

# Ekonomiczne Problemy Usług nr 4/2018 (133/2)

(dawne Zeszyty Naukowe Uniwersytetu Szczecińskiego  
Ekonomiczne Problemy Usług)

## Finance in an Unstable Environment

### **Rada Naukowa/Scientific Board**

prof. dr Frank Fichert – Fachhochschule Worms  
prof. Anders Henten – Aalborg Universitet København  
prof. dr hab. Bernard F. Kubiak – Uniwersytet Gdański  
prof. dr hab. Stanisław Owsiak – Uniwersytet Ekonomiczny w Krakowie  
prof. Knud Erik Skouby – Aalborg Universitet København  
prof. dr Christian Wey – Heinrich-Heine-Universität Düsseldorf

### **Lista recenzentów/List of referees**

dostępna na stronie/is available on  
website: [www.wnus.edu.pl/epu](http://www.wnus.edu.pl/epu)

### **Redaktor naczelny/Editor-in-chief**

dr hab. Michał Pluciński prof. US

### **Redaktor naukowy/Scientific editor**

dr hab. Małgorzata Porada-Rochoń prof. US

### **Redaktor statystyczny/Statistical editor**

dr Kamila Bednarz-Okrzyńska

### **Sekretarz redakcji/Editorial secretary**

dr hab. Małgorzata Porada-Rochoń prof. US

### **Redakcja techniczna i skład komputerowy/**

#### **Technical editorial and text design**

Michał Dykas

### **Korekta wydawnicza/Proofreading**

Piotr Wahl

### **Projekt okładki/Cover design**

Katarzyna Pawlik

Wersja papierowa czasopisma jest wersją pierwotną/Paper version of the journal is an original version

Elektroniczna wersja czasopisma jest dostępna na stronie/Electronic version of articles is available at  
[www.wnus.edu.pl/epu](http://www.wnus.edu.pl/epu)

Artykuły są indeksowane w:/Articles are indexed in: BazEkon; [http://kangur.uek.krakow.pl/bazy\\_ae/bazekon/nowy/index.php](http://kangur.uek.krakow.pl/bazy_ae/bazekon/nowy/index.php) oraz w bazie indeksacyjnej Bazhum i Index Copernicus

© Uniwersytet Szczeciński 2018

**ISSN 1896-382X**

WYDAWNICTWO NAUKOWE UNIWERSYTETU SZCZECIŃSKIEGO

Wydanie I. Ark. wyd. 6,5. Ark. druk. 6,5. Format B5. Nakład 51 egz.

## Spis treści

### **Mirosław Wasilewski, Joanna Żurakowska-Sawa**

Conditions of Economic Efficiency in Industrial Enterprises  
in the Opinion of Managers 5–18

### **Przemysław Pluskota**

Financial Instruments in Regional Operational Programs in the Years 2014–2020 19–28

### **Maciej Pawłowski**

The Revival of the Securitization Market after the Global Financial Crisis:  
A Case of Europe 29–37

### **Marlena Ciechan-Kujawa, Michał Buszko, Karolina Taranowska**

Sensitivity Analysis in Business Risk Assessment in Practice of Polish Companies 39–50

### **Bartosz Pilecki, Andrzej Binka**

The Low-Carbon Transport Fund as a Source of Financing  
the Electromobility Development in Poland 51–60

### **Monika Różycka**

Women in Finance 61–70

### **Artur Bielan, Marcin Sobieraj**

Issues Related to the Flow of Receivables and Liabilities versus Code of Ethics  
in Business in Shared Service Centres Exemplified with a Case Study 71–83

### **Damian Łazarczyk**

The Book of Revenue and Costs – Evolution of the Simplified Form of Record 85–94

### **Agnieszka Paluch-Dybek**

The Structure of Income of Lubuskie Local Government Units 95–104



Mirosław Wasilewski

Warsaw University of Life Sciences  
e-mail: miroslaw\_wasilewski@sggw.pl

Joanna Żurakowska-Sawa

Pope John Paul II State School of Higher Education in Biała Podlaska  
e-mail: j.zurakowska-sawa@wp.pl

## Conditions of Economic Efficiency in Industrial Enterprises in the Opinion of Managers

**JEL codes:** G31, G32

**Keywords:** industrial enterprises, economic efficiency, factors of economic efficiency

**Abstract.** The study presents management's opinions on conditions and factors influencing economic efficiency in industrial enterprises. The analysis included production companies listed on the Warsaw Stock Exchange. More than half of the respondents indicated that market conditions determine tendencies and the level of economic efficiency in their enterprises. The internal conditions occurring in the company, related to management, organisation, technology and sales were less important in this respect. The diversity of respondents' opinions concerning the importance of particular factors in shaping the level of economic efficiency indicates that the management of a company in this respect is of a complex nature.

### Introduction

The concept of efficiency can be found in financial theory as well as in other fields, e.g. organisational and management sciences, technical sciences or praxeology. Literature studies show that, depending on the field, a wide range of possibilities for defining and interpreting efficiency can be found. It is most probable that there are as many proposals

for the interpretation of the term as there have been studies in which it has been used in various research contexts (Winkler, 2010, p. 103). The broad application of the term “efficiency”, both in scientific studies and in economic practice, is primarily due to the fact that each activity is related to certain results and inputs.

Economists in a narrow sense understand efficiency analogously to the definition of economics in praxeology (Pszczółowski, 1982, p. 179), as the ratio of achieved results to expenditures (Dąbrowski, 2012, p. 32; Melich, 1980, p. 17; Pasieczny, Więckowski, 1987, p. 14). On the other hand, in a broader sense, efficiency is understood as the difference between the achieved results and the expenditures incurred, similarly to the notion of “benefit”. (Pszczółowski, 1982, p. 179) and the relation between the achieved results and expenditures (Dąbrowski, 2012, p. 32; Ćwiąkała-Małys, Nowak, 2010, p. 79; Matwiejczuk, 2010, p. 29). In the economic literature, the term “efficiency” is generally not given as an independent term. Speaking of efficiency we think in the category of effectiveness of something, therefore it is related to a specific research object (e.g. subjective, macroeconomic) and various aspects of management processes, e.g. technological, economic, social, ecological. Economic efficiency, as indicated by Głodziński (2014, pp. 164–165), occurs when there is a cause and effect relationship between results and outlays, simultaneous quantitative and valuable measurability both in terms of results and outlays, the possibility of evaluating the effects achieved and the factors of production used on the basis of monetary units, presentation in relative (quotient formula) or absolute form (differential formula), with the use of results and outlays, the use of economic processes for the analysis and evaluation of activities and processes and the possibility of determining the economic impact of the results on the situation of the subject under study.

Economic efficiency can be described not only by different definitions or calculation methods, but also by the determinants that shape it. Identifying and knowing the key determinants of economic effectiveness contributes to a skilful, efficient and effective management of the company. Conducting business in conditions of constantly changing environment, as well as growing uncertainty and risk forces managers to look for ways to survive and develop in a competitive market, achieve success and translate it into an increase in their effectiveness (Górka, Źródło-Loda, Rogowska, 2016, p. 70).

According to Skorupka (1985, p. 511), the word “conditionality” considered in the context of development is, among other things, synonymous with the word “factor” or “condition”. In the encyclopaedic view (Petrozolin-Skowrońska, 1997, p. 664), a “condition” is a factor determining or enabling the occurrence of a specific event (phenomena, state of affairs, features, etc.), or increasing its probability (favourable condition), while in the dictionary approach (Skorupka et al., 1968, p. 101) “factor” is one of the causes of a given phenomenon, one of the components determining something, deciding about something. Therefore, conditionality can be understood as a circumstance that determines something.

Czechowski (1997, p. 37) pointed out that undertaking activities aimed at increasing effectiveness depends on the company:

1. Further environment, i.e. systemic and institutional conditions, first of all: forms of ownership of the enterprise, goals that the enterprise pursues, liberalisation / deregulation of the economy.
2. Closer environment, i.e. market conditions, first of all: the scope of internal and external competition, the degree of monopolisation of production, the level of inflation, development of the capital market.
3. Internal conditions created in the company.

It should be noted that while the environment is in most cases beyond the control of the enterprise, the managers of the enterprise already have a real impact on relations with the closer environment and shaping the internal potential of the enterprise.

Grzesiak (1997, pp. 162–163) listed the broadly understood conditions of the company's operation among the exogenous factors, i.e. those which have sources outside the surveyed company and influence its activity in the context of considerations on economic efficiency, i.e.

1. The technical solutions available and previously applied in the company, as well as organisational solutions, which cannot be changed due to premises existing outside the company.
2. The number of employees in the company, whose changes during the period considered are fundamentally impossible.
3. Legal and administrative instruments used by state and administrative authorities, which may directly or indirectly affect the economic conditions of the analysed enterprise.

Grzesiak pointed out that attention should also be paid to climatic and natural conditions, political and economic changes taking place in the company's environment, as well as the country's political requirements related to the functioning of companies, which they have to comply with during the analysed period.

According to Mitek and Miciuła (2012, pp. 55–56), the conditions for the development of enterprises, which have an impact on the economic condition, as well as competitiveness, can be divided into two groups:

1. external, or macroeconomic, which may include, among others, economic situation, inflation, demand, supply, legal regulations, economic growth dynamics, socio-cultural factors, engineering and technological development, tax system, financial system, currency stability.
2. internal, or microeconomic, which may include, among others, production profile, fixed assets, capital amount, product quality, sales profitability, cooperation relations, implementation of scientific and technical progress.

As Bień (1992, p. 79) states, the economic effectiveness of the company is fully reflected in its financial situation. With regard to Siemińska (2002, pp. 43–55), it is worth mentioning the internal and external factors that shape the financial situation of economic operators (table 1).

Table 1. Internal and external factors affecting the financial condition of enterprises

External factors	Internal factors	
	Quantitative factors	Quality factors
1. Macroenvironmental factors: – economic sphere, – political sphere, – social sphere, – demographic sphere, – international sphere, – natural sphere. 2. Microenvironmental factors: – intensity of competition, – impact of suppliers and customers, – risks from new competitors and producers, – risks from new substitutes	– value of fixed assets and the degree of their redemption, – value of current assets, – ability of the assets to generate profit, – the structure of assets and liabilities of the enterprise, – financial liquidity, – efficiency of working capital management, – value of revenues from sale	– quality of production, – position of the company on the market, specificity of the market, – organisational structure, – quality/competence of employees, – employees' attitudes towards work, – organisational culture, – links of the company with banks and financial markets, – possibility of financial support from local and state budgets, – quality of the information system, – influence of employee organisations on the management of the unit

Source: study based on Siemińska (2002), pp. 43–55.

External factors influencing the financial condition of the enterprise are macro- and micro-environmental conditions, which determine the effects of economic activity. On the other hand, internal factors reflect the potential of the enterprise in terms of quantity and quality.

Gumbau-Albert and Maudos (2002, p. 1942), according to Caves and Barton (1990) and Caves (1992) who pointed several studies have developed a strategy for identifying the determinants of efficiency, summarised the determinants of efficiency as follows:

1. Factors external to the firm, such as the degree of competition existing in the markets in which they operate.
2. Characteristics of the firm itself such as size, type of organisation, greater or lesser intensity of investment and the advantages of the location of the firm.
3. Dynamic disturbances or deviations from the firm's long term equilibrium situation. These disturbances may be a consequence of the evolution of the demand faced by the firm, or a consequence of the firm's production strategies such as the degree of technical innovation.
4. Public versus private ownership of the firm. The degree of public intervention in the management of firms can affect the degree of efficiency in the use of productive factors.

According to Chrzanowski (2011, pp. 364–365), an increase in the effectiveness of Polish enterprises in the conditions of competition on the European Union (EU) markets should ensure the actions of the state, such as aiming at eliminating the existing barriers and at the same time creating favourable institutional and legal conditions for conducting business activity, as well as creating conditions and mechanisms conducive to the introduction of technological innovations. Similar conclusions are put forward by Mitek and Miciuła (2012, p. 57), noting that the conditions for the functioning of enterprises depend on a proactive policy towards entrepreneurs pursued by the state authorities, manifested by appropriate legal regulations concerning the freedom to conduct business, determining the susceptibility to the opening of new and development of existing enterprises.

On the basis of the Global Competitiveness Report 2010-2011 (Sala-i-Martin, 2010, pp. 45–47; Rolbiecki, 2011, p. 100) it is stated that legal and institutional conditions, apart from the effectiveness of the labour market, financial market and technological environment are among the most important exogenous factors increasing the effectiveness of enterprise management.

In the literature, especially in the field of management, one can find statements that the effectiveness of the company is determined by a properly delineated strategy of action, which is adapted to the requirements of the environment, customers, as well as the possibilities of the company. Within the framework of building an enterprise's strategy, the objectives of functioning and development are defined, which is important for the measurement of effectiveness, as they determine the form of the measured effects (Dąbrowski, 2012, p. 33). As Kaplan and Norton (2001, p. 39) point out, it is important to identify the source of future growth of the company and the areas where a breakthrough can be made. It is therefore necessary to indicate precisely how and with what resources the company's strategy will be implemented, guided by an economic calculation to determine the economic viability of the measures taken. Therefore, it is required to take into account the actual state of resources, the degree of their use, as well as to identify investment opportunities (Barbachowska, 2014, p. 48). As Czechowski emphasises (1997, p. 45), the predominance of economic objectives in the company's activity leads to the search for effective ways of using the possessed production resources. A characteristic feature of economic objectives is their measurability, which manifests itself in the fact that each increase in the value of their implementation will bring specific benefits for the owners of the enterprise. The implementation of the superior objective of the company, i.e. the pursuit of long-term maximisation of value, is reflected in the pursuit of maximisation of the company's management effectiveness (Polaczek, 2008, p. 101). Maximising value for owners should directly contribute to the following objectives of the company: maximising profit, maximising the market value of the company or maximising economic profit. From the perspective of value creation for its owners, the objectives related to maintaining profitability, reducing costs or maintaining financial liquidity are also considered important (Duraj, Sajnog, 2011, p. 114).

Each company should identify and analyse the conditions that may be of key importance for the economic efficiency of its operations. As Lovell (1993, p. 7) indicates the identification of the factors that explain differences in efficiency is essential for improving the results of firms. Factors that are probably only a part of the issue of determinants, but are most often indicated in scientific studies, have been mentioned.

The aim of the study is to define management's opinions on conditions and factors influencing economic efficiency in industrial enterprises.

## 1. Testing Method

The issues discussed in the study are part of research on the economic efficiency of industrial enterprises, depending on the phase of their life cycle. In 2013, in order to identify the perception of the problems of economic efficiency of enterprises, an interview was conducted with the use of a questionnaire. The research facilities were industrial enterprises, represented by joint-stock companies from the macro-sector industry according to the classification of the Warsaw Stock Exchange (WSE), which published their annual financial statements (the financial year coincided with the calendar year) and were on the stock exchange from the date of the first quotation (IPO) throughout the analysed period, i.e. in the years 1999-2012<sup>1</sup>. In 1999-2012, the Warsaw Stock Exchange classified listed companies into sectors of the economy<sup>2</sup> depending on the subject of their business activity in accordance with the European Classification of Economic Activity (EKD) and the

---

<sup>1</sup> The selection of the time frame for the survey was based, on the one hand, on obtaining the longest possible series of data, and, on the other hand, on including as many entities as possible in the survey. Companies selected for the analysis were from the industrial sector according to the classification on the Warsaw Stock Exchange (WSE), published annually in financial statements (with the financial year coinciding with the calendar year) and were on the stock exchange from the date of the first quotation (IPO) throughout the analysed period. Taking 1998 as the starting year, as the year with the highest number of listed companies after their debut and covering the years 1998-2012, it turned out that the number of companies amounted to 15. A similar situation was in relation to 1999. Therefore, bearing in mind the criterion of the largest possible number of the surveyed entities, as well as similar macroeconomic conditions in which companies started their activity, it was assumed that the listed companies which had their debut both in 1997 and 1998 were included in the survey. The upper limit of the analysis horizon was completed in 2012, as taking into account subsequent financial periods, e.g. 2013 or 2014, would result in a decrease in the number of audited companies, due to exclusion from the Warsaw Stock Exchange, which would result in a decrease in the number of data included in the study. Due to the lack of data in the annual financial statements making it impossible to calculate selected financial ratios to research, 24 entities were finally audited.

<sup>2</sup> On 31 December, 2012, the Warsaw Stock Exchange operated a sectoral division in which it distinguished 28 sectors of the national economy, grouped in three main sectors (macro-sectors), i.e. industry, finance and services. Resolution No 187/2011 of the Warsaw Stock Exchange Management Board dated 11 February, 2011 amending Resolution No 183/98 of the Exchange Management Board dated 24 March, 1998 regarding the sectoral classification of listed companies for the calculation of indices and indices.

structure of revenues<sup>3</sup>. The selection of such research facilities results from the fact that the manufacturing sector cannot be neglected in economic policy, not only because of the functions it performs in the economy, but also because it is one of the most important links of technological progress, direct and indirect job creation, and is the basis for the development of the modern business services sector (Poniatowska-Jaksch, Sobiecki, 2015, p. 7).

Due to a relatively small set of companies meeting the criteria for selection for research, the object of the analysis was not a research sample, but the entire population of companies from the industrial sector according to the classification of the Warsaw Stock Exchange (table 2)<sup>4</sup>.

Table 2. Size of the surveyed population

Industrial sector	Number of companies
Electromechanical	5
Lightweight	3
Building Materials	2
Metal	7
Automotive	2
Food	4
Plastics	1
Total	24

Source: Own study.

The questionnaire was addressed to CEOs, CFOs and chief accountants of companies listed on the Warsaw Stock Exchange, from the industrial sector according to the classification used on the Warsaw Stock Exchange. Empirical material was obtained from 66.7% of the surveyed companies.

Responses of the interview participants were grouped according to two criteria that is the level of return on equity (ROE) and the life cycle phase of the company. The first criterion of grouping, i.e. the level of return on equity is a traditional efficiency indicator, widely used in economic practice. Within this criterion, management responses were further divided into three groups using the quartile method. The first group (marked as I) included companies with the size of the ratio smaller or equal to the first quartile – the lower quartile (25% of the surveyed population). ROE for this group ranged from –6.6% to 1.4%. The second group (marked as II) consisted of enterprises of sizes larger than the

---

<sup>3</sup> Resolution No 183/98 of the Exchange Management Board dated 24 March, 1998 regarding the sectoral classification of listed companies for the calculation of indices and indices (as amended), §1.

