017. *Roczne wskaźniki cen towarów i usług konsumpcyjnych od 1950 roku* (Annual rates indices of consumer goods and services since 1950). Warszawa: GUS, <https://stat.gov.pl/obszary-tematyczne/ceny-handel/wskazniki-cen/wskazniki-cen-towarow-i-uslug-konsumpcyjnych-pot-inflacja-roczne-wskazniki-cen-towarow-i-uslug-konsumpcyjnych>, access: 10.02.2020.
- Jastrzębska Maria. 2012. *Finanse jednostek samorządu terytorialnego* (Finances of local government units). Warszawa: Wolters Kluwer Business.
- Kachniarz Marian. 2011. Bogactwo gmin – efekt gospodarności czy renty geograficznej? (Communities wealth – the effect of thrift or geographical rent?). *Ekonomia* 5 (17): 81-94.
- Katoła Anna. 2012. Wpływ wykorzystania funduszy unijnych na wzrost konkurencyjności gmin (Impact of the use of EU funds for increasing communities competitiveness). *Zeszyty Naukowe US. Studia i Prace Wydziału Nauk Ekonomicznych i Zarządzania* 25: 161-177.
- Kopczewska Katarzyna. 2008. *Renta geograficzna a rozwój społeczno-gospodarczy* (Geographic rent and socio-economic development). Warszawa: CeDeWu.
- Kotlińska Janina. 2012. Rozwój gospodarczy jednostek samorządu terytorialnego a zakres realizowanych przez nie zadań (The economic development of local government vs. a scope of tasks they carry out). *Zeszyty Naukowe Wyższej Szkoły Bankowej w Poznaniu* 42: 147-160.
- Krzemińska Agnieszka. 2018. Znaczenie nadwyżki operacyjnej w budżecie gmin i miast na prawach powiatu na przykładzie województwa wielkopolskiego i lubelskiego (The importance of operating surplus in the budget of municipalities and cities with county rights on the example of the wielkopolskie and lubelskie voivodeship). *Optimum. Economic Studies* 2 (92): 61-73. DOI: 10.15290/oes.2018.02.92.06.
- Lubińska Teresa, Sławomir Franek, Marcin Będzieszek. 2007. *Potencjał dochodowy samorządu w Polsce* (Potential income of local government in Poland). Warszawa: Difin.
- Ministerstwo Finansów (Ministry of Finance). 2019. *Wskaźniki do oceny sytuacji finansowej JST* (Indicators for assessing the financial standing of local government units). Warszawa: Ministerstwo Finansów, <https://www.gov.pl/web/finanse/wskazniki-do-oceny-sytuacji-finansowej-jednostek-samorzadu-terytorialnego-w-latach-2015-2017>, access: 10.02.2020.



- Stanisławska Joanna, Romana Głowicka-Włoszyn. 2017. Przemiany demograficzne na obszarach wiejskich woj. wielkopolskiego w latach 2005-2015 (Demographic changes in rural areas of the Wielkopolska Province in 2005-2015). *Finanse Komunalne* 9: 5-10.
- Swianiewicz Paweł. 2008. Nadwyżka operacyjna (Operating surplus). *Wspólnota* 9 (859): 16-27.
- Wołoszyn Andrzej, Agnieszka Kozera, Romana Głowicka-Włoszyn, Joanna Stanisławska. 2016. Nierówności dochodowe w różnych typach funkcjonalnych gmin wiejskich województwa wielkopolskiego (Income inequalities across functional types of rural communes). *Zeszyty Naukowe PTE Zielona Góra* 5: 123-135.
- Wyszkowska Dorota. 2019. Zróżnicowanie regionalne potencjału inwestycyjnego jednostek samorządu terytorialnego (Regional diversification of investment potential of local government units). *Wiadomości Statystyczne* 64 (4): 68-84.
- Zawora Paweł. 2015. Instrumenty rozwoju lokalnego wykorzystywane w samorządach gminnych (Means used by local governments to enhance local development). *Prace Naukowe UE we Wrocławiu* 391: 301-310.
- Zawora Jolanta. 2018. Potencjał dochodowy a wydatki inwestycyjne gmin Polski Wschodniej (Income potential and investment activity of Eastern Poland's communities). *Nierówności Społeczne a Wzrost Gospodarczy* 56 (4): 224-235. DOI: 10.15584/nsawg.2018.4.18.

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## POTENCJAŁ INWESTYCYJNY GMIN WIEJSKICH WOJEWÓDZTWA WIELKOPOLSKIEGO

Słowa kluczowe: potencjał inwestycyjny gmin, wydatki inwestycyjne gmin, gminy wiejskie województwa wielkopolskiego

### ABSTRAKT

Celem badań była ocena potencjału inwestycyjnego gmin wiejskich województwa wielkopolskiego, na tle pozostałych typów administracyjnych gmin, w latach 2009-2017. Dodatkowo w grupie gmin wiejskich wyróżniono gminy położone w obszarze metropolitalnym Poznań (POM) oraz poza nim. Badania przeprowadzono na podstawie danych pochodzących z GUS (Bank Danych Lokalnych) oraz Ministerstwa Finansów (wskaźniki do oceny sytuacji finansowej JST). Do porównań poziomu potencjału inwestycyjnego między gminami zastosowano miary statystyki opisowej, a do oceny zmian zjawiska w czasie – miary dynamiki. Podjęto również próbę oceny związku pomiędzy potencjałem inwestycyjnym gmin a rzeczywistym poziomem ich wydatków inwestycyjnych. W wyniku przeprowadzonych badań stwierdzono, że najwyższym potencjałem inwestycyjnym w województwie wielkopolskim charakteryzowały się gminy wiejskie położone w Poznańskim Obszarze Metropolitalnym (POM), co rzutowało na wyższą ocenę całej grupy gmin wiejskich w porównaniu do pozostałych typów administracyjnych gmin. Kształtowanie się poziomu potencjału inwestycyjnego gmin, tj. jego spadek do 2013 roku i wzrost w kolejnych latach, było związane z perspektywami budżetowymi UE 2007-2013 i 2014-2020. Związek pomiędzy potencjałem inwestycyjnym a wydatkami inwestycyjnymi gmin był statystycznie istotny tylko w gminach wiejskich położonych w POM oraz w miejskich gminach.

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