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# Financialization in the Regional Aspect. An Attempt to Measure a Phenomenon.

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**Abstract:** The aim of the work was to analyze the possibilities of measuring the phenomenon of financialization on a regional basis. The article attempts the move with the measurement of financialization from the level of countries to the level of regions. In the paper, some variables that can measure financialization at the level of voivodeships were used to create an index of regional financialization. The research proposal was verified empirically, using data from 2005–2015 for 16 Polish voivodeships. The results obtained allowed for the ranking of individual regions of the country, in terms of the degree of intensification of financialization. The regional approach is a subject, which is poorly recognized in the literature on the subject. However, according to the authors of the article, individual regions of the country may have a different degree of intensity of financialization, and knowledge on this subject may form the basis for strategic decisions regarding further development of these regions. The authors of the work wanted to pay attention to this issue and initiate further research in this direction. The presented methodology is only an attempt to measure this phenomenon and can be developed in subsequent studies.

**Keywords:** financial sector development, financialization, regional development

**JEL Codes:** E44, O16, O43

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## 1 Introduction

Financialization in the most classic sense means the growing influence of financial markets and financial institutions on the economy and society (Epstein 2005; Sawyer 2014). The attempts to measure financialization described in the literature refer generally to the country as a whole or a group of countries, with financialization most often analyzed in relation to its macroeconomic effects (Ząbkowicz and Czech 2016). As Ratajczak points out (2017), financialization may also have a cultural or even religious dimension, which may translate into its geographical scope. The issue of the regional approach to financialization has so far remained almost unnoticed in the subject literature, although there are voices highlighting the benefits of creating regional financial structures (Klagge and Martin 2005; Block 2014). The degree of financing of individual regions may differ from each other, and its analysis may form the basis for making strategic decisions regarding the further development of these regions.

The aim of the work was to analyze the possibilities of measuring the phenomenon of financialization on a regional basis. For the purposes of this work, a research hypothesis was put forward that *there is a diversification of the degree of financialization in various regions of the country*. The article attempts to move with the measurement of financialization from the level of countries to the level of regions. In the first part of the work, based on the available literature, the financialization measures used in various types of researches were reviewed, and then a set of measures was proposed that can be used to measure the financialization in the region. Using the proposed measures, the regionalization index was built. The research proposal was verified empirically, using data from 2005–2015 for 16 Polish voivodeships. The results obtained allowed for the ranking of individual regions of the country in terms of the degree of intensity of financialization.

## 2 Definitions and measures of financialization - literature review

Depending on how the definition of financialization is specified, different ways of measuring it are adopted (Wiśniewski 2014). Individual scientists attributed financialization to a narrow or wide range. In a narrow sense, financialization is related to the development of the financial sector, and in the intermediate and broad sense - it goes beyond the economy to other areas of

human activity. Generally, it was advocated for its broader meaning, and the multifaceted nature and complexity of this phenomenon necessitates the use of many of its measures (Fierla and Grygiel-Tomaszewska 2017).

Turbeville (2014) defines financialization as a process during which the scale and significance of financial instruments and financial transactions in relation to the whole economy grows. In this approach, financialization is measured by the indicator of the unit cost of brokerage services in capital turnover or, as it was done in the works of Kedrosky and Stangler (2011), the indicator defining the size of financialization is the size of the financial sector as a percentage of GDP. Financialization is similarly understood by Assa (2012) and Stockhammer (2012) - as the growing role of financial indicators: premises, markets, entities and institutions in the functioning of domestic and international economies and as a model of economic accumulation, in which profits are created using financial instruments rather than production and trade. Stockhammer (2004) also draws attention to the growing activity of non-financial institutions on financial markets. As per Assa, financialization is measured as the ratio of the added value created by the financial sector in the economy to the total value added of the economy and the ratio of persons employed in the financial sector to the total employed in the economy, while in Stockhammer's works, there is still a reference to such measures as: investments in relation to operating surpluses, household debt in relation to GDP, income stratification, volatility of the current account balance against GDP, financial leverage of various sectors of the economy. Krippner (2005) refers to the notion of accumulation as well and in her approach financialization it is understood as a pattern of accumulation, in which profits accrue primarily through financial channels rather than through trade and commodity production. With this understanding of financialization, it is measured using portfolio income of non-financial firms and profits of financial versus non-financial firms. In later studies, Krippner (2011) extended the measures of financialization by one more indicator: the ratio of net purchases of financial assets to purchases of intangible assets by financial enterprises.