<sup>4</sup> Companies were classified in the industry sector according to the classification of the Warsaw Stock Exchange, published annually in financial statements (with the financial year coinciding with the calendar year), which were on the stock exchange from the date of the first quotation (IPO) throughout the analysed period of 1999-2012.

first quartile and smaller than the third quartile (50% of the surveyed population). ROE for this group ranged from 1.7% to 8.9%. The third group (marked as III) consisted of enterprises with the ratio greater than or equal to the third quartile – the upper quartile (25% of the surveyed population). ROE for this group assumed values ranging from 9.9% to 35.3%. The second criterion for the division of companies was that they belonged to one of the five phases of the company's life cycle. The first group included companies in the introduction phase, the second in the growth phase, the third in the mature phase, the fourth in the shake-out phase, and the fifth in the bankruptcy phase. To capture the life cycle phase of the company, the Dickinson model [2011, pp. 1969–1994] was used, based on a combination of cash flow balances at the end of the financial year from three activities, i.e. operating, financial and investment.

When answering questions, respondents were given the opportunity to indicate only one or at least one answer. In describing the results of the research, the percentage (%) was used, which should be understood as a “percentage of indications” for more than one answer, while in the case of the possibility to choose only one answer, as a percentage of answers. In addition, some answers were coded (indications were assigned numerical values), and the tables presented the arithmetic averages of the assessments. The arithmetic averages of assessments presented in the tables were the effect of assigning numerical symbols (sizes) to answers to particular questions.

## 2. Research results

Achieving and maintaining a competitive advantage on the market forces companies to have a financial system ensuring the highest possible level of efficiency (cost savings through optimised processes) and appropriate financial and management information (quick decision making) (Zwolińska, 2011, p. 8). Table 3 contains indications concerning the conditions on which changes in the economic efficiency of enterprises depend. The largest number of representatives of companies indicated a large impact of market conditions on the variability in the level of economic efficiency of enterprises (56.3% on average), and the smallest on political and legal conditions (6.3% on average). In companies with an average ROE, it was found that changes in economic efficiency are mainly determined by market conditions (62.5%), while political and legal conditions are the least important (12.5%). Representatives of companies with the lowest and highest return on equity stated that both market and internal conditions imply changes in the economic efficiency of enterprises (50% each), while no indications concerning political and legal conditions were noted.

In enterprises in the growth phase, it was answered that only political, legal and market conditions (25% and 75%, respectively) determine changes in the economic efficiency of enterprises. Managers from companies in the phase of introduction, mature, shake-out and bankruptcy believed that both market conditions and internal conditions determine changes in economic efficiency of enterprises (50% of indications each). On the other

hand, they decided that political and legal conditions do not determine changes in financial effectiveness.

It should be recognised that the respondents are aware of the importance of shaping the effectiveness not only of the internal conditions existing in the enterprise, but also of the closer environment in which enterprises operate. External conditions are related to processes and phenomena occurring in the company’s environment and are often not influenced by the manager, while internal conditions, which are related to processes created within the company, are influenced by the company.

Table 3. Conditions shaping changes in economic efficiency of enterprises (%)

Specification	Criteria for grouping								X
	ROE			Life cycle phase					
	I	II	III	W	WZ	D	WS	U	
Political and legal conditions (government policy, tax system, etc.)	0.0	12.5	0.0	0.0	25.0	0.0	0.0	0.0	6.3
Market conditions (market position, changes in the nature and intensity of competition, economic and sales situation in the industry, etc.)	50.0	62.5	50.0	50.0	75.0	50.0	50.0	50.0	56.3
Internal conditions created in the company (related to management, organisation, technology, sales, etc.)	50.0	25.0	50.0	50.0	0.0	50.0	50.0	50.0	37.5

I – first quartile (interval from –6.6% to 1.4%), II – second quartile (interval from 1.7% to 8.9%), III – third quartile (interval from 9.9% to 35.3%).

W – introduction phase, WZ – growth phase, D – mature phase, WS – shake-out phase, U – decline phase.

Source: own elaboration.

The importance of particular factors determining the increase of economic efficiency of the enterprise in the opinion of respondents is presented in Table 4. Representatives of all enterprises indicated the knowledge and qualifications of employees (2.3), capital resources (2.3) and stable economic conditions (2.1) as the key determinants increasing the level of economic efficiency.

As the ROE increased, the importance of the company’s brand as a factor increasing the level of economic efficiency (from 1.8 to 2.0) was noted in the opinions of the company’s representatives. In the companies with the lowest and average return on equity, the greatest importance was attached to the knowledge and qualifications of employees and capital resources (2.3 and 2.5, respectively), whereas in the companies with the highest level, stable economic conditions, the company’s brand, loyalty and employees’ knowledge and qualifications were indicated (2.0). According to the representatives of companies with an average ROE, access to credit (2.1), capital resources (2.5), financial investment opportunities (2.4), market share (1.9) and the knowledge and qualifications of employees (2.5) were of the greatest importance in increasing the level of economic

efficiency of enterprises, while the lowest importance of these factors was recorded in companies with the highest return on equity.

Along with the transition of companies to the next phases of life on the market, the importance of the factor concerning market share in increasing the economic efficiency of enterprises (from 2.5 to 1.8) has declined. Stable economic conditions (3.0), knowledge and qualifications of employees (3.0) and capital resources (3.0) were the main factors increasing the economic efficiency of enterprises indicated by representatives of companies in the phase of introduction, while the lowest importance of these factors was noted in the opinions of managers from companies that were in the phase of bankruptcy.

Table 4. Factors determining the increase in the economic efficiency of the enterprise (0 – irrelevant, 1 – small, 3 – large)

Specification	Criteria for grouping								$\bar{X}$
	ROE			Life cycle phase					
	I	II	III	W	WZ	D	WS	U	
Stable economic conditions	1.8	2.4	2.0	3.0	2.5	1.5	2.5	1.0	2.1
Brand of the enterprise	1.8	1.9	2.0	2.0	1.8	1.8	2.3	1.5	1.9
Customer loyalty	2.0	1.9	2.0	2.0	1.8	2.0	2.0	2.0	1.9
Knowledge and qualifications of employees	2.3	2.5	2.0	3.0	2.8	2.0	2.5	1.0	2.3
Market share	1.8	1.9	1.75	2.5	2.0	1.8	1.8	1.0	1.8
Financial investment opportunities	1.8	2.4	1.50	2.5	2.8	1.5	2.0	1.0	2.0
Capital resources (financial assets and tangible assets)	2.3	2.5	1.75	3.0	2.8	2.0	2.3	1.0	2.3
Access to credit	1.8	2.1	1.25	2.5	2.5	1.3	1.8	1.0	1.8

I – first quartile (interval from –6.6% to 1.4%), II – second quartile (interval from 1.7% to 8.9%), III – third quartile (interval from 9.9% to 35.3%).

W – introduction phase, WZ – growth phase, D – mature phase, W–shake-out phase, U – decline phase.

Source: own elaboration.

The variety of opinions of respondents concerning the importance of particular factors influencing the increase in the level of economic efficiency indicates that determinants in this respect are of a complex nature. The key determinants were mainly human and financial resources and market conditions.

The instability of economic conditions, with the score of 2.4, according to the managers of enterprises is a determinant, which first of all determines the reduction of economic efficiency of the enterprise (table 5). Insufficient control of operating costs (2.8), lack of capital resources (2.0) and low investment outlays (2.3) as the main factors reducing the level of economic efficiency of enterprises were indicated by representatives of companies with the lowest ROE, while the lowest importance of these factors was recorded in opinions from companies with average return on equity. Both companies with average and

highest ROE size, the most important factor in reducing the level of economic efficiency of enterprises was the instability of economic conditions (2.5 and 2.3, respectively), while in those with the highest return on equity, insufficient control of operating costs was also indicated (2.3).

Table 5. Factors determining the reduction of economic efficiency of the enterprise (0 – not significant, 1 – small, 3 – large)

Specification	Criteria for grouping								$\bar{X}$
	ROE			Life cycle phase					
	I	II	III	W	WZ	D	WS	U	
Instability of economic conditions	2.3	2.5	2.3	3.0	2.8	2.0	2.5	1.5	2.4
Inconsistency of legal provisions	2.0	2.1	2.0	2.5	2.8	1.8	1.8	1.5	2.1
Poor employment policies (maladjustment to market needs)	2.3	2.0	2.0	2.0	2.3	2.0	2.0	2.0	2.1
Insufficient control of operating costs (artificial cost generation)	2.8	1.9	2.3	2.5	1.8	2.5	2.0	2.5	2.2
Poor structure of business financing	1.5	1.5	1.3	2.0	1.8	1.3	1.5	0.5	1.4
Difficulties in obtaining financial resources	1.8	1.3	1.3	1.5	1.3	1.8	1.3	1.0	1.4
No capital resources	2.0	1.3	1.8	1.5	1.3	2.0	1.8	2.0	1.7
Low capital expenditure	2.3	1.3	2.0	2.0	1.3	2.0	1.8	1.5	1.7

I – first quartile (interval from -6.6% to 1.4%) II – second quartile (interval from 1.7% to 8.9%), III – third quartile (interval from 9.9% to 35.3%).

W – introduction phase, WZ – growth phase, D – mature phase, WS – shake-out phase, U – decline phase.

Source: own elaboration.

From phase to phase of a company’s life cycle, it can be seen that the factor “regulatory inconsistency” has decreased in the management’s opinions, with the representatives of companies in the mature phase and the shake-out having given the same importance to this factor (rating 1.8). The instability of economic conditions (3) and the poor structure of business financing (2), as the main factors reducing the economic efficiency of enterprises, were indicated by representatives of companies in the phase of introduction, while their lowest importance was recorded in management opinions of companies in the phase of bankruptcy (1.5 and 0.5, respectively).

Managers’ opinions indicate that many factors determine the decrease in the company’s economic efficiency, with market conditions, human resources and cost factors playing a decisive role.

## Conclusions

The study presents management's opinions on the conditions of economic efficiency in industrial enterprises. On the basis of the conducted research the following conclusions were formulated:

1. The managers of industrial enterprises indicated that the changes in the level of economic efficiency are primarily market conditions. In the current realities of the global economy, companies operating under high market pressure should be able not only to accurately assess the internal situation of the company, but also to anticipate changes in the environment. It also forces the managers to be flexible, able to adapt to the realities of the environment, or structural changes in the company. It is necessary for further development and thus the possibility of effective functioning of the company.
2. Representatives of enterprises indicated the knowledge and qualifications of employees and capital resources as key determinants increasing the level of economic efficiency. These are resources which are components of the competitive potential of enterprises, to the growth of which efficiency, among other things, contributes. This relationship can be two-way – increasing economic efficiency enables the company to shape its competitiveness potential to a greater extent. However, in order to increase the level of economic efficiency, a company must have an adequate competitiveness potential, i.e. resources. Emphasising the importance of human and capital resources in shaping economic efficiency by managers of enterprises may also indicate a resourceful approach in building strategies, which highlights their importance as the basis for the efficiency and competitiveness of each organisation.
3. The fragility of the economic conditions that business managers have identified as the main determinant of inefficiencies should be seen in the context of the nature of these changes. If these changes are systemic and chaotic, they will disrupt both the day-to-day operations of the company and introduce uncertainty to the results of operations. A changing environment requires a greater effort on the part of business managers and, therefore, significant changes are reluctantly perceived by business managers.

## References

- Barbachowska, B. (2014). *Metodologiczne aspekty pomiaru efektywności przedsiębiorstw*. Łódź: Wydawnictwo Uniwersytetu Łódzkiego.
- Bień, W. (1992). *Zarządzanie finansami przedsiębiorstwa*. Warsaw: Stowarzyszenie Księgowych w Polsce.
- Caves, R. (1992). Determinants of Technical Efficiency in Australia. In: R. Caves (ed.), *Industrial Efficiency in Six Nations*, pp. 241–272. Cambridge: MIT Press.

- Caves, R., Barton, D. (1990). *Efficiency in US: Manufacturing Industries*. Cambridge: MIT Press.
- Chrzanowski, M. (2011). Czynniki makroekonomiczne w procesie kształtowania wartości przedsiębiorstwa. *Zeszyty Naukowe Uniwersytetu Szczecińskiego. Finanse, Rynki Finansowe, Ubezpieczenia*, 46, pp. 359–367.
- Czechowski, L. (1997). *Wielowymiarowa ocena efektywności ekonomicznej przedsiębiorstwa przemysłowego*. Gdańsk: Wydawnictwo Uniwersytetu Gdańskiego.
- Ćwiąkała-Małys, A., Nowak, W. (2010). *Wybrane metody pomiaru efektywności podmiotu gospodarczego*. Wrocław: Wydawnictwo Uniwersytetu Wrocławskiego.
- Dąbrowski, J. (2012). *Metodyczne aspekty pomiaru efektywności przedsiębiorstw portowych*. Gdańsk: Wydawnictwo Uniwersytetu Gdańskiego.
- Dickinson, V. (2011). Cash Flow Patterns as a Proxy for Firm Life Cycle, *The Accounting Review*, 6 (86), pp. 1969–1994.
- Duraj, J., Sajnog, A. (2011). *Rentowność kapitału własnego giełdowych spółek przemysłowych*. Łódź: Wydawnictwo Uniwersytetu Łódzkiego.
- Gabusiewicz, W. (1992). *Rozwój przedsiębiorstw przemysłowych i jego ocena w gospodarce rynkowej*. Poznań: Akademia Ekonomiczna w Poznaniu.
- Głodziński, E. (2014). Efektywność ekonomiczna-dylematy definiowania. *Zeszyty Naukowe Politechniki Śląskiej, Seria Organizacja i Zarządzanie*, Z. 73, pp. 155–167.
- Górka, M., Źródło-Loda, M., Rogowska, A. (2016). Wybrane zagadnienia na temat efektywności przedsiębiorstw pp. 67–82.
- Grzesiak, S. (1997). *Metody ilościowe w badaniu efektywności ekonomicznej przedsiębiorstw*. Szczecin: Wydawnictwo Uniwersytetu Szczecińskiego.
- Gumbau-Albert, M., Maudos, J. (2002). The determinants of efficiency: the case of the Spanish industry. *Applied Economics*, 34, pp. 1941–1948.
- Kaplan, R.S., Norton, D.P. (2001). *Strategiczna karta wyników. Jak przełożyć strategię na działanie*. Warszawa: Wydawnictwo Naukowe PWN.
- Lovell, C.A.K. (1993). Production frontiers and productive efficiency. In: H.O. Fried, C.A.K. Lovell and S.S. Schmidt (eds.), *The Measurement of Productive Efficiency: Techniques and Applications* (pp. 3–67). Oxford: Oxford University Press.
- Matwiejczuk, R. (2010). Efektywność – próba interpretacji. *Przegląd Organizacji*, 11, pp. 27–31.
- Melich, A. (1980). *Efektywność gospodarowania. Istota-metody-warunki*. Warszawa: Polskie Wydawnictwo Ekonomiczne.
- Mitek, A., Miciuła, I. (2012). Współczesne determinanty rozwoju przedsiębiorstw prywatnych. *Zeszyty Naukowe Uniwersytetu Szczecińskiego. Studia i Prace Wydziału Nauk Ekonomicznych i Zarządzania*, 28, pp. 53–66.
- Pasieczny, L., Więckowski, J. (1987). *Ekonomika i analiza działalności przedsiębiorstwa*. Warszawa: Polskie Wydawnictwo Ekonomiczne.
- Petrozolin-Skowrońska, B. (ed.) (1997). *Nowa Encyklopedia Powszechna PWN. Volume 6. S–Z*. Warszawa: Wydawnictwo Naukowe PWN.
- Polaczek, R. (2008). *Efektywność gospodarowania w procesie tworzenia wartości przedsiębiorstwa – na podstawie Kompanii Piwowskiej*. *Zeszyty Naukowe Uniwersytetu Szczecińskiego. Studia i Prace Wydziału Nauk Ekonomicznych i Zarządzania*, 6, pp. 101–114.

- Poniatowska-Jaksch, M., Sobiecki, R. (2015). *Przedsiębiorstwo przemysłowe w Polsce*. Warszawa: Oficyna Wydawnicza Szkoła Główna Handlowa w Warszawie.
- Pszczółowski, T. (1982). *Dylematy sprawnego działania*. Warsaw: Wiedza Powszechna.
- Rolbiecki, R. (2011). Wpływ otoczenia prawno-instytucjonalnego na warunki rozwoju przedsiębiorstw transportowych w Polsce. *Zeszyty Naukowe Wydziału Ekonomicznego Uniwersytetu Gdańskiego. Ekonomika Transportu Lądowego*, 41, pp. 7–20.
- Sala-i-Martin, X. (2010). The Global Competitiveness Index 2010-2011: Looking Beyond the Global Economic Crisis. In: K. Schwab (ed.), *The Global Competitiveness Report 2010-2011*. Geneva: World Economic Forum.
- Siemińska, E. (2002). *Metody pomiaru i oceny kondycji finansowej przedsiębiorstwa*. Toruń: TNOiK Dom Organizatora.
- Skorupka, S. (1985). *Słownik frazeologiczny języka polskiego. R/Ż*. Warsaw: Wiedza Powszechna.
- Skorupka, S., Auderska, H., Łempicka, Z. (ed.) (1968). *Mały Słownik Języka Polskiego*. Warsaw: PWN.
- Winkler, R. (2010). Efektywność – próba konceptualizacji pojęcia. *Zeszyty Naukowe Uniwersytetu Ekonomicznego w Krakowie*, 820, pp. 103–115.
- Zwolińska, J. (2011). W jaki sposób prawidłowo budować system finansowy. *Dziennik Gazeta Prawna*, 3 March.

## UWARUNKOWANIA EFEKTYWNOŚCI EKONOMICZNEJ W PRZEDSIĘBIORSTWACH PRZEMYSŁOWYCH W OPINIACH ZARZĄDZAJĄCYCH

**Słowa kluczowe:** przedsiębiorstwa przemysłowe, efektywność ekonomiczna, czynniki efektywności ekonomicznej.

**Abstrakt.** W opracowaniu przedstawiono opinie zarządzających, dotyczące uwarunkowań i czynników kształtujących efektywność ekonomiczną w przedsiębiorstwach przemysłowych. Analizie poddano spółki produkcyjne, notowane na Giełdzie Papierów Wartościowych w Warszawie. Ponad połowa respondentów wskazała, że warunki rynkowe determinują przede wszystkim tendencje i poziom efektywności ekonomicznej w ich przedsiębiorstwach. Mniejsze znaczenie w tym zakresie miały warunki wewnętrzne, występujące w przedsiębiorstwie, związane m.in. z zarządzaniem, organizacją, technologią i sprzedażą. Różnorodność opinii respondentów, dotyczących znaczenia poszczególnych czynników w kształtowaniu poziomu efektywności ekonomicznej wskazuje, że zarządzanie przedsiębiorstwem w tym zakresie ma charakter złożony.

### Citation

Wasilewski, M., Żurakowska-Sawa, J. (2018). Conditions of Economic Efficiency in Industrial Enterprises in the Opinion of Managers. *Ekonomiczne Problemy Usług*, 4 (133/2), 5–18. DOI: 10.18276/epu.2018.133/2-01.

Przemysław Pluskota

University of Szczecin  
Faculty of Management and Economics of Services  
e-mail: przemyslaw.pluskota@wzieu.pl

## Financial Instruments in Regional Operational Programs in the Years 2014–2020

**JEL codes:** G20, G30, G32

**Keywords:** finance, financial instrument, region

**Abstract.** To ensure conditions for economic growth, prosperity and social integration in the European Union there are financial repayable instruments (JEREMIE Initiative). Despite the need to give money, this form is evaluated favorably, and thanks to revolving generates more benefits, because the money once transferred returns, multiplying the value of support and the number of beneficiaries.

Considering the functioning of the JEREMIE Initiative from the point of view of financial intermediaries and the role they play in the financial market, one may be tempted to say that by eliminating inequalities on the market, they are able to effectively distribute financial resources.

### Introduction

One of the objectives of cohesion policy is to ensure conditions for economic growth, prosperity and social integration in the European Union. As a result of this policy, differences in economic development should be reduced. Feedback support is an increasingly popular form of implementation of these goals in place of popular subsidies in the past. Despite the need to give money, this form is evaluated favorably, and thanks to revolving generates more benefits, because the money once transferred returns, multiplying the value of support and the number of beneficiaries. An example of this type of funding from European Union funds in the 2007–2013 programming period were financial engineering

instruments (IIF), which are a way of using structural funds to implement cohesion policy, contributing to long-term and sustainable economic growth in individual regions and the entire Union. In the 2014–2020 programming period, the feedback support financing development is identified with financial instruments (IF).

The aim of the study is to show the essence, scope of financial instruments used and the role in their implementation of Bank Gospodarstwa Krajowego and to propose an innovative approach in this area. For its implementation, the analysis and deduction method were used, using data made available by Bank Gospodarstwa Krajowego in this process.

## 1. Financial instruments – theoretical aspects

The process of extending the European Union to new countries in 2004, the weakness of the existing financial infrastructure and limited access to small and medium-sized enterprises for external financing have changed the approach to the involvement of structural funds. Building on the experience of the European Investment Fund (EIF) in the implementation at European level of financial engineering instruments, JEREMIE (Joint European Resources for Micro-to-Medium Enterprises) initiative was created.

The Initiative was established in order to fill the financial gap relating to financial assistance instruments for small and medium enterprises as well as increase demand for capital including risk capital for enterprises, especially the smallest ones which perform their activity regionally (Hübner, 2005). The concept behind the Jeremie Initiative was presented for the first time in October 2005 in the context of the EU funds for 2007 to 2013. The originators had an idea of establishing a tool for developing enterprises by means of expanding their access to the outside sources of finance. In May 2006 the memorandum on cooperation relating to the development of the Initiative between the European Commission and the European Investment Fund was signed. The first financial contract with the governing institution, however, was initiated in 2007. The next stage of implementation (from 2007 onwards) was a competition arranged by all the regions (countries) for appointing Holding Fund Manager who was to be responsible for the initiation, functioning and squaring accounts of the project as well as signing agreements with the financial intermediaries. The third stage (from 2008 onwards) was the actual implementation stage of the project which included initiation of the financial engineering instruments and a cooperation platform for exchanging information, experience and opinions on the implementation and operation of the Initiative which, by the way, can be implemented in two possible ways. The first way is on the national level, the second is regional. At the moment the two strategies are being implemented in Poland. In the final analysis, the EIF had a minority role in managing trust funds, but the way the institution acted had a significant impact on the effects of the whole (Tamowicz, Lepczyński, Liszewska, 2013, p. 30).

Financial instruments under regional operational programs are an example of how commercial solutions popular in financial markets can be implemented at the level of

public intervention. The use of market means of capital management at the level of public intervention has already taken place in the first half of the 1990s. However, these were isolated cases, taking the form of loan, guarantee or risk capital funds (Evaluation..., 1998). In the following years, this process accelerated in the form of various financial instruments. Their task is to support cohesion policy with the simultaneous implementation of risk sharing and achieving objectives included in the development programs of member countries.

The reorientation of the European Commission from grant instruments, toward repayable instruments in the effective use and management of structural funds was related to the possibility of obtaining much better economic and social effects. The main reasons for IF implementation included in the Regulation of the EP (Regulation..., 2013) can be indicated (Financial Instruments..., 2013, p. 52; Mackiewicz, Przybyłowski, Rybkowski, Tamowicz, 2014, p. 28):

- assistance in implementing regional policy supporting the development of the SME sector, in particular enterprises in the early stage of development (start-up) (art. 44a), supporting urban development and urban regeneration (art. 44b), assistance in mitigating and reducing changes climate by increasing energy efficiency (art. 44c),
- imitating the financial gap by increasing entrepreneurs' access to financing, also through better interest rates or greater availability of risk capital,
- more effective use of public funds in comparison with grants (subsidies), due to the revolving nature and the involvement of public funds, thanks to which the size and scope of support is multiplied,
- the ability to involve the capital of other financial institutions, resulting in a leverage effect,
- other technical aspects that allow greater absorption of EU funds, also increasing the level of their certification.

The launch of the implementation of the feedback support was preceded by the analysis of the region's needs in terms of financing enterprises and the effective allocation of funds, including investment priorities. The analysis was to enable the proper implementation of financial instruments that could be implemented (Financial Instruments..., 2013, p. 39) by means of the Holding Fund (HF), or through direct involvement of the Managing Authority in the transfer of funds to financial intermediaries (fig. 1).

## 2. Implementation of financial instruments in the European Union

Repayable financial instruments in cohesion policy were applied before, however, a significant turnaround occurred in 2007–2013, when their total value in operational programs amounted to EUR 16.4 billion. The estimated amount allocated for repayable support in the years 1994–1999 was EUR 0.57 billion, and in the period 2000–2006 – EUR 1.2 billion. This support was dedicated exclusively to enterprises and implemented in several

member countries. It was not until 2007 that returnable financial instruments began to play a greater role. In the middle of this IF programming period, they were implemented by almost all member countries, and their scope apart from the development of enterprises included urban development and energy efficiency (Summary of data..., 2016, p. 7).

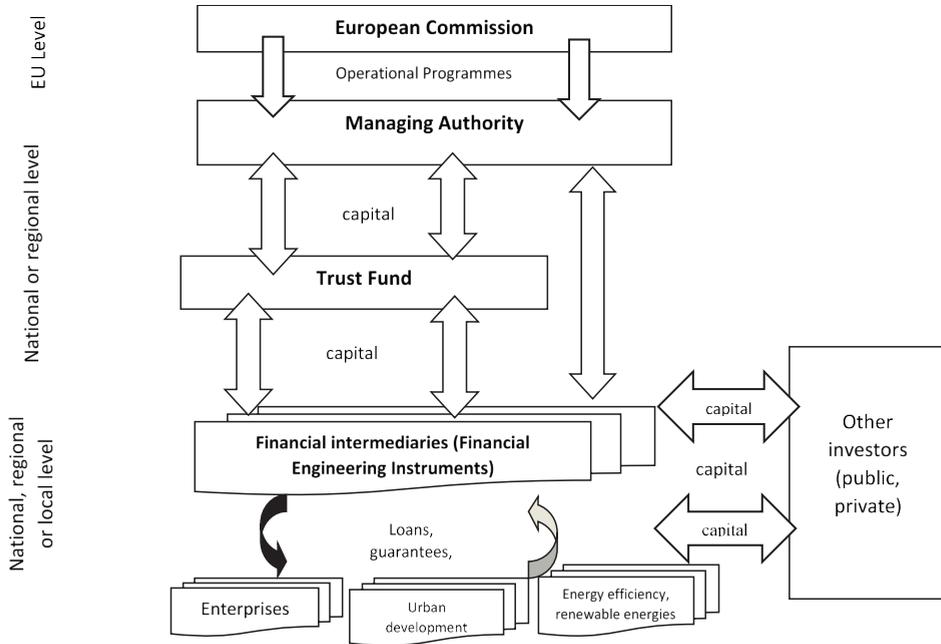


Figure 1. Structure and method of implementing Financial Engineering Instruments

Source: own study based on Financial Instruments... (2013), p. 39.

Financial instruments can be used for three thematic areas. Enterprises, in particular micro, small and medium, public-private partnerships and other projects aimed at urban development (urban development funds) and in the field of renewable energy sources and energy efficiency. The contribution made by Managing Authorities at the end of March 2017 amounted to less than EUR 17 billion, of which over PLN 11.5 billion came from Structural Funds (ERDF, ESF), while over PLN 5 billion was a national contribution. In comparison to the previous year, there was a slight increase of 5.5% (885.88 million euros). Analyzing individual countries, there is a noticeable difference in this respect. In some, there was a significant increase (Slovakia, Italy, Romania), while in others, a decrease in funds allocated to IIF (Greece, the Czech Republic, Finland). The total value of funds transferred to the management of Trust Funds amounted to less than EUR 7.5 billion (1.7 billion national contributions). 94% of these funds were transferred to specific intermediaries. Managing Authorities have also transferred the funds without the intermediation of the Holding Fund (EUR 9.4 billion, of which nearly PLN 3.5 billion

is national co-financing). In some countries (e.g. Poland, France, Germany, Italy) the amount invested in the final recipients includes funds already returned and used again, showing revolutions and multiplying the value of support. At the end of March 2017, there were 1,058 Financial Instruments in EU countries, including in the form of loans, guarantees, risk capital of which 89% financed the development and operation of enterprises, 7% urban development, and 4% energy efficiency and renewable energy sources.

### 3. Financial instruments in the 2014–2020 programming period

In the new programming period 2014–2020, some quite significant changes are planned for Financial Instruments (IF), although they may still be used at both national and regional levels. The support is directed at the development of the SME sector, mainly by means of debt instruments (loans) and guarantees. However, the scope of their use in our country is to be broader, including also environmental protection, transport and low-emission economy as well as energy efficiency and renewable energy sources as well as waste management. In addition, repayable instruments may find application in supporting social economy entities, which is a new way of using them.

A novelty in the application of IF will also be the possibility to use a larger range of financial products, also in combination with grant instruments. The possibility of subsidizing interest or redeeming part of the loan or credit has been envisaged. It should be noted that the possibility to use the Financial Instruments in the new period will be possible after performing an ex-ante evaluation, specifying market imperfections and the appropriateness of the size and scope of support<sup>1</sup>.

Regions implementing the JEREMIE Initiative in 2007–2013<sup>2</sup> will be able to allocate additional (new) funds for supporting enterprises. However, according to art. 33 of the Regulation of the European Parliament and the Council, the Managing Authority will be able to choose one of three ways. The first is to entrust executive tasks to the European Investment Bank, the second – to create a Fund of Funds, whose task would be to organize competitions for financial intermediaries who would support the final beneficiaries. The last solution allows direct implementation of the JEREMIE Initiative by the Managing Authority, by organizing competitions for financial intermediaries in the case

---

<sup>1</sup> Regulation of the European Parliament and of the Council laying down common rules on the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund covered by the Common Strategic Framework and laying down general provisions on the European Regional Development Fund, European Social Fund and Cohesion Fund, and repealing Regulation (EC) No 1083/2006, European Commission 2011/0276 (COD), art. 32.

<sup>2</sup> In Poland, the JEREMIE initiative in 2007–2013 was implemented at the national and regional level. At the regional level, BGK was the manager of funds in six provinces (Lower-Silesian – PLN 405.73 million, Łódź – PLN 188.63 million, Masovian – PLN 61.45 million, Pomeranian – PLN 287.39 million, Greater Polish – PLN 501,30 million, West Pomeranian – PLN 280.00 million).

of instruments including loans and guarantees<sup>3</sup> as well as project management. Financial instruments in the 2014–2020 perspective are applied to three thematic areas:

- enterprises, in particular micro, small averages,
- projects aimed at urban development (urban development funds),
- renewable energy sources and energy efficiency.

The current financial perspective in the use of returnable financial instruments differs significantly from its predecessor. Funds management using the Fund of Funds decided to implement them in all the regions in Poland. In 15 voivodships, the role of this institution is played by Bank Gospodarstwa Krajowego (table 1), while in the Silesian Voivodship it is the European Investment Bank<sup>4</sup> together with the European Investment Fund<sup>5</sup>. BGK organizes tenders for financial intermediaries for financial instruments. Its role is also to care for the effectiveness of implementing financial instruments and ensuring proper support for enterprises. Based on the ex-ante analysis in consultation with the Managing Authorities, the BGK develops action plans, both in terms of the implemented financial instruments and deadlines for organizing tenders. The role of the bank in the implementation of financial instruments is very important, because it depends on what tenders will be implemented, because it is mainly responsible for the preparation of the tender documentation.

Table 1. Allocation of financial instruments for 2014–2020 (in PLN)

	Value of contracts with Managing Authority	National contribution Financial Intermediary	Total amount
wielkopolskie	802,606,200.00	141,636,388.25	944,242,588.25
dolnośląskie	703,601,466.88	52,530,023.53	756,131,490.41
łódzkie	570,859,453.16	100,739,903.25	671,599,356.41
małopolskie	555,383,349.00	43,956,073.00	599,339,422.00
zachodniopomorskie	397,991,330.00	70,233,764.12	468,225,094.12
pomorskie	408,414,880.78	21,495,520.04	429,910,400.82
lubelskie	402,446,728.68	23,411,382.09	425,858,110.77
opolskie	285,817,148.00	50,438,320.26	336,255,468.26
lubuskie	256,137,245.96	45,200,690.48	301,337,936.43
warmińsko-mazurskie	254,087,550.00	44,838,979.41	298,926,529.41
podlaskie	265,446,435.33	1,528,482.37	266,974,917.70

<sup>3</sup> Ibidem, art. 33, point 4.

<sup>4</sup> Under measure 4.2 Energy efficiency and renewable energy sources in micro, small and medium enterprises, the value of EUR 33 million allocation, type of support: loans; micro beneficiaries, small and medium entrepreneurs.

<sup>5</sup> Under measure 3.4. Recapitalization of external sources of enterprise financing, value of EUR 91 million allocation, type of support: loans, guarantees; micro beneficiaries, small and medium entrepreneurs.

	Value of contracts with Managing Authority	National contribution Financial Intermediary	Total amount
mazowieckie	225,736,843.00	56,434,210.75	282,171,053.75
podkarpackie	244,201,812.08	12,852,732.22	257,054,544.30
kujawsko-pomorskie	205,384,480.12	41,683,143.57	247,067,623.69
świętokrzyskie	242,725,743.82	42,833,954.91	285,559,698.73
<b>Total</b>	<b>5,820,840,666.81</b>	<b>749,813,568.24</b>	<b>6,570,654,235.05</b>

Source: Bank Gospodarstwa Krajowego (2018).

The aim of financial instruments under the ROP is not only to finance the financial gap, support entrepreneurs in obtaining external sources of financing, but also to multiply support. Due to the necessity of contributing at the national and regional level as well as the financial intermediary, the value of funds earmarked for support is multiplied. Financial intermediaries will make the largest contribution in the Wielkopolskie (Greater Polish), Łódzkie and Zachodniopomorskie (West Pomeranian) provinces.

The new programming period is the wider use of financial instruments. The support will cover not only development investments realized by micro, small and medium enterprises, but also investments aimed at increasing energy efficiency, renewable energy sources and revitalization of degraded areas. A novelty not only on the national scale, but also the EU is the use of repayable support in financing the activities of the Social Fund, aimed at social inclusion and integration of many regions (table 2).

Table 2. Allocation of financial instruments by support objectives

RPO	FI for SME	Energy efficiency	Renewable energies	Urban development	Social Fund
dolnośląskie	398,760,492	188,119,479	60,990,318	–	55,731,176
kujawsko-pomorskie	205,384,480	–	–	–	–
lubelskie	384,439,678	–	–	–	18,007,050
lubuskie	233,646,420	16,791,475	–	–	5,699,350
łódzkie	445,269,153	95,275,400	–	–	30,314,900
małopolskie	285,680,614	99,021,293	–	148,531,942	22,149,500
mazowieckie	225,736,843	–	–	–	–
opolskie	193,143,640	36,325,180	46,070,960	–	10,277,368
podkarpackie	216,467,599	–	–	–	27,734,312
podlaskie	140,110,882	116,674,153	–	–	8,661,400
pomorskie	408,414,880	–	–	–	–
świętokrzyskie	208,800,000	–	–	–	33,925,743
warmińsko-mazurskie	254,087,550	–	–	–	–
wielkopolskie	516,780,000	173,228,000	–	112,598,200	–
zachodniopomorskie	335,196,180	–	–	–	62,795,150
<b>Total</b>	<b>4,451,918,414</b>	<b>725,434,981</b>	<b>107,061,278</b>	<b>261,130,142</b>	<b>275,295,951</b>

Source: Bank Gospodarstwa Krajowego (2018).