Batt and Applebaum (2013) referred to the Krippner proposal. In their work, financialization is defined as a transition from managerial capitalism, in which the role of manufacturing enterprises consists mainly in generating profits and creating profitability from investments to financial capitalism, in which the activities of enterprises are part of financial strategies. According to

these authors, potential measures of finalization should be related to aspects of control of non-financial enterprises by financial institutions (through investments of financial enterprises) and capital mobility.

Freeman (2010) measures financialization as the ratio of financial-sector profits to the wages and salaries of all private-sector workers and the ratio of financial assets divided by GDP. Macroeconomic weight of financial profits in the economy as a measure of financialization was suggested by Crotty (2003, 2007). Power *et al.* (2003) and Epstein and Jadayev (2005) also refers to the subject of financialization in their research, in which the authors focus on the definition of the rentier share of income.

On the other hand, Leiva and Malinowitz (2007) attempted to create a measure of financialization that would take into account the specificity of the economy in Chile. In the calculations performed, the methods of measurement of financialization described above were largely included and, as a result, the following set of indicators was used: investments in linked firms plus investment in other firms to total assets, results of operation to results outside of operation, financial income to year-end profits, financial income plus profits from investment in other societies to year-end profits, financial income plus dividends and other distributions received to net flow originated by activities of the operation. Kim (2013) defines financialization as a process in which financial markets, institutions and elites gain ever greater influence on economic policy and economic results. Although, the understanding of the term financialization is similar to the previous one, it is measured differently: the ratio of household debt to GDP. Other measures of the phenomenon of financialization encountered in the literature are: declining share of income from paid employment in general income of economies (Dünhaupt 2013), price inflation of exchange commodities (Gibbon 2013).

The definitions of financialization presented here combine a common denominator, the precedence of the financial sphere with respect to the real sphere in the economy (Gemzik-Salwach and Opolski 2016; Michell and Toporowski 2014). The financial sphere becomes more important, generates more and more income and determines the decisions of non-financial entities (Owsiak 2012). The following phenomena, that distinguishes financialization are:

- rapid expansion of financial markets
- deregulation of economies, in particular of financial systems

- a growing number of new financial instruments and financial institutions
- making decisions in the field of socio-economic policy conducive to the development of financial markets
- increase in consumption supported by a loan
- the widespread and growing presence of financial markets in economic and social life
- development of a specific financial culture (Marszałek 2012).

It is also worth noting that the phenomenon of financialization has often a clear ideological context and is perceived and assessed differently through the prism of individual economic trends. Generally speaking, people with liberal views are generally positive about financialization, supporters of a free market economy, while opponents are people who advocate state interventionism (Vercelli 2017). The base of considerations on the subject of financialization (although not usually referred to in this term) can be found in the works of such well-known authors as: Hilferding (1981), Hayek (1933) and Minsky (1986, 1992). Among the concepts of financialization, one can distinguish those that are part of the Marxist, post-Keynesian and heterodox economies and radical sociology (Lapavitsas 2011). Representatives of Marxist economics underline the contrast between stagnation and decline in production and the growing sphere of finance and talk about the monopoly of finance in the capitalist economy (Brenner 2002, 2006; Foster 2008; Harman 2009, 2010; Callinicos 2010; Isaacs 2011; Sweezy 2004). Keynesian economics focuses on the analysis of the harmful impact of finances, production volume and economic growth (Stockhammer 2004; Crotty and Epstein 2008; Orhangazi 2008; Crotty 2009; Evans 2009). Weak results of the real economy are usually explained by the excessive expansion of the financial sector. It is worth emphasizing that the Keynesian analysis of financialization does not come from Minsky, because in his works, there is little word about the long-term balance of finance and the entire economy (Minsky 1996; Minsky and Whalen 1996). Heterologous economics treats financialization as evidence of the weakness of neoclassical currents and the herald of the end of the capitalist economy. Orthodox supporters of neoclassical trends see in the finalization of the manifestation of natural changes taking place in the market economy, and its negative consequences according to them, are caused by unnecessary state interference (Kotz 2008; Ratajczak 2017).

Due to the large number of indicators used to measure the scale and intensity of financialization, published empirical analyzes regarding the impact of this phenomenon on the functioning of the economy are ambiguous (Gołębiowski and Szczepankowski 2015). None of the described definitions or the method of measurement refers to the problem of regional financialization, all of which shows and measures this phenomenon at the level of the country as a whole. Meanwhile, the results of analyses at the regional level may completely differ from the results at the country level. Research on the scale of financialization at the regional level can be useful in determining the dependencies between finances and other phenomena determining economic development, such as economic growth, unemployment, social inequalities, income distribution, and so on. As the literature on the subject shows (Arcand, Berkes and Panizza 2015, Cecchetti and Kharroubi 2012, Pagano and Pica 2012, Rioja and Valev 2004; Sahay *et al.* 2015), the increase in financialization is conducive to economic development, but only to a certain point. After exceeding a certain level of financialization, its negative effects become visible and, as a consequence, disadvantages resulting from financialization outweigh its advantages. For this reason, it is important to be able to determine the degree of development of financialization that applies to a given region or country. This is the first stage of research on the development of financialization in the regions. After its completion, you can combine financialization with other phenomena, such as social inequalities or unemployment, and on the basis of this knowledge shape regional policy.

The measures used to quantify the level of financialization of the country prove to be often useless in the regional dimension. Some of them, such as stock market capitalization or monetary aggregates, are not and cannot be calculated for regions. The measurement of financialization at the regional level requires a transition from the national to the regional level and the selection and application of a completely different set of measures. Such measures have already been used in the work of Gemzik-Salwach (2018), where attempts were made to show the relationship between economic growth and the development of the financial sector in individual voivodeships.

For the purposes of this analysis, financialization is understood, like by Assa (2012), as the growing influence of financial markets, financial actors and financial institutions on the economy. With this understanding

of financialization, two indicators were adopted for its measurement in the regional dimension:

- the ratio of the value added generated by the financial sector in a given province to the total value added of the voivodship
- the ratio of the number of people employed in the financial sector in a given province to the total number of employees in the voivodship.

These indicators were adapted from Assa's work (2012), which he used in research on determining the consequences of financialization for the entire economy. The ratio of the number of persons employed in the financial sector to the total employed in the economy was treated as the input variable in the economic process, and the ratio of the value added by the financial sector to the total value added of the economy – as the output variable. These indicators, due to their availability, are easy to adopt for regional measurement.

### 3 Data and methodology

Research on the assessment of the degree of financialization was carried out in all 16 provinces. According to the authors, the evaluation of this phenomenon at the regional level is not possible using only one indicator; therefore, an attempt was made to propose an index describing the degree of finalization of individual voivodeships. The index selection was not an easy matter for two reasons. First of all, a part of the commonly used financialization measures applied at the national level cannot be used for obvious reasons at a regional level (e.g., capitalization of the stock market or money aggregates). Secondly, for many indicators, data at the regional level are not available. Finally, it was decided to use two indicators – the approach described in Assa (2012):

- value added in financial sector as a percentage of total value added within the certain voivodeship
- employment in financial sector as a percentage of total employment in certain voivodeship.

Such approach enables to look at financialization from input and output sides of economic processes (as employment in financial industry is the labor input and value added measures are the economic output). Within index, these two dimensions of regional financialization are measured; both have the same impact for the overall

**Tab. 1:** Dimensions of regional financialization and indicators of the degree of development of the financial sector in the regions

Dimensions of regional financialization	Indicators of the degree of financialization	Symbol
Value added in financial sector in the region	$\frac{\text{value added in financial sector in the region}}{\text{total value added in the region}}$	A
The labor market created by institutions from the financial sector in the region	$\frac{\text{number of employees in the financial sector in the region}}{\text{number of employees in the region}}$	B

Source: Own study.

value of index, which is equal to the sum of these two indicators. The selected set of indicators can be treated as a certain proposition and will certainly require further research in terms of their suitability to describe the degree of development of the financial sector at the regional level. In all cases, the amounts described above were referred to comparable data for other entities in the region. Measures used to construct the index are presented in Tab. 1.