Despite the diversification of the objectives of supporting financial instruments, the vast majority of funds will continue to reach the SME sector. As in the previous period, debt and guarantee products are the most popular (table 3). Direct support in the form of loans and credits continues to dominate and results from the needs of the market. Several voivodships have decided to apply for support for innovative projects in the form of capital entries. Certainly, such a way of supporting young ideas deserves recognition, while at the same time risking not using these funds, in particular when there is a strong competition of risk capital at the central level.

Table 3. Financial instruments 2014–2020 – product assumptions

	Loan	Guarantee	Equity
dolnośląskie	616,472,445	87,129,020	–
kujawsko-pomorskie	183,810,480	–	21,573,999
lubelskie	279,227,486	67,557,009	55,662,232
lubuskie	256,137,245	–	–
łódzkie	570,859,453		
małopolskie	555,383,349	–	–
mazowieckie	183,975,527	41,761,315	–
opolskie	268,537,148	17,280,000	–
podkarpackie	203,065,104	41,136,707	–
podlaskie	252,709,082	–	12,737,352
pomorskie	290,634,880	48,550,000	69,230,000
świętokrzyskie	192,613,743	50,112,000	–
warmińsko-mazurskie	204,758,154	35,873,046	13,456,350
wielkopolskie	544,216,200	258,390,000	–
zachodniopomorskie	373,991,330	9,000,000	15,000,000
<b>Sum total</b>	<b>4,976,391,631</b>	<b>656,789,100</b>	<b>187,659,935</b>

Source: Bank Gospodarstwa Krajowego (2018).

## Conclusions

Considering the functioning of the JEREMIE Initiative from the point of view of financial intermediaries and the role they play in the financial market, one may be tempted to say that by eliminating inequalities on the market, they are able to effectively distribute financial resources. Currently, the JEREMIE 2 Initiative or repayable support is being implemented, where the role of the Fund of Funds is carried out by the State Bank of National Economy. A total of over PLN 6.5 billion has hit or will hit the local financial markets in the near future. The amount seems to be large, but in comparison with the credit activity for enterprises of the banking sector in Poland (about PLN 277 billion) small. Despite this, the managers of these funds are facing the challenges of effective supplying regional financial markets, so that the funds from the previous perspective (2007–2013)

do not compete with the new ones (2014–2020). Certainly, proper management of these funds will have an impact on the architecture of regional financial markets. Faced with such a challenge, the regions implementing the JEREMIE Initiative stood, including the West Pomeranian Voivodeship, which launched the Regional Development Fund by transferring funds from the JEREMIE and JESSICA initiatives. However, despite such a solution, the market should be fed quite carefully and skillfully, so that the “old” and “new” funds do not compete with each other. The risk of cannibalization can materialize in the event of disagreement between managing authorities. To successfully feed the market with money, an original approach should be used. Innovation should consist in product complementation with simultaneous close cooperation between the Fund of Funds and Regional Development Funds. The effectiveness of such a solution should consist not only in establishing financial instruments implemented by these institutions, but first and foremost in creating complementary instruments, when one instrument is a perfect complement to the other, and sometimes even implemented, should be simultaneously. An example of such a solution may be an instrument providing capital to regional financial intermediaries (loan funds, credit guarantees) in order to meet the requirements of own contribution in tenders organized by the Fund of Funds. Such a solution will be popular because regional and local loan funds and credit guarantees suffer from a shortage of equity financing their own contribution. The West Pomeranian Voivodeship is on the right track in fulfilling these assumptions. In the future, other regions, including the European ones, will surely follow in its footsteps, as this is an effective way to manage EU funds for repayable instruments, so that these funds do not compete with each other and at the same time are passed on to final beneficiaries quickly and effectively.

## References

- Bank Gospodarstwa Krajowego (2018). Retrieved from: [www.bgk.pl](http://www.bgk.pl)
- Evaluation of Financial Engineering Measures in Structural Policies (1998). Structural Policies Final Report, April 1998. Brussels: European Commission.
- Financial Instruments: A Stock-taking Exercise in Preparation for the 2014–2020 Programming Period (2013). Final Report, March 2013, Mazars LPP.
- Hübner, D. (2005). *Reforming Cohesion Policy*. SPEECH/05/594. Brussels. Retrieved from: [http://europa.eu/rapid/press-release\\_SPEECH-05-594\\_en.htm?locale=en](http://europa.eu/rapid/press-release_SPEECH-05-594_en.htm?locale=en).
- Mackiewicz, M., Przybyłowski, M., Rybkowski, A., Tamowicz, P. (2014). *Analiza w zakresie możliwości zastosowania zwrotnych instrumentów finansowych w województwie małopolskim w okresie programowania 2014–2020*. Cracow: Małopolskie Obserwatorium Gospodarki.
- Regulation of the European Parliament and Council (EU) No 1303/2013 of 17 December 2013 laying down common rules for the European Regional Development Fund, the European Social Fund, the Cohesion Fund, the European Agricultural Fund for Rural Development and the European Maritime and Fisheries Fund and laying down general provisions on the European Regional Development Fund, the European Social Fund, the Cohesion Fund and the European

Maritime and Fisheries Fund and repealing Council Regulation (EC) No 1083/2006 (2013). OJ L 347.

Summary of Data on the Progress Made in Financing and implementing Financial Engineering Instruments Reported by the Managing Authorities in Accordance with Article 67(2)(j) of Council Regulation (EC) no 1083/2006 (2016). Brussels: European Commission.

Tamowicz, P., Lepczyński, B., Liszewska, M. (2013) *Inicjatywa JEREMIE w Polsce*. Gdańsk: Pomorskie Studia Regionalne.

## INSTRUMENTY FINANSOWE W REGIONALNYM PROGRAMIE OPERACYJNYM W LATACH 2014-2020

**Słowa kluczowe:** finanse, instrumenty finansowe, region

**Streszczenie.** Coraz bardziej popularną formą wyrównywania poziomu rozwoju regionów celów stają wsparcie zwrotne. Pomimo konieczności oddania pieniędzy forma ta oceniana jest korzystnie przez wszystkich beneficjentów, a dzięki rewolwingowi generuje więcej korzyści, ponieważ fundusze raz przekazane wracają, multiplikując wartość wsparcia i ilość beneficjentów. Przykładem tego typu finansowania z funduszy Unii Europejskiej są instrumenty finansowe, będące sposobem wykorzystywania funduszy strukturalnych do realizacji polityki spójności, przyczyniając się do długoterminowego i trwałego wzrostu gospodarczego w poszczególnych regionach i całej Unii. Ponadto korzyścią z punktu widzenia długofalowego rozwoju regionu wydaje się wzmocnienie, a w niektórych przypadkach stworzenie regionalnego rynku finansowego. Ugruntowanie zarówno lokalnych instytucji finansowych (funduszy pożyczkowych, funduszy poręczeń kredytowych, agencji rozwoju), jak i instrumentów specyficznych dla każdego regionu stworzyło podwaliny pod budowę regionalnych instytucji rozwoju.

### Citation

Pluskota, P. (2018). Financial Instruments in Regional Operational Programs in the Years 2014–2020. *Ekonomiczne Problemy Usług*, 4 (133/2), 19–28. DOI: 10.18276/epu.2018.133/2-02.

Maciej Pawłowski

University of Szczecin  
e-mail: maciej.pawlowski@usz.edu.pl

## The Revival of the Securitization Market after the Global Financial Crisis: A Case of Europe

**JEL codes:** E44, G01, G15

**Keywords:** securitization, securities, financial crisis, financial market

**Abstract.** The aim of this study is to assess the post-crisis securitization market in Europe. The presented considerations focus on two fundamental aspects: (1) identification of changes in the regulatory environment of securitization in the European financial system and (2) analysis of changes in the size and structure of the European market for securitization of financial instruments between 1998 and 2017. The analysis is to answer the question of whether the European market for securitization of assets is reviving.

### 1. Introduction and literature

Securitization is defined as a process during which diversified pool of financial assets, together with cash flow they have generated, are isolated from initiator's balance (company, financial institution, government or local government unit), secured by means of internal and external methods, and made legally independent in the so-called special purpose vehicle (SPV), which then refinances the purchased asset pool through the issuance of debt securities in domestic and (or) international capital markets (Reksa, 2007, pp. 5–6). Securitization is one of the most advanced financing techniques and, at the same time, a mechanism in which the causes of the global financial crisis of the 21<sup>st</sup> century are seen (Baig, Choudhry, 2013; Brunnermeier, 2009; International Monetary Fund, 2008; Keys, Mukherjee, Seru, Vig, 2010). The concept of securitization was born on the field of

the American financial system in the late 1970s (Kothari, 2006, p. 112) and permanently changed the face of the modern finance (Chrabonszczewska, Waszkiewicz, 2010, p. 18). In its original assumption, the securitization mechanism was an instrument of asset management of credit institutions with the ability to transform selected items of their low liquidity financial assets in cash, aimed at extending the scale of their activities (Segoviano, Jones, Lindner, Blankenheim, 2013, pp. 54–55). With the evolution of the financial system, the securitization process began to change as well, and with it – the purpose of its use. The technique that constitutes a bridge between the credit market and the capital market has changed into a complicated hybrid form involving an increasing number of entities, taking into account in its structure almost all segments of the financial market (including derivatives market), designed to refinance extremely diverse catalog of assets, and significantly shifted toward unregulated activities shadow banking (Waszkiewicz, p. 1). As a consequence, the essence of the securitization mechanism significantly exceeded the issue of refinancing financial institutions' loan portfolios. In the securitization process, the following options appeared: transfer of risk related to the refinanced assets package, reduction of regulatory requirements or credit rating management of the initiator of the securitization (for more details see: Pawłowski, 2018, pp. 65–66).

The wide applicability and the multidimensional nature of the benefits of securitization have directly translated into increased interest in and popularization of this mechanism. However, the growing and increasingly non-transparent securitization market were not followed by adequate and needed prudential regulation. As a result, the uncontrolled use of the analyzed mechanism was a direct premise and a source of escalation of the 2007+ financial crisis.

Against this background, the aim of this study was to assess the post-crisis market for securitization of assets. The presented considerations focus on two fundamental aspects: (1) identification of changes in the regulatory environment of securitization transactions carried out in the structure of the European financial system and (2) analysis of changes in the size and structure of the European market for securitization of financial instruments between 1998 and 2017. The analysis is to answer the question of whether the European market for securitization of assets is reviving.

## 2. Research methodology

Analysis and evaluation of the securitization market are based on the secondary data – statistics published by the Securities Industry and Financial Markets Association (SIFMA). The survey covered the characteristic of outstanding and new issuances on the securitization market in the period of time 1998–2017. The selected period was determined by the need to identify changes in the value of the European securitization market both before and after the 2007+ financial crisis. In order to determine the answer to the research question posed in the study, the structure indicators were used to assess the changes in the debt

structure on the securitization market and recognize the preferences of the initiators of securitization processes in the assets underlying the new issues.

The data used in the article are sums resulting from the synthesis of local securitization markets operating throughout Europe (the data include: Belgium, France, Germany, Greece, Ireland, Italy, the Netherlands, Portugal, the Russian Federation, Spain, the United Kingdom, and others). Therefore, the article provides a brief description of the post-crisis securitization regulation in Europe recommended by the European Parliament and the Council of the European Union. The limited scope of the study, as well as the assumed direction of the research, make it impossible to conduct a thorough analysis of the regulations regarding the securitization process in each of the countries covered by the SIFMA.

### 3. Post-crisis regulation of securitization in Europe

The direct relationship between the global financial crisis and the securitization mechanism has led to securitization being recognized as a financial operation with a high level of information asymmetry and generating moral hazard (see: Beltran, Cordell, Thomas, 2016). The recent financial crisis has revealed that the regulatory and supervisory structure of the asset securitization market is flawed and inadequate to the complexity of this mechanism. According to the International Organization of Securities Commissions (International Organization of Securities Commissions, 2010, pp. 10–11), the global financial stability disruption was mainly due to the following factors:

- the specific business model on which the securitization procedure was based. It was characterized by a lack of proper monitoring and supervision of the quality of securitized assets (especially in the long term) and insufficient disclosure,
- from inadequate securitization risk management practices. Both retail and institutional investors did not have adequate tools to assess the risk of the securitized financial instruments invested in them. As a consequence, and given the limited information available (point 1), investors relied excessively on credit ratings as the main – and sometimes the only – investment risk assessment tool,
- in the absence of a comprehensive legal order relating to securitization transactions.

The painful verification of the imperfections in the regulatory environment of the asset securitization process is reflected in actions aimed at improving the efficiency and security of transactions. The main conclusion of the recent financial crisis is not to end securitization, but to strengthen the regulatory and security framework for this process. This is reflected in the Regulation of the European Parliament and of the Council (2015). The legal act cited believes that the right regulatory environment will revitalize the asset securitization market, which will contribute to the integration of EU financial markets, diversify funding sources and broaden the spectrum of capital release mechanisms, making it easier for financial institutions to dynamize lending to households and businesses.

The post-crisis regulatory framework for securitization is conceptually divided into five key categories and addresses issues (Schwarcz, 2016, p. 121 et seq.):

- increasing the transparency of transactions carried out,
- risk management of the securitization process,
- the new approach of credit rating agencies to the assessment of securitization financial instruments and the need to disclose information on fees charged to clients for assessing the credit quality of securitization financial instruments,
- impose higher capital requirements on investments in securitization financial instruments,
- due diligence requirement – institutional investors, commensurate with the risk incurred, are required to carry out due diligence covering both the assessment of the assets subject to the securitization process, as well as an analysis of the structure of the mechanism itself.

In accordance with the intention of the Regulator, increasing the transparency of transactions is achieved by imposing numerous disclosure obligations on the originator of the securitization process, including the need to present in detail both the structure of the transaction and its further handling. The originator is obliged to present an offer document (or prospectus) announcing the future securitization transaction and providing the group of potential investors with information on the concluded agreements in the scope:

- the transfer of assets,
- handling, administration and liquidity management of assets constituting the basis of the securitization process,
- methods and instruments for hedging transactions,
- any other activity that has a material impact on the assessment of the securitization mechanism.

In addition, the originator of the securitization is required to publish a model of the flow of funds generated by the collateral assets, with particular emphasis on information about past disturbances in their schedule.

In the context of securitization risk management, important restrictions have been introduced in two key aspects. First, it was made clear that the securitized assets must be homogeneous and, at the same time, credible. Thus, securitization of assets of doubtful quality, i.e. those for which in the past there was a disorderly servicing schedule or debtors are at risk of insolvency (or have low creditworthiness), is not allowed. The second aspect of the securitization risk management is the statement that the originator of the securitization is obliged (alternatively) to retain a minimum of 5% of the value of the securitization financial instruments or 5% of the nominal value of each item covered by the securitization.

A synthetic review of post-crisis regulatory solutions provides a basis for an attempt to assess the impact of the new legal order on the development of the securitization market. It can be stated with full conviction that the new regulatory environment increases the security of securitization transactions and at the same time gives this part of the financial

market its transparency features. Nevertheless, will the new prudential approach be sufficient to revitalize the securitization market?

#### 4. European securitization market

In the European financial market, the first transactions of asset securitization appeared at the beginning of the 1990s. This nearly thirty-year history of the European securitization market is divided by the global financial crisis of the years 2007+ into two periods – dynamic growth (1987–2009) and successive decline (from 2010) (fig. 1). The asset securitization market in Europe recorded its highest value in 2009 when the debt on securitization financial instruments was more than 35 sectors higher than in 1998 and represented twice as much value as in 2017.

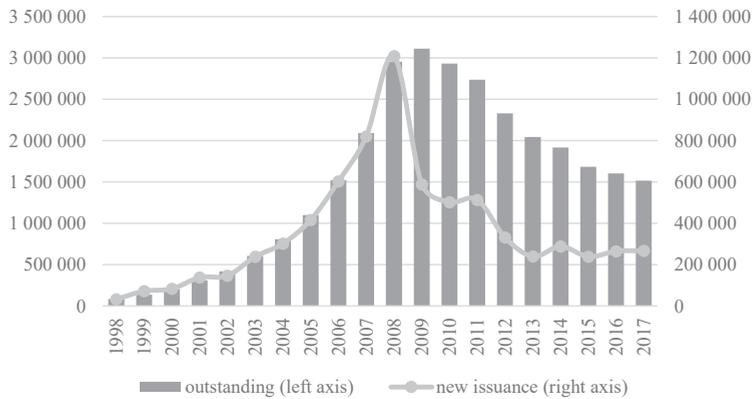


Figure 1. Value of the European securitization market in 1998–2017 (in USD millions)

Source: own work based on Securities Industry and Financial Markets Association (2018).

However, this broadly formulated statement, supported by data on the value of debt on securitization financial instruments issued, requires a certain degree of complementarity. It turns out that broadening the analysis by the issue of emission activity slightly changes the face of the assessed market. The time horizon set by the financial crisis 2007+ continues to determine the moment of the collapse of the securitization market in Europe (2009), but the downward trend in new securitization transactions remains only until 2015. The growth rates estimated for the issuing activity in the area of securitization of financial instruments for subsequent years (2016 and 2017) indicate a slight increase in interest in the use of securitization and stabilization of the market (111 and 101%, respectively).

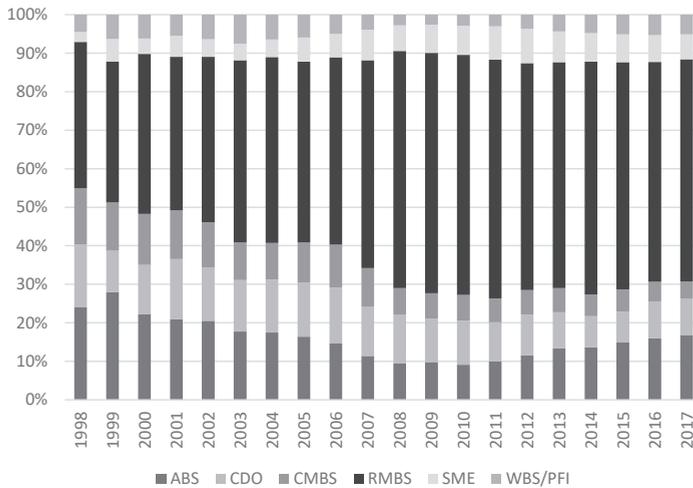


Figure 2. The structure of European securitization market in 1998–2017 – outstanding (%)

Source: own work based on Securities Industry and Financial Markets Association (2018).