Each indicator that is used to construct index is normalized between 0 and 1, procedure relates regional financialization indicators to min and max across all regions and years. So, the value of indicator for each year is equal to:

$$I_x = \frac{x - x_{min}}{x_{max} - x_{min}}$$

Index for certain year is equal to the sum of all indicators for the region.

$$Index = I_A + I_B$$

The data collected in the database 'Local Data Bank' was used to construct the described results. The Local Data Bank is Poland's largest database on the economy, society and the environment. These data were additionally supplemented with information provided by the Central Statistical Office in Poland. The analysis took into account data from the years 2005–2015.

## 4 Results

Tab. 2 presents the data on the share of value added generated in the financial sector to total value added in particular regions in 2005–2015. In this period, the share fluctuated from 7.2% (lubuskie and wielkopolskie voivodships in 2015) to 13.7% (in the Mazowieckie

voivodship in 2007). In all analyzed regions, the share of value added generated in the financial sector in relation to the total value added in 2015 was lower than in 2005, it is well illustrated by the downward trend in the average of this indicator, which fell from 10.0% in 2005 to 8.2% in 2015. The highest value of the indicator in all analyzed years was in the Mazowieckie voivodeship and it ranged from 12% to 13.7%. Relatively high values of this indicator for the Mazowieckie voivodship result from the fact that the headquarters of the majority of financial institutions are located in this region.

Tab. 3 presents data on the share of employment in the financial sector to the total employment in individual voivodships in 2005–2015. Analyzing the average value of this indicator in the period, it can be seen that its value was quite stable and was in the range of 3.8%–4.3%. However, individual indicators within voivodships differed quite significantly. In 2015, the lowest values of indicators were recorded in the following voivodeships: Podkarpackie 1.6% and Świętokrzyskie 1.7%; in three voivodships, this rate exceeded the level of 7%, these were the following voivodships: Mazowieckie, 7.5%, Opolskie 7.3%, and Wielkopolskie, 7.2%. Examining the ratio of this indicator between 2005 and 2015, only in two voivodships it increased: it was the Mazowieckie voivodship (increase from 6.6% to 7.5%) and Kujawsko-Pomorskie voivodeship (increase from 3.6% to 3.8%). In other regions, this indicator was down. This fact proves the increasing concentration of work places in the financial sector in the Mazowieckie Voivodship.

Tab. 4 presents data on the value of the financialization index in individual voivodeships in 2005–2015. In the whole of the analyzed period, the highest value of the financialization index was observed in the Mazowieckie voivodeship. Low financing rates for the entire analyzed period were characteristic for the following provinces: Lubuskie (0.15 in 2015), Podkarpackie (0.05 in 2015) and Świętokrzyskie (0.02 in 2015). Analyzing the trends of changes in the index in the years



Tab. 2: Value added in financial sector as a percentage of total value added in the region

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Dolnośląskie</b>	9	8.8	9.3	9.4	9	8.7	8.7	8	8.3	8.5	8
<b>Kujawsko-Pomorskie</b>	9.1	8.8	9	8.8	8.3	8.5	8.1	7.5	7.6	8	7.4
<b>Lubelskie</b>	11.9	11.9	12.2	11.6	10.8	10.7	10.4	10	9.9	10.2	9.5
<b>Lubuskie</b>	9	8.9	9	9	8.1	8.3	8.7	7.7	7.6	7.7	7.2
<b>Łódzkie</b>	9.5	9.4	9.5	9.5	8.7	9.3	9.5	8.8	8.6	9	8.5
<b>Małopolskie</b>	10.3	10.1	10.3	9.6	8.7	8.7	8.9	8.4	8.3	8.8	8.2
<b>Mazowieckie</b>	12.8	12.8	13.7	12.7	12.4	12.6	12.8	12	12.6	13.3	12
<b>Opolskie</b>	9.3	9.8	9.4	8.9	8.1	8.4	8.8	7.9	7.7	7.9	7.3
<b>Podkarpackie</b>	10.3	10.2	10.2	9.6	8.8	9	9	8.3	8	8.1	7.5
<b>Podlaskie</b>	10.6	10.5	10.1	10.1	9.2	9.7	10	8.8	8.9	9.2	8.5
<b>Pomorskie</b>	11.7	10.3	10.6	10	9	9.2	9.3	9	9.4	9.4	8.8
<b>Śląskie</b>	8.2	8.1	8.4	8.2	7.6	7.9	8.1	7.5	7.6	7.8	7.3
<b>Świętokrzyskie</b>	9.8	9.3	9.1	8.6	8.1	8.4	8.2	7.7	7.7	7.7	7.3
<b>Warmińsko-Mazurskie</b>	10	9.8	10	10	9.2	9.4	8.9	8.3	8.5	8.7	8.3
<b>Wielkopolskie</b>	8.6	8.7	8.9	8.5	7.4	7.9	8.1	7.5	7.5	7.8	7.2
<b>Zachodniopomorskie</b>	9.4	9.5	9.6	9.2	8.3	8.7	9.3	8.4	8.4	8.6	8.1
<b>Mean</b>	10.0	9.8	10.0	9.6	8.9	9.1	9.2	8.5	8.5	8.8	8.2

Source: Own study.

Tab. 3: Employment in the financial sector as a percentage of total employment in certain voivodeships

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Dolnośląskie</b>	4.3	4.4	4.3	5.0	4.5	4.4	4.3	4.2	4.2	4.1	4.1
<b>Kujawsko-Pomorskie</b>	3.6	3.7	3.7	3.7	3.6	3.8	3.7	3.8	4.0	3.9	3.8
<b>Lubelskie</b>	2.5	2.5	2.7	2.7	2.5	2.5	2.4	2.4	2.4	2.4	2.4
<b>Lubuskie</b>	3.4	3.3	3.3	3.4	3.4	3.1	3.1	3.0	2.9	2.9	2.9
<b>Łódzkie</b>	3.3	3.2	3.2	3.2	3.1	3.4	3.5	3.5	3.3	3.4	3.3
<b>Małopolskie</b>	3.0	3.1	3.1	3.0	3.2	2.9	2.9	3.0	3.0	3.1	3.0
<b>Mazowieckie</b>	6.6	6.7	7.2	7.2	6.9	7.1	7.4	7.4	7.4	7.5	7.5
<b>Opolskie</b>	9.3	9.8	9.4	8.9	8.1	8.4	8.8	7.9	7.7	7.9	7.3
<b>Podkarpackie</b>	2.4	2.3	2.2	2.2	2.2	1.8	1.8	1.7	1.7	1.7	1.6
<b>Podlaskie</b>	2.7	2.7	2.6	2.6	2.5	2.5	2.5	2.5	2.5	2.4	2.3
<b>Pomorskie</b>	5.0	5.2	5.2	4.7	4.6	4.7	5.6	5.4	5.2	4.9	4.7
<b>Śląskie</b>	3.8	3.8	3.6	3.7	3.9	3.8	3.8	3.8	3.8	3.7	3.6
<b>Świętokrzyskie</b>	2.1	2.1	2.1	2.2	2.0	1.9	1.9	1.8	1.8	1.8	1.7
<b>Warmińsko-Mazurskie</b>	3.3	3.3	3.0	3.5	3.2	3.0	3.0	3.0	2.9	2.8	2.7
<b>Wielkopolskie</b>	8.6	8.7	8.9	8.5	7.4	7.9	8.1	7.5	7.5	7.8	7.2
<b>Zachodniopomorskie</b>	4.1	4.2	4.2	4.0	3.9	3.7	3.8	3.5	3.6	3.5	3.4
<b>Mean</b>	4.2	4.3	4.3	4.3	4.1	4.1	4.2	4.0	4.0	4.0	3.8