The structure of the European asset securitization market is relatively stable. In principle, since 2006, the securitization process has been used in the context of financing mortgage loan portfolios granted to individuals (fig. 2). In the years 2006–2017 RMBS securities represent more than 50% of the value of securitization financial instruments. The second significant group is ABS papers, whose share in the same period (2006–2017) in the structure of the analyzed market falls within the range of 10–16%. The remaining part of the market is distributed proportionally among the remaining classes of securities.

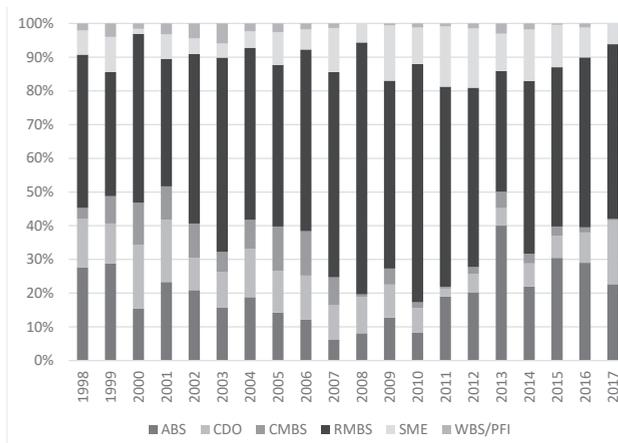


Fig. 3. The structure of European securitization market in 1998–2017 – issuance (%)

Source: own work based on Securities Industry and Financial Markets Association (2018).

The analysis of new issues of securitization financial instruments only confirms the thesis of the dominance of RMBS in the structure of the European securitization market (fig. 3). In 1998–2017, securitization transactions served primarily to refinance portfolios of mortgage loans granted to natural persons – new issues of securities based on this asset class represented from 36% (2013) to 75% (2008) of the value of all transactions.

However, the fact that out of all the classes of securities distinguished, only two types of securities show an upward trend between 2015 and 2017, forming the basis for a reversal of the downward trend in new securitization transactions, needs to be clearly underlined. These are, of course, RMBS securities, where the growth rate of new issues is positive at 120% and 105% (2016 and 2017, respectively). The second type are CDOs with an upward trend of 150% (2016) and 213% (2017), with a small share in the total debt structure due to securitization transactions.

## Conclusions

The need for a revival of the securitization mechanism is indisputable. For over 40 years, this mechanism has functioned in the structure of the global financial system, supporting the activity of its participants and gaining more and more importance, measured by the successive increase in the value of this market segment. The securitization process, although rooted in public awareness as a premise of the global financial crisis, did not in itself pose a threat to the stability of the global financial system. The origins of the crisis include the regulatory and prudential failures of securitization processes described earlier and the globalization and liberalization of capital flows, which opened up the possibility of free movement of financial innovation and, as it later turned out, risk between markets.

The presented figures do not provide a solid basis to prejudge the title recovery of the securitization market in Europe. The dynamics of new issues on the European securitization market in 2008–2017 is variable, while the upward trend is observed only in the last three years of this time interval. The extension of the mentioned analysis to the structure of new issues indicates a silent comeback of securitization in selected segments – RMBS and CDO. Thus, in the case of other asset classes underlying the securitization process, a gradual decline in issuance activity is observed.

Certainly, market regulators emphasize the important role that securitization performs in the activities of financial institutions and, consequently, in the financing of economic processes. They express this in the form of prudential regulations and mechanisms used to popularize the use of securitization. Nevertheless, the post-crisis role of securitization in the European financial market is concentrated on financing housing market (refinancing long term mortgages), while in other securitization market segments a decline in new transactions and outstanding is observed.

## References

- Baig, S., Choudhry, M. (2013). *The Mechanics of Securitization. A Practical Guide to Structuring and Closing Asset-Backed Security Transactions*. Hoboken: John Wiley and Sons, Inc.
- Beltran, D., Cordell, L., Thomas, C.P., (2016). *Asymmetric Information and the Death of ABS CDOs*. International Finance Discussion Papers 1075.
- Brunnermeier, M. (2009). Deciphering the Liquidity and Credit Crunch 2007–2008. *Journal of Economic Perspectives*, 23, pp. 77–100.
- Chrabonszczewska, E., Waszkiewicz, A. (2010). *Ryzyko na międzynarodowych rynkach finansowych*. Warsaw: Szkoła Główna Handlowa.
- International Monetary Fund (2008). *Global Financial Stability Report: Containing Systemic Risks and Restoring Financial Soundness*. World Economic and Financial Surveys. Washington: International Monetary Fund.
- International Organization of Securities Commissions (2010). *Securitization and Securitized Debt Instruments in Emerging Markets*. IOSCO's Task Force on Securitization (TFOS) Final Report. Retrieved from: <http://www.iosco.org> (23.09.2018).
- Keys, B., Mukherjee, T., Seru, A., Vig, V. (2010). Did securitization lead to tax screening? Evidence from subprime loans. *The Quarterly Journal of Economics*, 125, pp. 307–362.
- Kothari, V. (2006), *Securitization. The Financial Instrument of the Future*. Hoboken–New Jersey: John Wiley & Sons.
- Pawłowski, M. (2018). Financing the solar energy market through the use of securitization – the case of the United States. *Copernican Journal of Finance & Accounting*, 2 (7), pp. 63–76. DOI: <http://dx.doi.org/10.12775/CJFA.2018.009>.
- Regulation of the European Parliament and of the Council (2015). *Laying down common rules on securitization in creating a European framework for simple, transparent and standardized securitization*. 2015/0226. Retrieved from: <https://eur-lex.europa.eu>.
- Regulation of the European Parliament and of the Council (2017). *Laying down a general framework for securitization and creating a specific framework for simple, transparent and standardized securitization*. 2017/2402. Retrieved from: <https://eur-lex.europa.eu>
- Reksa, Ł. (2007). *Sekurytyzacja w krajach Unii Europejskiej oraz w polskim systemie bankowym*. Warsaw: Generalny Inspektorat Nadzoru Bankowego.
- Schwarz, S.L (2016). Securitization and Post-Crisis Financial Regulation. *Cornell Law Review Online*. 101. 115–139. Retrieved from: <https://ssrn.com/abstract=2701556> (24.11.2018)
- Securities Industry and Financial Markets Association (2018). Retrieved from: [www.sifma.org](http://www.sifma.org) (04.12.2018).
- Segoviano, M., Jones, B., Lindner, P., Blankenheim, J. (2013). *Securitization: Lessons Learned and the Road Ahead*. IMF Working Paper No. 13/255. Retrieved from: <https://ssrn.com/abstract=2381853>
- Waszkiewicz, A. (2010). Sekurytyzacja a kryzys subprime. *Zarządzanie Zmianami*, 1, pp. 3–21.
- Waszkiewicz, A., *Ponowne narodziny sekurytyzacji?* Retrieved from: <http://alterum.pl> (22.09.2018).

---

## **RYNEK SEKURTYZACJI PO GLOBALNYM KRYZYSIE FINANSOWYM: PRZYPADEK EUROPY**

**Słowa kluczowe:** sekurytyzacja, papiery wartościowe, kryzys finansowy, rynek finansowy

**Streszczenie.** Celem artykułu jest ocena europejskiego rynku sekurytyzacji aktywów po globalnym kryzysie finansowym XXI wieku. Przedstawione rozważania koncentrują się na dwóch podstawowych aspektach: (1) identyfikacji zmian w otoczeniu regulacyjnym sekurytyzacji w europejskim systemie finansowym oraz (2) analizie zmian w wielkości i strukturze europejskiego rynku sekurytyzacyjnych instrumentów finansowych w latach 1998–2017. Prowadzone rozważania stanowią próbę odpowiedzi na pytania: czy europejski rynek sekurytyzacji aktywów odradza się?

### Citation

Pawłowski, M. (2018). The Revival of the Securitization Market after the Global Financial Crisis: A Case of Europe. *Ekonomiczne Problemy Usług*, 4 (133/2), 29–37. DOI: 10.18276/epu.2018.133/2-03.



Marlena Ciechan-Kujawa,<sup>1</sup> Michał Buszko,<sup>2</sup> Karolina Taranowska<sup>3</sup>

Nicolaus Copernicus University in Toruń

<sup>1</sup> e-mail: marlenac@umk.pl

<sup>2</sup> e-mail: mibus@umk.pl

<sup>3</sup> e-mail: karolina.taranowska@gmail.com

## Sensitivity Analysis in Business Risk Assessment in Practice of Polish Companies

**JEL codes:** G32, M41

**Keywords:** sensitivity analysis, risk assessment, competitiveness, managerial accounting

**Abstract.** Sensitivity analysis is used to help companies obtain the information necessary to assess the level of risk of their operations. The aim of the article is to present the results of research carried out by the authors within the scope of assessment of sensitivity in the sample of more than 50 Polish companies. The paper presents the relationships between key factors affecting competitiveness in the industry, their impact on the financial results and the type of profit sensitivity analysis used in companies. The research indicates the high usefulness of the basic tools of profit sensitivity analysis in the assessment of business risk, in particular the analysis of break-even point and the operational safety margin. In addition, the average usefulness is attributed to complementary methods such as leverages, limit values and profit multipliers.

### Introduction

Risk is a fundamental element of any type of business and it determines its success or failure. The impact of risk in the activities of companies, financial institutions or other entities results from the need to make decisions that are in principle oriented towards the future and for which it is impossible to foresee all the conditions of their implementation. In general, the longer horizon of the decisions taken, the greater risk associated with them. Current or short-term decisions are usually related to minimal risk. Risk can be defined in

many ways, but in economic sciences usually means the possibility of achieving a result other than expected with a certain probability. Achieving financial output different from those initially planned may be a result of the impact of factors coming from closer or more distant business environment, may be a result of improper implementation of internal processes or be derived from bad relations with stakeholders. Deviations from the planned results may influence the company either in positive or negative way. In the latter case, they will lead to the loss of the value of the company, and thus to reduce the wealth of the owners. The impact of risk may in extreme cases cause insolvency of the company, and thus pass the risk to stakeholders. To reduce the level and impact of risk, each company should have a developed system of managing different types of risk, consisting of specific tools, methods and procedures. One of the more frequently used methods of risk analysis in business is the analysis of the sensitivity of financial results, including the analysis of profit sensitivity.

The aim of the research was to determine universality of the application of the profit sensitivity analysis, its usefulness in business risk assessment and identification of the relationship between key factors affecting competitiveness in the industry, their impact on the financial result and the scope of profit sensitivity analysis methods used in companies.

For the purposes of this study, the authors adopted a hypothesis that the profit sensitivity analysis is useful in the practical assessment of business risk.

The contribution of this paper is presentation of the empirical evidence of attitudes of companies towards managing the risk and using sensibility analysis as a tool of the risk management.

## 1. Methods and research sample

To meet the goals of the paper the authors performed studies of literature as well as prepared survey research based on a questionnaire. The survey was conducted using the CAWI technique and assumed probability sampling from the population of Polish companies. The research was carried out from 19/04/2017 to 12/05/2017. The questionnaire was sent electronically to companies to which contact (e-mail address) was obtained from <http://www.baza-firm.com.pl>, a company search engine on the Internet. It was addressed to the owners, board members, employees of accounting departments, financial departments and controlling departments. Totally 66 completed questionnaires were sent back. Among them 12 were rejected due to errors that appeared when respondents filled the questionnaire, hence just 54 were taken for further analysis.

The questionnaire was aimed at empirical determining whether the profit sensitivity analysis tools are useful in assessing the risk of business operations in Polish companies. It consisted of 15 questions divided into two parts. The first one concerned the characteristics of the business activity carried out by the companies to which the questionnaire was addressed. The second part was related to the analysis of the profit sensitivity, in which

respondents specified the tools used by the company in such an analysis and evaluated their usefulness in the risk assessment of operations.

The questionnaire contained closed questions (with the exception of the question regarding the position of the person filling in the questionnaire) which were linked with a set of answers to choose from, covering all the possibilities related to the issue considered in the paper. Both single-choice and multiple-choice questions were used (with explanation indicating the possibility of giving more than one answer). A question-scale was also used to determine the usefulness of sensitivity analysis in risk assessment. Some of the questions, apart from the answers listed, got a free space for giving own answers if the presented proposals did not meet the respondents' criteria.

Among the 54 respondents there were mostly chief accountants, followed by the owners, accountants and controllers. The group surveyed represented organizations of various sizes. Over a half of them conducted production activities. The vast majority operated on the domestic market and had conducted activities for over 10 years. Due to the long period of operation, it was assumed that these entities had experience in business risk management.

## 2. Literature review

The risk in business operations and its assessment is an issue very commonly presented in the literature. In terms of rational management, the risk should be understood as a natural and widespread phenomenon whose sources can occur both inside and outside the company. It affects the business due to the permanent necessity of taking decisions the effects of which may be different than expected (Nowak, 2010, p. 11). External sources of risk are factors independent of the company that result from the macroeconomic and competitive environment, however some institutions with a large economic potential or political power may influence the chosen environment factors (Redziak, 2015, pp. 45–48). Internal factors of risk are specific for the company or industry itself and may result from the business model of the entity, its organization, tangible or intangible resources, products and market potential, as well as internal relations, information flow, organizational culture or corporate governance (Borkowski, 2008, p. 45; Ciechan-Kujawa, 2017, p. 11).

Risk generates certain opportunities but on the other hand it may bring negative results that destroy the value of the company. In practice, the latter aspect is more often stressed (Brustbauer 2016, p. 71) as it may determine the failure of the whole business. Due to the risk influence, the business results as a rule differ from those expected and have an impact on the level of profit, cash flows, market share, business value and goodwill. Although the latter factor defines the ultimate company's performance (McShane, Nair, Rustambekov, 2011, p. 653; Kuziak, 2011, p. 19) some others are more often emphasized, such as expected net profit and cash flows, which can be determined on a basis of the financial statements. As the risk is characterized by variability, it requires not only identification but also formal analysis and proper management. The effectiveness of the

implemented risk management instruments and methods depends on five factors affecting business, i.e. environmental uncertainty, industry competition, firm size, firm complexity, and board of directors' supervising (Gordon, Loeb, Tseng, 2009, p. 322).

It should be emphasized that the risk is a form of variability that can be measured in opposite to uncertainty which implies a situation where the future output is not known and not measurable (Knight, 1921, p. 23). Risk represents a set of possible outcomes, as well as the probability of their occurrence (Karmańska, 2008, p. 30), which can be determined by one of the three methods: a priori, statistically or estimation. Thus, the essence of risk is the probability of obtaining the given result determined on the basis of methods based on objective knowledge, which excludes uncertainty. Risk is then limited to situations where the decision maker may attach mathematical probability to any random events that can occur (Toma, Chitita, Sarpe, 2012, p. 978).

One of the methods of identifying external and internal factors affecting the financial, operational and investment risks is the sensitivity analysis. This analysis is used to forecast and control processes particularly exposed to risk and to establish priorities in limiting risk's impact.

Sensitivity is a feature of a company determined by measuring the influence of changes of given factors onto changes of financial results. The influence is measured by using the flexibility of the dependent variable in relation to chosen factors (Mielcarek, 2006, p. 12). It can be examined using statistical, mathematical or graphic methods. The analyses based on four selected criteria: application, computational intensity, ease and clarity in the representation of sensitivity were presented, for example, by Frey and Patil (2002). One of the most vital types of sensitivity analyses is the one related to profits, which examines the level of impact of such factors as: volume, price of sales, variable and fixed costs on the level of profitability of operations (Sojak, 2015, p. 228). By establishing absolute and relative financial ratios, it enables the assessment of: break-even point, profit sensitivity to change of critical factors determining profit, margin of operating safety, operating leverage, financial and total leverage as well as profit multipliers.

The literature on the subject indicates that the preparation of the sensitivity analysis is particularly complicated in case of activities diversified in terms of assortments and market segments (Umpfenbach, Dalkiran, Chinnam, Murat, 2018, p. 4). Mielcarek (2006), Cwiąkała-Małys and Nowak (2009) and Żwirbla (2014) attempted to elaborate some solutions in this field. While Cwiąkała-Małys and Nowak (2009, pp. 155–168) presented a generalized analysis of the operational profit flexibility, using the classic operating profit model, Żwirbla (2014, p. 108) proposed the matrix approach of shaping profit parameters, differentiating the point of view of the seller and buyer and taking into account the existence of negotiated prices.

The sensitivity analysis is most often used in assessment of risk of investment projects. In the literature one may find primarily the case studies presenting the use of this tool (Chen, 2002; Michalski, Skudlik, 2016; Sładkiewicz, 2016; Qin, Ma, Bai, 2011, Zarzecki, 2014). However, there is still lack of research presenting studies conducted on a larger

group of enterprises, which would characterize not only the method, but also a wider context related to its use for taking decisions, in particular proving its usefulness in the assessment of business risk. Such issue was the main motivation to prepare this paper.

### 3. Results and discussion

The survey research allowed to obtain opinions of the professionals working for 54 companies in the field of sensitivity analysis as the instrument of risk management. Detailed characteristics of the respondents (companies) are presented in table 1.

Table 1. Characteristics of the surveyed companies

Specification	Number of companies	Specification	Number of companies
Total	54	Type of capital	
Size		Polish capital / more than 50%	45
Micro	12	Foreign capital / more than 50%	8
Small	15	Range of operations	
Medium	17	Local	9
Large	10	National	30
Type		International	15
Production	28	Years of operation	
Services	11	Under 5 years	7
Trade	15	5-10 years	16
		Over 10 years	31

Source: own work based on the survey research.

The vast majority of the investigated units (approximately 75%) indicated that they use methods of profit sensitivity analysis in their business practice (tab. 2). This is the most common approach among the production companies. It should be noticed that a use of the analysis is increasing with a change of a size group of companies and a range of their operations, as well as along with the time of their functioning on the market.