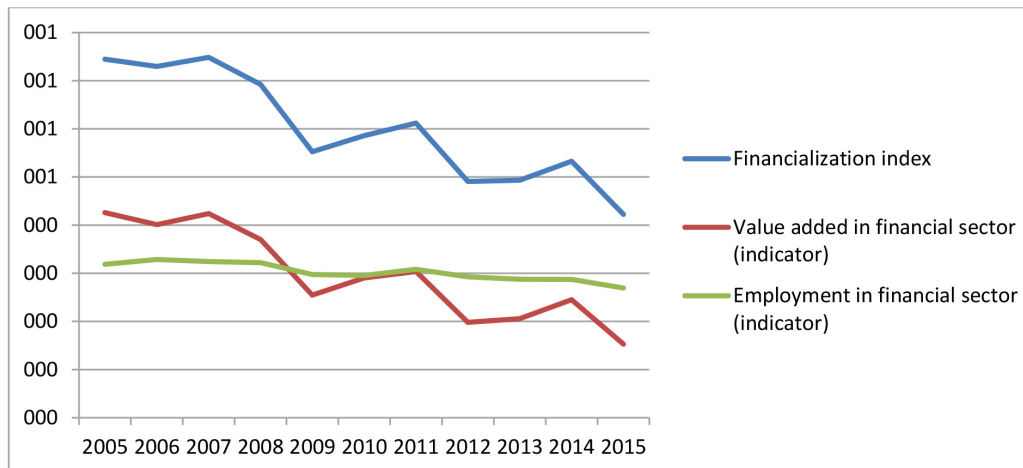
Source: Own study.

Tab. 4: Regional financialization index for individual voivodeships in 2009–2015

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
<b>Dolnośląskie</b>	0.60	0.59	0.65	0.76	0.63	0.57	0.56	0.43	0.48	0.51	0.42
<b>Kujawsko-Pomorskie</b>	0.53	0.49	0.53	0.49	0.41	0.47	0.39	0.31	0.35	0.40	0.29
<b>Lubelskie</b>	0.82	0.83	0.90	0.81	0.66	0.64	0.58	0.53	0.51	0.55	0.45
<b>Lubuskie</b>	0.50	0.47	0.49	0.50	0.36	0.35	0.41	0.24	0.22	0.23	0.15
<b>Łódzkie</b>	0.55	0.53	0.54	0.54	0.41	0.54	0.58	0.47	0.42	0.49	0.40
<b>Małopolskie</b>	0.64	0.63	0.65	0.53	0.42	0.38	0.41	0.35	0.33	0.42	0.32
<b>Mazowieckie</b>	1.47	1.49	1.68	1.52	1.44	1.50	1.57	1.45	1.53	1.65	1.46
<b>Opolskie</b>	1.26	1.40	1.29	1.15	0.93	1.01	1.12	0.87	0.82	0.87	0.71
<b>Podkarpackie</b>	0.57	0.55	0.53	0.44	0.31	0.29	0.29	0.18	0.14	0.15	0.05
<b>Podlaskie</b>	0.65	0.64	0.56	0.56	0.41	0.49	0.54	0.36	0.36	0.40	0.28
<b>Pomorskie</b>	1.11	0.92	0.95	0.81	0.64	0.68	0.80	0.74	0.77	0.74	0.62
<b>Śląskie</b>	0.42	0.40	0.43	0.40	0.34	0.37	0.40	0.31	0.33	0.35	0.26
<b>Świętokrzyskie</b>	0.46	0.38	0.35	0.28	0.18	0.22	0.18	0.10	0.10	0.10	0.02
<b>Warmińsko-Mazurskie</b>	0.63	0.60	0.60	0.65	0.50	0.50	0.43	0.33	0.35	0.38	0.29
<b>Wielkopolskie</b>	1.07	1.10	1.15	1.04	0.74	0.87	0.93	0.76	0.76	0.85	0.68
<b>Zachodniopomorskie</b>	0.63	0.67	0.68	0.60	0.45	0.49	0.59	0.41	0.42	0.44	0.35
<b>Mean</b>	0.74	0.73	0.75	0.69	0.55	0.59	0.61	0.49	0.49	0.53	0.42

Source: Own study.