In the group of entities that do not use the profit sensitivity analysis one can find mainly micro and small companies. Eight of them indicated the lack of need as the cause of not using the analysis. Other entities underlined that such analysis would be useful, however they do not have adequate competences (people, knowledge, other resources) to carry it out. The latter issue was raised in particular by units operating longer on the market and conducting rather production activities than the servicing ones. Trade companies do not identify the need to use such tools. One can also conclude that, in most cases, the limitation in the use of the presented management accounting methods is the lack of identification of variable and fixed costs of the operations. As many as 11 of the 14 companies

in the group do not examine or analyse costs but take into account their change as a result of fluctuations in business activities.

Table 2. Use of profit sensitivity analysis methods by the surveyed entities

Specification	Size				Type			Range of operation			Years of operation			Total
	Micro	Small	Medium	Large	Production	Services	Trade	Local	National	International	Below 5 years	5-10 years	Above 10 years	
Yes	4	9	17	10	24	6	10	2	23	15	2	10	28	40
No	8	6	0	0	4	5	5	7	7	0	5	6	3	14

Source: own work based on the survey research.

In almost half of the cases, the profit sensitivity calculation is made by the chief accountant, and in every fourth unit this task is done by the controller (table 3). If the measurement of profit sensitivity is carried out in the micro and small companies, regardless of the character of their business, it is carried out primarily by the owner. The obtained results show that along with a development of the company, i.e. an increase in its size, range of operations and the time of running the business – this task is transferred to the specialized financial departments. Nonetheless, it usually remains at the discretion of managing staff and is not passed to be conducted by other employees than the ones employed at the accounting departments.

Table 3. Organization of the process of measuring the profit sensitivity

The professionals responsible for the analysis		Frequency of calculations	
Position	Quantity of indications	Frequency	Quantity of indications
Owner	7	Once a month	7
Controller	11	Once a quarter	7
Chief accountant	18	Every six months	4
Accounting employee	3	Once a year	11
Others	1	Irregularly	11

Source: own work based on the survey research.

Apart from investigating the people responsible for conducting sensitivity analysis in the surveyed companies, the authors asked about the frequency of such activities (table 3). The respondents most commonly pointed irregular or annual use (about 2/5 of the examined companies). Just 4 entities used it semi-annually and 1/3 of the sample used

sensitivity analysis quarterly or monthly. More often sensitivity analysis was performed by larger production companies, operating longer on the market (above 10 years).

As sensitivity analysis can be used for the identification and monitoring of the most significant external and internal factors affecting the activity of the company and to reduce financial, operating and investment risks, the authors examined factors essential for competitiveness in the industries represented by investigated entities. The authors tried to find whether the companies monitor these factors by examining their impact on the financial results and how they manage the risk. Proper risk management is vital for both survival as well as development of company and involves observing the actions of competitors and anticipating their reactions. Competitiveness can be evaluated from the perspective of factors that create it and results that are deriving from it. In this first approach, it should be pointed out that competitiveness is influenced, *inter alia*, by the ability to react quickly to changes in the environment, to use efficiently resources and by rational decision-making processes. On the other hand, the results of competition reflect, for example, market share or financial results of the company against the background of the leaders.

In the group of the analysed companies three major revenue-cost factors – sales prices, sales volume and prices of raw materials (table 4) – were indicated as relevant. As many as 49 out of the 54 surveyed companies indicated that the price is a key element of the competition on their markets. The price was listed as the most important criterion by companies of different sizes, mainly of production type (28) and trading (10 out of the 11 surveyed), with long market history and functioning in the national market. In the second place there was a sales' volume indicated primarily by trading companies (14 out of the 15 surveyed) and operating in the international markets (14/15). The significance of the prices of raw materials and materials has been clearly noted as the key factor by the representatives of the production companies (25 out of the 28 examined), representing rather larger entities. The minority of entities identified remunerations of employees and the price of energy as factors affecting competitiveness in the industry. The responders rarely pointed out the importance of other costs, such as, for example, foreign services, charges and taxes. The choice of factors considered as significantly important was usually conditioned by the type of the business. As expected, the awareness of the impact of specific factors on a business activity rises with the increase of the size of the company, the time of running the business and the range of its operations. In addition, in units that carry out production activity, at least a few key factors are noticed more often than in others (tab. 4).

Table 4. Revenue-cost factors affecting competitiveness in the industry

Specification	Size				Type			Range of operation			Years of operation		
	Micro	Small	Medium	Large	Production	Services	Trade	Local	National	International	Below 5 years	5–10 years	Above 10 years
Sales price	11	13	15	10	27	10	12	6	29	14	6	15	28
Sales volume	8	9	14	9	19	7	14	8	18	14	5	12	23
Price of materials	5	9	10	8	25	4	3	3	21	8	3	9	20
Price of energy	0	2	5	8	10	3	2	1	6	8	0	6	9
Remunerations	2	2	7	9	10	4	6	2	11	7	0	6	14
Foreign services	0	0	4	7	8	1	2	0	5	6	0	3	8
Others	1	0	5	3	5	1	3	1	4	4	0	3	6

Source: own work based on the survey research.

Awareness of the key revenue-cost factors in the industry should induce units to continuously monitor these factors and to carry out the analysis of the degree of their impact on the financial result. Therefore, it should be possible to identify logical connections between risk areas indicated by the company and a degree of their impact on the company operations. There should be used analytical tools for their monitoring. The data presented in the Table 5 show, however, that only some companies can observe mechanisms for such an approach. The analysis was subject to the functioning of the described cause-effect approach in the case of three risks the most often identified in the surveyed group. Research show that approximately 65–75% of respondents analysed the impact of identified risk factors on the financial result, but only a few used dedicated tools. Only ¼ of companies, which underlined the importance of sales prices as a key factor of competition in the industry, analysed the sensitivity of profit on price change using e.g. price multiplier or price limit. In case of 32 companies, which pointed the significant importance for the material consumption costs, only four monitor the level of these costs by using multipliers or indicators of sensitivity. The most entities monitor the sales volume indicators relevant to the market share or expanding the scope of operations. About a half of the surveyed companies which indicated that the market competitive position in the industry is affected by the scale of the operations, set the break-even point, and 1/3 of the companies monitor the safety margin of operation. Therefore, it can be determined that three indicated key factors of competitiveness are the most commonly analysed from the point of view of their impact on financial results (table 5), but the number of companies that examine them is definitively smaller, and those that use dedicated tools for this purpose, is even more limited.

Table 5. Application of dedicated sensitivity analysis methods in the assessment of key operational risks

Specification	Key factors of competitiveness	Impact on the company's financial result	Quantity of companies using dedicated tools of profit sensitivity analysis	Types of applied methods of sensitivity analysis	Number of companies using a specific tool
Sales price	49	38	13	Price limit value	11
				Sales price multiplier	6
Sales volume	40	30	21	Quantitative break-even point	21
				Quantitative margin of safety	13
				Sales volume multiplier	2
Price of materials	32	20	4	Variable costs limit value	2
				Variable costs multiplier	3

Source: own work based on the survey research.

The research carried out by the authors has also been used to determine the usefulness of the used tools of profit sensitivity analysis in the assessment of business risk. The assessment was made only by companies which declared that they use identified tools. For this purpose, we used five-point Likert scale, where 5 meant very high usefulness, and 1 – lack of usefulness. The results of the analysis, the average of all responses as well as dominant indications, are presented in the table 6.

Research show that the most commonly used tool of profit sensitivity analysis is the break-even point, with indications of its common quantitative dimension (more than 66% of the cases). A lower number of users characterizes a safety margin (about 40% indications). In the group of large and medium-sized companies additionally the level of operating and financial leverage was examined. Definitely the least commonly used element of the sensitivity analysis were multipliers (table 6). The most comprehensive scope of the analysis can be observed in the production companies with a range of national and international operations and that have been on the market for above 10 years. Micro and small companies, regardless of the type of the business, indicated using commonly the main tools of profit sensitivity analysis (break-even point and margin of safety). Large and medium-sized companies expand the analysis of the limit values and leverages.

Table 6. The methods of profit sensitivity analysis and their usefulness in risk management

Specification	Quantity of entities using the method	Assessment of usefulness	
		Average	Dominant
Quantity break-even point	36	4.22	5
Value break-even point	28		
Quantity margin of safety	23	4	5
Value margin of safety	11		
Price limit value	15	3.67	4
Variable costs limit value	9	3.22	3
Fixed costs limit value	9	3.33	4
Operating leverage	18	3.67	4
Financial leverage	17	3.82	4
Total leverage	13	3.69	4
Sales volume multiplier	6	3.67	4
Sales price multiplier	8	3.63	3
Variable costs multiplier	6	3.5	4
Fixed costs multiplier	6	3.5	4

Source: own work based on the survey research.

The majority of companies that use the profit sensitivity analysis assessed its usefulness in business risk assessment as large (dominant 4). However, it should be noted that the average values for the whole surveyed group were not as high (3.5–4.22 in the five-point Likert scale). Only two indicators – break-even point and operating safety margin – received average above 4 and dominant level 5. The obtained results allow to notice that with the increase in the company size, the range of the operations and the number of years of operations of the company, higher evaluation of the usefulness of the sensitivity analysis in risk assessment can be observed. The highest usefulness of this method in the research group was declared by the representatives of the production companies, the lowest one by service companies.

## Conclusions

The complexity of the risks associated with running a business makes it necessary to improve the quantitative tools related to this issue. Tools of profit sensitivity analysis allow for an early response to anticipated threats from both interior and environment of the company. Companies point to the high usefulness of the basic tools for the analysis of profit sensitivity in the business risk assessment (break-even point, operational safety margin). The use of leverage, limit values and profit multipliers was less popular. The study shows that in many cases the application of the profit sensitivity analysis is not a consequence of the conscious implementation and application of the risk monitoring mechanism. Only in some companies one may find connections between the type of identified risk, the

assessment of the probability and a degree of the impact on the company's performance as well as the implementation of dedicated tools for measuring and monitoring of the level of risk.

## References

- Borkowski, P. (2008). *Ryzyko w działalności przedsiębiorstw*. Gdańsk: Wydawnictwo Uniwersytetu Gdańskiego.
- Brustbauer, J. (2016). Enterprise risk management in SMEs: Towards a structural model. *International Small Business Journal*, 1 (34), 70–85. DOI: doi.org/10.1177/0266242614542853.
- Chen, H.P. (2002). Sensitivity analysis in investment project evaluation under risk, Proceedings of the First International Conference on Information and Management Sciences, *Series of Information and Management Sciences*, 1, pp. 341–343.
- Ciechan-Kujawa, M., Garstecki, D., Golej, R. (2017). *Ocena efektywności inwestycji tradycyjnych i innowacyjnych. Metody, uwarunkowania, dylematy*. Warsaw: Texter.
- Ćwiąkała-Małys, A., Nowak, W. (2009). *Wybrane metody pomiaru efektywności podmiotu gospodarczego*. Wrocław: Wydawnictwo Uniwersytetu Wrocławskiego.
- Frey, H.C., Patil, S.R. (2002). Identification and review of sensitivity analysis methods. *Risk Analysis*, 3 (22), 553–578. DOI: https://doi.org/10.1111/0272-4332.00039.
- Gordon, L.A., Loeb, M.P., Tseng, C. (2009). Enterprise risk management and firm performance: A contingency perspective. *Journal of Accounting and Public Policy*, 4 (28), 301–327.
- Karmańska, A. (2008). *Ryzyko w rachunkowości*. Warsaw: Difin.
- Knight, F.H. (1921). *Risk, uncertainty and profit*. Chicago: University of Chicago Press.
- Krawczyk, E., Wrzesińska, J. (2009). The Use of Sensitiveness Analysis to the Effectiveness Risk of Building and Implementation of the Cadastre Communications System. *Zeszyty Naukowe SGGW w Warszawie, Ekonomika i Organizacja Gospodarki Żywnościowej*, 74, 111–121.
- Kuziak, K. (2011). *Pomiar ryzyka przedsiębiorstwa: modele pomiaru i ich ryzyko*. Wrocław: Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu.
- McShane, M.K., Nair, A., Rustambekov, E. (2011). Does Enterprise Risk Management Increase Firm Value? *Journal of Accounting, Auditing & Finance*, 4 (26), 641–658. DOI: https://doi.org/10.1177/0148558X11409160.
- Michalski, D., Skudlik, M. (2016). Analiza inwestycji z uwzględnieniem ryzyka Risk Adjusted Investment Analyses. *Marketing i Rynek*, 7 [CD], 551–566.
- Mielcarek, J. (2006). *Analiza wrażliwości w rachunkowości zarządczej*. Poznań: Wydawnictwo Target.
- Nowak, E. (2010). Zarządzanie ryzykiem w działalności przedsiębiorstwa. In: E. Nowak (ed.), *Rachunkowość w zarządzaniu ryzykiem w przedsiębiorstwie* (p. 11). Warsaw: Polskie Wydawnictwo Ekonomiczne.
- Qin, X., Ma, X., Bai, H. (2011). A Risk-Sensitivity Analysis on NPV Model of Investment Projects. In: D. Wu (ed.) *Modeling Risk Management in Sustainable Construction. Computational Risk Management* (pp. 277–281). Berlin–Heidelberg: Springer.
- Redziak, Z. (2015). *Zarządzanie ryzykiem w organizacji*, Warsaw: Akademia Obrony Narodowej.

- Sładkiewicz, D. (2016). The Sensitivity Analysis in Risk Assessment of Investment Projects Based on Cosmetic Industry Company. *Finanse, Rynki Finansowe, Ubezpieczenia*, 4 (82/2), 617–624.
- Sojak, S. (2015). *Rachunkowość zarządcza i rachunek kosztów*, vol. I. Toruń: Towarzystwo Naukowe Organizacji i Kierownictwa.
- Toma, S.-V., Chitita, M., Sarpe, D. (2012). Risk and Uncertainty Emerging Markets Queries in Finance and Business. *Procedia Economics and Finance*, 3, 975–980.
- Umpfenbach, E.L., Dalkiran, E., Chinnam, R.B., Murat, A.E. (2018). Optimization of strategic planning processes for configurable products, *Journal of the Operational Research Society*, 69, 1834–1853 DOI: 10.1057/s41274-017-0287-3.
- Zarzecki, D. (2014). Sensitivity Analysis and Scenario Analysis in Investment Appraisal. *Zarządzanie Finansami i Rachunkowość*, 3, 31–44.
- Żwirbla, A. (2014). Uogólniona analiza wrażliwości zysku. *Zeszyty Teoretyczne Rachunkowości*, 79 (136), 107–133.

## ANALIZA WRAŻLIWOŚCI W OCENIE RYZYKA BIZNESOWEGO W PRAKTYCE POLSKICH PRZEDSIĘBIORSTW

**Słowa kluczowe:** analiza wrażliwości, ocena ryzyka, konkurencyjność, rachunkowość zarządcza

**Streszczenie.** Analiza wrażliwości pomaga przedsiębiorstwom uzyskać informacje niezbędne do oceny poziomu ryzyka ich działalności. Celem artykułu jest przedstawienie wyników badań przeprowadzonych przez autorów w zakresie oceny wrażliwości w próbie ponad 50 polskich firm. W artykule przedstawiono związki pomiędzy kluczowymi czynnikami wpływającymi na konkurencyjność w branży, ich wpływem na wyniki finansowe oraz rodzajem analizy wrażliwości zysku wykorzystywanej w przedsiębiorstwach. Badania wskazują na wysoką przydatność podstawowych narzędzi analizy wrażliwości na zysk w ocenie ryzyka biznesowego, w szczególności analizy progu rentowności i marginesu bezpieczeństwa operacyjnego. Ponadto średnią użyteczność przypisuje się metodom złożonym, takim jak dźwignie, wartości graniczne i mnożniki zysków.

### Citation

- Ciechan-Kujawa, M., Buszko, M., Taranowska, K. (2018). Sensitivity Analysis in Business Risk Assessment in Practice of Polish Companies, *Ekonomiczne Problemy Usług*, 4 (133/2), 39–50. DOI: 10.18276/epu.2018.133/2-04.

**Bartosz Pilecki**

University of Szczecin  
e-mail: bartosz.pilecki@wziewu.pl

**Andrzej Binka**

The Marshal's Office of the West Pomeranian Region  
e-mail: abinka@gmail.com

## The Low-Carbon Transport Fund as a Source of Financing the Electromobility Development in Poland

**JEL codes:** H29, O13, O25, Q28, O38, Q59

**Keywords:** Low-emission Transport Fund, financing electromobility, electromobility in Poland, low-carbon economy, low-emission transport

**Abstract.** The Act on electromobility introduced in Poland, within the scope of its regulation, implements a European directive on the development of alternative fuels infrastructure, the aim of which is to minimize the dependence on oil and to reduce the impact of transport on the environment. An important factor in the development of electromobility in Poland is the increased availability of charging infrastructure. The aim of the publication is to analyze the Low-Emission Transport Fund in terms of financing the electromobility development in Poland. The article consists of four parts preceded by an introduction and ending with conclusions. The applied research methods are: critical analysis of the literature (theoretical approach to issues related to low-emission economy, electromobility and distribution system operators), secondary documents analysis (desk research) relying on presentation of included in legal acts and program documents assumptions and logical reasoning method contributing to presentation of applications and implementation of the purpose of publication. The conclusions included in the final part of the article concern the identification of the planes of the Low-Carbon Transport Funds impact in the context of its functioning as a financial instrument.

## Introduction

On February 22<sup>nd</sup>, 2018, the Act of January 11<sup>st</sup>, 2018 on electromobility and alternative fuels (Act of 11 January, 2018) became applicable in Poland. The implementation of the provisions of the Act on electromobility translates into fulfilling Poland's obligations, at the level of EU directives, to support the development of the market and infrastructure necessary for using alternative fuels – including electricity – as well as achieving objectives for the deployment of this infrastructure (Directive..., 2014).

In April 2018, the legislative process of the amendment to the Act on biocomponents and liquid biofuels, which creates the Low-Carbon Transport Fund (LTF), began. The works ended with the publication in the Journal of Laws of the Act of 6<sup>th</sup> June, 2018 on the amendment to the Act on biocomponents and liquid biofuels and certain other acts (Act of 6 June, 2018), which became applicable from 28<sup>th</sup> July, 2018. The published Act on biocomponents introduced new tool – LTF, whose task is to finance projects listed, among others in the Plan for the Development of Electromobility in Poland (Development plan..., 2018), National Framework for the Development of Alternative Fuels Infrastructure (National framework..., 2017) and the Act on Electromobility.

## 1. Electromobility in Poland

In addition to such important issues as the development and principles of the functioning of charging infrastructure, or clean transport areas, the Act on electromobility introduces a number of incentives for users of electric vehicles (EVs). Among them, the following can be distinguished: excise duty and hybrid abatement, the possibility of increasing amortization write-offs for companies, exemption from parking fees or the possibility of moving EVs to bus lanes. However, these mobilizing factors do not include the development of charging infrastructure, and that is why they may be insufficient to achieve the assumed effects. As research has shown, the main obstacles to the development of electromobility (eM) in Poland are the high costs of purchasing EVs, a limited number of charging points and a limited range of EVs (Obserwatorium..., 2018).

Increasing the availability of charging infrastructure is therefore an important factor in the eM development in Poland. The Act on electromobility assumes that the EV charging infrastructure will develop on market principles. Despite the assumption that it will proceed without the need for state interference, however, the minimum number of charging points installed by the end of 2020 in generally accessible charging stations has been determined – as shown in table 1.

Table 1. Minimum number of public charging points installed in municipalities by December 31, 2020.

Minimum number of generally accessible recharging points	Number of inhabitants in the commune	The number of registered cars in total	Number of cars per 1,000 inhabitants
1,000	>1,000,000	≥600,000	≥700
210	>300,000	≥200,000	≥500
100	>150,000	≥95,000	≥400
60	>100,000	≥60,000	≥400

Source: own elaboration based on the Act of 11 January (2018), art. 60.

However, the Act on electromobility does not specify the entities responsible for the construction of charging stations. However, this does not exclude the activity of state entities, including companies with Treasury shareholding in this area. The state of implementation of the above assumptions (table 1) will, however, be subject to verification. The mayor or city president shall, by January 15<sup>th</sup>, 2020, prepare a report on charging points in the area of the commune installed in public charging stations (Act of 11 January, 2018, art. 61). If the report shows that the minimum number of charging points has not been reached, the municipal executive body is obliged to prepare a plan for the construction of generally accessible charging stations by 15<sup>th</sup> March, 2020, specifying the location and schedule for the construction of the station. Then the plan is passed for consultation with the inhabitants of the commune and agreed with the distribution system operator (DSO), on whose area of operation the deployment of generally accessible charging stations is planned. The document prepared in such a way is approved by the commune council. On its basis, DSO develops a program that defines the technical and economic conditions for connecting charging stations (Act of 11 January, 2018, art. 62).

The development of the charging infrastructure is related to ensuring the demand for services provided with their participation and building public awareness of the change of the transport model into low- and zero-emission transport. At the same time, the degree of functionality of EVs depends on the location of charging stations, taking into account the maximum distance that can be covered by a fully charged EV (Drożdż, 2018a, p. 17). Precursors in this area will be public administration units. From January 1<sup>st</sup>, 2025, supreme and central state administration bodies are to ensure that the share of EVs in the fleet servicing their units is at least 50% (from 1<sup>st</sup> January 2020 – 10%, from 1 January 2023 – 20%) (Act of 11 January, 2018, art. 34, 68). A similar obligation also applies to local government units (LGUs) where the number of inhabitants exceeds 50,000 – in this case the EV share in the fleet of used vehicles is to amount to at least 30% (from January 1<sup>st</sup>, 2020 to 20%) (Act of 11 January, 2018, art. 35, 68). In turn, from January 1<sup>st</sup>, 2028, LGUs in which the number of inhabitants exceeds 50,000 provide a public transport service – or commission it – with the use of zero-emission buses, whose share in the fleet of used vehicles in the area of this LGU is at least 30% (from January 1<sup>st</sup>, 2021 – 5%, from January

1<sup>st</sup>, 2023 – 10%, from January 1<sup>st</sup>, 2025 – 20%) (Act of 11 January, 2018, art. 36, 68). However, the introduction of these obligations should not result in unreasonable expenditure. For this reason, LGUs should prepare a cost-benefit analysis related to the use of zero-emission buses every three years. If its results indicate a lack of benefits, LGs may not fulfill the obligation to achieve an appropriate level of their participation.

The Act on electromobility also creates development opportunities for entrepreneurs and new business models; not only for producers of vehicles powered by electricity or alternative fuels, but also for companies organizing rental of transport means, Polish research centers, electronics and equipment manufacturers. The adopted legislative solutions also result in new obligations for DSOs, which may involve an increase in outlays for connecting the charging stations (Drożdż, 2018b, p. 299).

## 2. Organization and revenues of the Low-Carbon Transport Fund

On 28<sup>th</sup> July, 2018, the amended Act on biocomponents and liquid biofuels entered into force. The essence of the amendment consists in the introduction of LTF, from which the projects listed include in the Electromobility Development Plan in Poland and the Electromobility Act. Support included both innovative solutions related to electric transport, as well as those based on alternative fuels, including compressed natural gas (CNG), liquefied natural gas (LNG) or biofuels. The idea behind the target fund – LTF is to eliminate the limitations associated with low interest in existing support instruments.

The LTF disposer is the minister responsible for energy, whose main task is to approve projects for support. The management of LTF was entrusted to the National Fund for Environmental Protection and Water Management (NFEPWM), which will conduct proceedings in the selection of projects for support. These tasks are supplemented by Bank Gospodarstwa Krajowego, which as part of banking services runs a bank account of LTF, confirms the balance of funds and deposits of LTF, as well as provides consultancy and advisory services on financial matters. The basic division of responsibilities of the trustee and manager is presented in table 2.

Table 2. Obligations of the disposer and manager

Disposer	Managing
Minister responsible for energy	NFEPWM
<ul style="list-style-type: none"> <li>– supervision over the performance of tasks by NFEPWM,</li> <li>– drawing up LTF’s annual financial plan,</li> <li>– approval of the report submitted by NFEPWM on the implementation of the annual LTF financial plan,</li> <li>– indicating the project selection mode for support,</li> <li>– written approval of projects for support,</li> <li>– providing information and promotional activities.</li> </ul>	<ul style="list-style-type: none"> <li>– carrying out project selection proceedings for support,</li> <li>– recommending the project manager for support,</li> <li>– concluding contracts for support and exercising rights and obligations under these agreements,</li> <li>– transferring free LTF funds to the Minister of Finance on behalf of the trustee,</li> <li>– making payments of support and monitoring and controlling the manner of its use,</li> <li>– preparing and submitting to the holder of the project the LTF annual financial plan and reports on its implementation,</li> <li>– providing information and promotional activities.</li> </ul>

Source: own elaboration based on the Act of 6 June (2018) art. 28za, 28zb.

The specification of the rules for cooperation between the manager and the bank takes place at the level of the agreements between these entities. Indication in the Act on biocomponents of the mentioned areas is justified by the necessity to divide not only the competences of the entities, but above all the responsibility for the actions taken. The Act on biocomponents foresees that LTF may be supplied from several sources. The LTF’s revenues should be considered (Act of 6 June, 2018, art. 28zd):

- targeted subsidies from the state budget in the amount of up to 1.5% of inflows from excise tax on motor fuels planned in the previous financial year,
- interest on free LTF funds transferred to management of the finance minister,
- funds transferred by the transmission system operator in the amount of 0.1% of the justified return on capital engaged in the activity performed in the scope of electricity transmission,
- receipts from substitute fees (paid by the entity implementing the National Indicative Target),
- proceeds amounting to 15% of the broadcasting fee added to motor gasolines and diesel oil amounting to PLN 0.08 per liter of fuel (approximately EUR 20 per 1,000 liters) (the fee applies from January 1<sup>st</sup>, 2019).

The amendment to the Act on biocomponents assumes the introduction of the broadcasting fee. Revenues will be allocated to LTF (15%) – to support the development of alternative fuels market in transport and NFEPWM (85%) – to support projects related to reducing or avoiding harmful emissions of gaseous, solid or liquid substances that cause

air pollution (The Chancellery of the Prime Minister, 2018). According to the presented proposal, the obligation to pay the broadcasting fee is imposed on producers of motor fuels (motor gasolines and diesel fuels), importers of motor fuels and entities importing fuels from other EU countries.

### 3. Low-emission Transport Fund – the scope and forms of financing projects in the field of electromobility

Thanks to the amendment of the Act on biocomponents, a catalog of activities for which financial resources from LTF may be allocated has been extended. Also included are activities related to low- and zero-emission transport, i.e. outside biofuels, other alternative fuels. In contrast to the previous “Multiannual program for the promotion of biofuels or other renewable fuels for 2008–2014”, the accumulated funds will not have to be used within one financial year. In Tab. 3 the activities related to the use of electricity in transport, for which LTF funds can be allocated together with the type of beneficiary assigned to them, have been presented.

Table 3. Types of activities related to the use of electricity in transport financed from the resources of the Low-Carbon Transport Fund along with the type of beneficiary assigned to them

Operation (use of electricity in transport)	Type of beneficiary
support for the construction or extension of EV's infrastructure for charging	entrepreneurs
support for manufacturers of means of transport using electric energy for the drive and entrepreneurs conducting activity in the field of subassembly production for such means of transport	entrepreneurs
support for public mass transport operating in particular in urban agglomerations, health resorts, in areas on which forms of nature protection using electricity have been established	<ul style="list-style-type: none"> <li>– entrepreneurs providing public mass transport services on the basis of a contract</li> <li>– self-governments of communes,</li> <li>– country self-governments</li> </ul>
co-financing of port fees charged for mooring at the quay or marina of vessels using electric energy for the drive	entities managing ports
support for research related to the use of electricity in transport or related new constructional solutions and operational implementation of the results of these tests	<ul style="list-style-type: none"> <li>– scientific units,</li> <li>– scientific consortium</li> </ul>

Operation (use of electricity in transport)	Type of beneficiary
support for educational programs promoting the use of electricity in transport	<ul style="list-style-type: none"> <li>– entrepreneurs</li> <li>– chambers of commerce,</li> <li>– public benefit organizations,</li> <li>– employers' associations,</li> <li>– other associations,</li> <li>– agricultural advisory units</li> </ul>
support for the purchase of new vehicles and vessels using electric energy to drive	<ul style="list-style-type: none"> <li>– entrepreneurs,</li> <li>– LGUs</li> </ul>
support for activities related to the analysis and testing of the electricity market used in transport	<ul style="list-style-type: none"> <li>– entrepreneurs,</li> <li>– chambers of commerce,</li> <li>– public benefit organizations,</li> <li>– employers' associations,</li> <li>– other associations,</li> <li>– agricultural advisory units</li> </ul>

Source: own elaboration based on the Act of 6 June (2018), art. 28ze, 1; 28zf.

Support for projects granted from LTF funds may take the form of subsidies or loans – with the possibility of partial redemption – and other repayable financial support (Act of 6 June, 2018, art. 28ze, 3). The selection of projects for support is carried out in competition or non-competitive mode. Indication of a particular form of support and mode belongs to the LTF dispatcher. The general criteria for project evaluation for support concern (Act of 6 June, 2018, art. 28zg, 4):

- the importance of the project for the needs of the development of the electricity market used in transport,
- adequacy and accuracy of the planned activities and methods of their implementation in relation to the objectives supported by LTF funds,
- assessing the amount of planned project implementation costs in relation to its material scope,
- the applicant’s organizational capacity to implement the project and institutional preparation for its implementation.

The maximum support limit is 100% of costs eligible for support. The support is state aid. The detailed conditions for granting this aid or *de minimis* aid apply.

#### 4. Assessment of the possible impact of the Low-Emission Transport Fund on the development of electromobility in Poland

Beneficiaries of financial support from LTF may carry out investment projects consisting of on the construction site and extension of the EV charging infrastructure. It is also visible promoting the implementation of low-carbon economic strategies in cities, which include references to ecological forms of mobility and intelligent energy networks (Pilecki, 2018, p. 214). In fact, it will contribute to increasing the availability of charging infrastructure,

and will also introduce new technological solutions related to the use of electricity in transport.

An important aspect of the development of eM, related to the synergy effect, is the possibility of introducing new business models based on alternative fuels and their infrastructure. Another benefit may also be the development of technologies enabling the integration of systems and markets for transmission system operators, DSOs and energy generators.

The scope of activities supported from the LTF funds also allows support for initiatives consisting in the construction and exploration of integrated energy pilot installations adapted to the selected business model. It is also possible to co-finance the modernization of energy infrastructure, which is characterized by high capital intensity and a long period of use.

The social effects, increasing social awareness and ensuring demand for transport services using electricity through the development of zero- and low-emission vehicle fleets and public transport are not without significance for the development of eM. These activities are aimed at reducing emissions, and consequently improving the quality of air and the health of people. The implementation of a low-emission economy in all sectors is the basis for building sustainable development and energy management (Pająk, 2013, p. 42). The best way to change awareness in this area can be considered education combined with launching pilot projects that prove that transport using electricity can function more efficiently than traditional.

## Conclusions

The creation of LTF contributes to the implementation of the government's policy in the area of eM and the fight against air pollution caused by transport. The introduction of LTF will also help eliminate the limitations related to the low interest in the existing instruments to support initiatives using electricity in transport. The functioning of LTF is based on both, application of incentives and restrictions. In the first option, LTE funds are allocated to support the diversification in the transport structure (in terms of fuels), while on the other hand – LTF implement limits, such as the emission fees, added to gasolines and diesel oil engines (the introduction of which is associated with the increase in the prices of traditional fuels).

The impact of LTF on the development of eM in Poland concerns not only investments in EV charging infrastructure. Due to the extensive catalog of activities that can be supported, initiatives influencing eM include support for producers of means of transport, support for public mass transport, research support, and support for activities related to the analysis and testing of the electricity market. All these activities give the opportunity to develop business models between the entities involved. They also allow to increase social awareness, leading to the multifaceted development of eM.

## References

- Act of 6 June 2018 amending the Act on biocomponents and liquid biofuels and certain other acts, Journal of Laws. Pos. 1356.
- Act of 11 January 2018 on electromobility and alternative fuels, Journal of Laws. Pos. 317.
- The Chancellery of the Prime Minister (2018). *Draft Act amending the Act on biocomponents and liquid biofuels and some other acts*. Retrieved from: <https://www.premier.gov.pl/wydarzenia/decyzje-rzadu/projekt-ustawy-o-amendment-laws-about-biocomponents-and-biofuels-liquids-1.html> (31.08.2018).
- Development plan for Electromobility in Poland “Energy to the Future” (2017). Warsaw: Ministry of Energy.
- Directive of the European Parliament and of the Council 2014/94/ EU of October 22, 2014 on the development of alternative fuels infrastructure (2014). UJ L 307.
- Drożdż, W. (2018a). *Elektromobilność w rozwoju miast*. Warsaw: Wydawnictwo Naukowe PWN.
- Drożdż, W. (2018b). Operator systemu dystrybucji w dobie wyzwań innowacyjnej energetyki. *Zeszyty Naukowe Instytutu Gospodarki Materialów Mineralnych i Energia PAN*, 102, 291–300.
- National framework for alternative fuels infrastructure development policy (2017). Warsaw: Ministry of Energy.
- Obserwatorium Rynku Paliw Alternatywnych (2018). *Study: What do Poles think about electromobility?* Retrieved from: <http://www.orpa.pl/badanie-co-o-elektromobilnosci-sadza-polacy/> (31.08.2018).
- Pająk, K. (2013). Bezpieczeństwo energetyczne w jednostkach samorządu terytorialnego. In: K. Pająk, A. Ziomek, S. Zwierchlewski (eds.), *Ekonomia i zarządzanie energią a rozwój gospodarczy* (pp. 39–59). Toruń: Wydawnictwo Adam Marszałek.
- Pilecki, B. (2018). Regional operational programs 2014–2020 as a financial instrument supporting low-carbon economy in Poland on the example of the West Pomeranian Voivodeship. *European Journal of Service Management*, 3 (27/1), 211–216.

## FUNDUSZ NISKOEMISYJNEGO TRANSPORTU JAKO ŹRÓDŁO FINANSOWANIA ROZWOJU ELEKTROMOBILNOŚCI W POLSCE

**Słowa kluczowe:** Fundusz Niskoemisyjnego Transportu, finansowanie elektromobilności, elektromobilność w Polsce, gospodarka niskoemisyjna, transport niskoemisyjny.

**Streszczenie.** Wprowadzona w Polsce ustawa o elektromobilności w zakresie swojej regulacji implementuje dyrektywę europejską dotyczącą rozwoju infrastruktury paliw alternatywnych, której celem jest zminimalizowanie zależności od ropy naftowej oraz zmniejszenie oddziaływania transportu na środowisko. Istotnym czynnikiem rozwoju elektromobilności w Polsce jest zwiększenie dostępności do infrastruktury ładowania. Celem publikacji jest analiza Funduszu Niskoemisyjnego Transportu pod względem możliwości finansowania rozwoju elektromobilności w Polsce. Artykuł składa się z czterech części poprzedzonych wprowadzeniem i zakończonych wnioskami. Zastosowane metody badawcze to: krytyczna analiza literatury przedmiotu (ujęcie teoretyczne zagadnień dotyczących, gospodarki niskoemisyjnej, elektromobilności oraz operatorów sieci dystrybucyjnej), analiza wtórna dokumentów (*desk research*) polegająca na prezentacji założeń ujętych w aktach prawnych i dokumentach programowych oraz metoda wnioskowania logicznego przyczyniająca się do przedstawienia wniosków i realizacji celu publikacji. Wnioski ujęte w końcowej części artykułu dotyczą identyfikacji płaszczyzn oddziaływania Funduszy Niskoemisyjnego Transportu w kontekście jego funkcjonowania jako instrumentu finansowego.

### Citation

Pilecki, B., Binka, A. (2018). The Low-Carbon Transport Fund as a Source of Financing the Electromobility Development in Poland. *Ekonomiczne Problemy Usług*, 4 (133/2), 51–60. DOI: 10.18276/epu.2018.133/2-05.