Fig. 1: The average value of the financialization index and its components in 2005–2015



Source: Own study.

2005–2015, a systematic decline in the index can be seen in all regions except the Mazowieckie voivodship (index value for the Mazowieckie voivodship in 2005 was 1.47 and in 2015–1.46). Such a tendency may indicate the intensification of the processes of financial institutions' concentration in the Mazowieckie voivodship and simultaneous marginalization of other regions in the scope of this activity.

Fig. 1 shows the average value of the financialization index for all voivodeships as well as the average values of indicators included in the index. The average value of the financialization index fell from 0.74 in 2005 to 0.42 in 2015, which suggests a decline in the importance of the financial sector in the economic activity of most regions (the Mazowieckie voivodeship is an exception).



Analyzing the changes in the components of this index, it can be seen that the main reason for its decline is the reduction in the ratio describing the relationship between the value added in the financial sector and the total value added (down from 0.43 in 2005 to 0.15 in 2015). The second component of the index – employment in the financial sector to total employment in the audited period – was stable and its value changed slightly (down from 0.32 in 2005 to 0.27 in 2015).

## 5 Conclusion

In the article, a method for measuring the level of financialization at the regional level was presented. According to the authors, the complex nature of financialization requires the use of a number of indicators, which is why an attempt was made to create an example of an index measuring this phenomenon in specific regions. To calculate the index of financialization, it was decided to use two basic measures: the ratio of the value added generated by the financial sector in a given province to the total value added of the voivodship and the ratio of the number of people employed in the financial sector in a given province to the total number of employees in the voivodship. The method presented in the article may be a starting point for further discussions on the proper methods of measuring financialization at the regional level.

When analyzing the index value for particular regions, the following phenomena can be observed. Firstly: large and growing diversification of individual regions in the level of financialization (in 2005, the highest value of the index was 3.5 times the lowest value, in 2015, this relation increased to 73 times). The highest financialization index in the entire analyzed period was recorded in the Mazowieckie voivodship. It was the only region in which in the period 2005–2015, the index was not subject to a downward trend. During this period, it fluctuated in the range of 1.44–1.68. In all other regions, the financialization indexes systematically decreased; in many regions, the declines were very high (for example, from 0.57 to 0.05 in the Podkarpackie Voivodeship and from 0.46 to 0.02 in the Świętokrzyskie Voivodeship).

Secondly: the observed phenomena results from the growing processes of concentration of activities of financial institutions in the Mazowieckie voivodship. Most financial institutions operating on a national scale

(large banks, insurance companies) locate their headquarters in Warsaw, this also applies to the newly established financial institutions. Mergers and acquisitions in the financial sector often also result in the relocation of company headquarters to the Mazowieckie voivodship. In a natural way, these processes affect the development of the labor market for highly qualified employees, resulting in an influx of specialists to this region and difficulties in finding highly qualified employees in other areas. This process further strengthens the tendency to locate business in such a region.

Thirdly: analyzing the components of the financials index, one can notice that the main reason for the decline in the financialization index was the decline of indicator, which shows the ratio between value added in financial sector to total value added within the certain voivodeship (decrease in value from 0.43 in 2005 to 0.15 in 2015), the second component of the index decreased slightly in the analyzed period (down from 0.32 in 2005 to 0.27 in 2015). This may indicate that the financial services sector in Poland was developing slower in most regions than the industry and other types of services. The relatively low share of the services sector (including financial services) in the creation of added value compared to other EU countries is a specific feature of the Polish economy. The share of the services sector in creating value added in Poland in the years 2005–2015 was stable and remained at the level of around 64%. In 2012–2014, the share of services in generating gross value added in the majority of EU countries was higher than in Poland. Only three countries in EU had a lower rate, namely: Romania, the Czech Republic and Slovakia. The possibilities of creating a high share of value added in the financial sector in Poland are limited by its structural weaknesses, which mainly include a low value of financial system assets in relation to GDP. In 2015, for Poland, this ratio was 122.8%, for the EURO area the average ratio was 463.6% (NBP, 2017).

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