Monika Różycka

West-Pomeranian School of Business  
moniwo@o2.pl

## Women in Finance

**JEL codes:** D10, G00, I16, L26

**Keywords:** diversity, women in finance, equality in business

**Abstract.** The aim of the article is to present selected research related to diversity at the economic level, with particular emphasis on the situation of women in Poland against the background of international and European indicators, and also to show an analysis of women's approach to investment products.

### Introduction

The scenery in which companies operate is subject to changes in the economic, social, political or technological sphere. The constant necessity to introduce innovations – overtaking, creating and meeting the expectations of investors, customers and consumers, increasing their interest in the portfolio of products or services, continuous pressure on performance and strengthening the market position – these are just a few of the wide spectrum of difficult elements of company management. Keeping up with the variable preferences of stakeholders is a real challenge today. It would also be difficult to agree with the statement that gender is not one of the most significant and widespread distinctions that employers most often face. It is treated as a fundamental indicator when analyzing the labor market. Disregarding the owner of a company in Poland in the gender statistics is a shortcoming of the enterprise sector (Lisowska, 2012, pp. 87–101). None of the roles changes the individual's behavior, its emotional reactions, the cognitive process, internal beliefs and general psychological and social adaptation to a greater extent. Currently, part

of the business culture, in particular the corporate culture of large companies, is an awareness of the necessity to use the possibilities of effective diversity management, based on gender, by noticing the potential of women in business and the labor market. Diversity, not monolithism, is important and seems to be a factor of success, a lever of efficiency that fosters greater creativity of enterprises. Diversity is today not the only one of the key resources of companies. It is a *sine qua non* condition for more fully utilizing the potential and talents of women. Diversity management brings tangible benefits, positively affects the achievement of business goals and builds a competitive advantage, development and growth of the level of innovation of companies.

## 1. Selected indices and analyzes that measure gender equality

The measurement of equality of women and men in social and economic life in the world and European background can currently be done with the help of the two most well-known indices, namely: Global Gender Gap Index (GGG) and Gender Equality Index (GEI). The GGG is calculated by the World Economic Forum in Davos and covers countries representing around 90% of the world's population. However GEI is used by the European Institute for Gender Equality and concerns the EU member states. GGG indicators measure the level of inequality in four areas: economic and political activity, access to education and health. The lowest inequality in GGG in terms of all criteria in 2016 occurred in Iceland, which for the past nine years has been recognized every year as the best in the world in terms of gender equality, and then in Finland, Norway and Sweden<sup>1</sup>. Out of the 144 countries participating in the survey, Poland ranked 38 in the global ranking, while in the European ranking it was 22, including Ireland (the 6th place in the global ranking), Germany (13), France (17) and Great Britain (20). In the region of Eastern Europe, Poland was overtaken by Slovenia, Latvia, Estonia, Lithuania, Moldova and even Belarus. The USA ranked 45 in the global ranking. The participation of women in the GGG area at the economic level is assessed, among others, on the basis of the professional activity rate of women, the gender pay gap in similar positions or the percentage of women among managerial employees. The stratification in the earnings of Poles and the uneven access to better paid positions mean that in the GGG index Poland ranked 58 (behind the United States and part of European countries). The report also indicates that the required gender equality should be achieved in 2186, that is in 170 years (in 2015 this period was smaller and amounted to 118 years) (World Economic Forum, 2016). According to Global Gender Gap 2017, our country is at the 39th place in terms of multidimensional equivalence criteria, and in order for the situation regarding the treatment of women and men in the country's economic life to be able to equalize, we need 217 years (World Economic Forum, 2017).

---

<sup>1</sup> Interestingly, Rwanda, the only state in sub-Saharan Africa that ranked in the top ten, took the fourth place.

In turn, the GEI index includes areas such as – work, earnings, education level, free time, access to power, health level, cross-sectoral inequality and violence against women. The results of GEI measurements show that among the 27 European countries, the highest level of equality, except for Iceland, is usually achieved by Scandinavian countries, such as Sweden, Denmark and Finland. Poland was in the group of countries with the lowest level of equality, as in GGG – our country was overtook by Lithuania, Bulgaria and Belarus (European Institute for Gender Equality, 2013).

The Gender Balance Index 2018 reports on the GBI equality index and is prepared by the Official Monetary and Financial Institutions Forum (OMFIF). The annual Gender Balance Index tracks the presence of men and women in senior positions of 415 public financial institutions globally, weighted by seniority. The 2017 report focused on central banks, showing that the sector is highly unbalanced when it comes to gender, with the disequilibrium becoming worse. “The value of the overall index, which aggregates the performance of individual institutions weighted by their country’s share of the global economy, stood at 30.6% in 2017 – a far cry from the 100% that would suggest a perfectly gender-balanced picture. The 2018 edition of the Gender Balance Index expands the analysis to sovereign funds and public pension funds” (OMFIF, 2018).

Currently, there is no country in the world where women would earn more than men. For every \$100 earned by a statistical woman, globally there are \$140 earned by a man. In the US, the average difference in earnings is around 18%. Research shows that women receive about 80 cents for every dollar that men earn (Accenture, 2017). The scale of gender inequalities in wages in Polish banking is shown by GUS data, according to which women earn in this sector on average 36% less (PLN 3,056) than men. In turn, according to research by Sedlak and Sedlak in finance, men have 48% higher wages with average earnings of PLN 6,300, while women receive an average PLN 4,256 (Hajec, 2015). There is a direct relationship between the number of women and the level of management, consistent with the principle that the higher the level, the smaller the number of women (Lisowska, 2011, pp. 1–4; Kupczyk, 2009). For example, in companies listed in the S&P 500 index in 2015 in the United States, the women’s coupons were occupied by 23 women, which is 4.6% of all CEO (*Najlepiej...* 2015). Analyses show that in 2017 women in the US accounted for only 6% of the top-paying CEO (Gillet, Wąsowski, 2017).

Due to the small number of public companies and a relatively small group of women in their authorities in Poland, it is difficult to make precise research on the number of women at the top of the companies. In 2014 the percentage of women on company boards, according to the Ministry of Labor and Social Policy in Poland, was around 12%, and women who served as the board’s presidents were around 7%<sup>2</sup> (Ministerstwo Pracy i Polityki Społecznej, 2014, p. 13).

---

<sup>2</sup> Due to the research tool used in surveys they are a rather incomplete reflection of the situation in companies listed on the Warsaw Stock Exchange. In 2012–2013, around 15% of companies responded to surveys, which means that the representativeness of the sample was quite limited.

Promoting gender diversity in the financial sector, historically speaking, almost “always” dominated by men is treated not as “an end in itself” but a tool that brings tangible benefits to the organization. Analyses regarding financial and socio-economic data, stating the interdependencies between the presence of women in decision-making positions and results at the microeconomic level, have been conducted since 1995 among others by companies such as: Catalyst, Credit Suisse or McKinsey & Company. The research of these companies reveals the interdependencies between the presence of women in decision-making positions and microeconomic performance, such as: ROE (return on equity), EBIT (earnings before deducting interest and taxes), return on sale (ROS), i.e. profitability indicator indicating how much net profit remains in the enterprise from sale, also operating profit margin or market valuation of listed companies. Companies with at least three or more women in decision-making positions had a 53% improvement in return on equity (ROE), while in terms of return on invested capital (ROIC) – 66%. These results do not mean that the best from the economic point of view is the situation in which 100% of women are in the company’s authorities, but that the quality of the company’s management team is higher due to the different competences (Ministerstwo Pracy i Polityki Społecznej, 2014, pp. 27–31).

The analysis of the correlation between the number of women in top positions and business indicators, according to reports by McKinsey & Company and Credit Suisse indicates that in companies with a higher share of women, not only return on equity (ROE) is higher, but also operating profitability (EBIT margin), price index / the book value or the dynamics of net profit. The financial results of companies in which women manage are likely to be higher by up to several dozen percent, while the greater the presence of women among the company’s decision-makers, the better the financial result. It should be noted that although some deficiencies in the research methodologies used in the reports have been pointed out, such as linear regression and logarithmic regression, used in the multidimensional statistical analysis of companies, in subsequent scientific studies the existence of the presented permanent trend was confirmed. For example, return on sale (ROS) indicators show that companies with the highest share of women in relation to companies with the lowest share in the company’s authorities had in terms of return on sales better results by several or several dozen percent. As this indicator is a net profit margin, i.e. net profit / sales, it grows both when net profit goes up and when net profit is stable and sales are decreasing. The size of this ratio, like other profitability ratios, is generated by the greater ability to achieve net profit.

According to data presented by McKinsey & Company, “companies with the highest share of women in government (...) had better return on equity (ROE) rates by 41% and operating profitability (EBIT margin) by 56%” (Ministerstwo Pracy i Polityki Społecznej, 2014, p. 28). The confirmation of the above-mentioned applications is another Credit Suisse report entitled *Gender diversity and corporate performance*, in which it was stated that in companies where at least one woman is in the management / supervisory boards of these companies, return on equity ROI is higher by 4 percentage points than in the case

of companies in which women in management / supervisory boards of these companies do not appear and in the first case this ratio was 16%. The debt to equity ratio (Debt Equity Ratio) in the case of companies in which at least one woman was a member of the management boards / supervisory boards of these legal entities was lower by 2 percentage points than in the case of the management boards / supervisory boards of the company with no women and it was 48%. The price to book value ratio (P / BV) was higher by 0.6 in the case of at least one woman in the company's board / supervisory board, amounting to 2.4. According to the *Credit Suisse* report, companies in the boards / supervisory boards of which there was at least one woman achieved better stock prices than those in which in their decision-making bodies there was no women. This applied to both companies with capitalization above and below USD 10 billion (Ministerstwo Pracy i Polityki Społecznej, 2014, pp. 28–30). It should be noted that the authors of these reports stipulate that a statistical relationship has been examined in the above-mentioned scope, without, however, explaining the cause-and-effect relationships. Based on the Credit Suisse report, a justification for better results achieved by organizations, in the authorities of which women sit, was developed. The variety of competences increases the quality of decisions taken by the company's bodies, including "better use of the company's talents and skills, the company has a stronger focus on the client's needs, the company has a higher level of corporate governance, the company has lower risk appetite" (Ministerstwo Pracy i Polityki Społecznej, 2014, p. 31). According to E. Lisowska, those companies in which women are more represented in management (30%+) have better financial results (Lisowska, no year, slide 7).

The Sauder School of Business studies at the University of British Columbia also show that the more women in management positions, the better the company's performance. Women are less indebted to the enterprise, they care more about the shareholders' money. If there are women on the board, the likelihood of paying the higher bonuses is reduced (Brzezinski, 2012, pp. 76–77). Sheryl Sandberg also believes that women are more cautious about looking for change and new challenges (Sandberg, 2016, p. 58). Ewa Lisowska indicates that women function better under lower risk conditions (Lisowska, 2011). Among the benefits for companies having women in the authorities are: better use of the potential of talents and skills by the company, higher level of corporate governance or lower propensity to risk – which is useful in particular in conditions of economic crises. In the long-term perspective, increasing the share of women on management boards and supervisory boards of companies increases financial security and stabilizes their results. In addition, at the microeconomic level, the presence of women in management supports the development of better quality management processes.

## 2. Selected research on women's approach to finance

"While financing is a problem for every entrepreneur, for women entrepreneurs the problem is even more acute" (Hisrich, 1985, p. 73). In all types of economies, women are less likely and less willing than men to engage in business. The fact that the average man is

twice as likely as a woman to start a business is a lasting, consistent and extremely stable general trend in almost all countries around the world. Some differences in this respect may depend on the region and local conditions that support female entrepreneurship. Persistent and consistent across countries, there is evidence to suggest that female entrepreneurs tend to use smaller accounts of start-up capital than male counterparts, e.g. in the United Kingdom women are more likely to start business in low-capital intensive sectors. Also they tend to be more risk averse and command lower levels of funding, depend upon informal or more expensive sources of finance. Are more likely to start up businesses with lower level of initial capitalization, utilize lower ratio of debt finance and are less inclined to use private equity finance (McAdam, 2013, p. 3, 62).

The authors of the Deutsche Bank report attempted to define the approach of women to finance. The report shows that women in their financial choices are more conservative and preventive. Safety is the most common priority. They need more time to convince themselves of new solutions and stronger than men feel the need to have deep knowledge about the functioning of investment products. Entering the role of an investor, they must gain trust in a financial institution, its advisors or solutions that it offers, and only then they become convinced to buy more advanced products, such as investment funds. In turn, the domain of men is greater propensity to take risks that bear not only the threat of making a mistake, but also greater economic benefits. Men choose investment in the capital market more often than women (5% men and 1% women) and twice as often as women plan the so-called alternative investments (10% and 5% respectively). In addition, Deutsche Bank's research shows that more than half of women think about their family's financial situation for at least 10 years. One-third of them share their savings between several products with different risk levels. In addition, 78% of women like to know how much money they have at their disposal and control income and expenses, while 61% know exactly how much money they have in their account at any given time. Women more willingly than men (67% of surveyed women and 42% of men surveyed) save for a rainy day, i.e. expenses related to unforeseen circumstances that suddenly fall on us, or in the event of a sudden loss of employment (Deutsche Bank, 2016).

The decision-making process of women and men is interesting. In women it is more multi-threaded, it often resembles "recoiling" to the point of departure under the influence of new information – this applies in particular to gathering information about investment opportunities and comparisons of selected alternatives. Women also more often seek psychological confirmation of the rightness of the investment choice (here an important role of a financial advisor was diagnosed). On the other hand, in men the typical "linear" action prevails, oriented towards a quick achievement of the target. The surplus of financial savings on the savings account is postponed by 42% of women. In turn, among men, supporters of this solution are only 27%. Similarly, in the case of deposits – 31% of women from the study group and every fourth man, or 25% of men, chooses them. Women more often than men declare the desire to save for children (19% women and 15% men), while men

have a new apartment (16% men and 6% women) and a car (19% men) (Deutsche Bank, 2016; Pramerica, 2018).

Pramerica's studies also show that almost 40% of women, in comparison with 45% of men, declare that they make their own financial decisions, which indicates a similar level of autonomy in deciding on their own or family finances. The above confirms the high independence and financial awareness of women and their commitment to achieving the goals set. The role of women in family finance management increases with the increase in family income, because in households with incomes above PLN 7,000, twice as many (44%) women are more involved in financial management. Interestingly, women more often than men reach for the advice of their relatives – every third woman (34%, compared to 30% of men) declares that she makes financial decisions with other family members.

Women's approach to finances varies, among other things, depending on their age. Polish women aged between 25 and 44 are more open to buying new financial products and, despite their young age, have high financial awareness (23% of respondents). In turn, after the age of 44, the declaration in this regard is made up by 18% of the surveyed women. In addition, they are more willing to differentiate sources of savings and do not focus only on basic financial instruments. Together with having a child, women are more likely to buy a financial product, which suggests the concern for the future of their loved ones (Pramerica, 2018).

Also, according to a Gallup Institute survey, women invest more in pension funds, caring for a distant future. Investor clubs made up of women achieve an average annual profit of 21.3%, while men's clubs – 15%. Women in the vast majority do not deal with short-term transactions, “do not shuffle their packets all the time” and rather “do not have player mentality at races” (Fisher, 2003, p. 40). On the other hand, the content of interviews with women with high financial functions shows that women themselves do not want to be classified as people who are less likely to take risks. They pay attention to the fact that although in the financial world women bring a new, fresh look and present different perspectives in relation to solving industry problems, they are perceived as unfamiliar, as foreigners (Brzezinski, 2012, pp. 86–87).

## Conclusions

Thinking about contemporary business in Poland, Europe or in the world and their most significant characters, currently several women can be mentioned<sup>3</sup>. However, when we look at all the numerous rankings and surveys that show the presence of women at the tops of companies including men, it turns out that the situation is very unsatisfactory and that women are simply significantly less numerous than men there. Except for Janet

---

<sup>3</sup> Irena Eris, Elżbieta Filipiak, Dorota Soszyńska, Aldona Wejchert, Grażyna Karkosik, Solnaga Olszewska, Grażyna Kulczyk or Sheryl Sandberg, Elizabeth Arden, **Estée Lauder**, **Oprah Winfrey**, **Indra Nooyi**, **Irene Rosenfeld** etc.

Yellen, who in February 2014 became the head of the Federal Reserve (the central bank in the USA), and held this position until February 2018, and Christine Lagarde, who started managing the International Monetary Fund in 2011 (the other of the two most significant financial institutions in the world), there are no more examples of women performing the functions previously reserved for men in public financial institutions. Although the last few years indicate the benefits of increasing the participation of women in the decision-making processes at the microeconomic level – at the level of companies and macroeconomic – at the level of economies, in Poland there is still a lack of awareness of the values that women can bring to the labor market and business.

Research shows that the behavior of Polish women in the care of personal finance shows independence and very good substantive preparation, thus breaking the prevailing stereotypes. Thanks to their knowledge, independence and innate entrepreneurship, they constitute a strong group of conscious consumers on the financial market. They also demonstrate high care and cost-effectiveness in managing companies and improving their financial results.

Unequal treatment of women and men in business and the labor market is still an important problem. Any discrimination on the grounds of sex seems to be incomprehensible if we take into account the growing importance of women in society and the economy, today referred to as *womenomics*, i.e. the growing economic power of women<sup>4</sup> (Haponiuk, 2017, pp. 80–85; Hatałska, 2017, pp. 54]. This trend is being strengthened and accelerated by demographic changes, especially due to the aging of Western societies, also in Poland and due to this process, staff shortages in the labor market that women should and can successfully fill. Insufficient gender equality inhibits economic development, and supporting gender diversity in the financial sector plays an important role in the development of states.

## References

- Accenture (2017). *Gender to Equal*. Retrieved from: [https://www.accenture.com/t20170403T052457Z\\_w\\_/us-en/\\_acnmedia/PDF-45/Accenture-IWD-2017-Research-Getting-To-Equal.pdf](https://www.accenture.com/t20170403T052457Z_w_/us-en/_acnmedia/PDF-45/Accenture-IWD-2017-Research-Getting-To-Equal.pdf) (23.01.2018).
- Brzezinski, M. (2012). *Znaj swoją wartość*. Warsaw: Studio Emka.
- Deutsche Bank (2016). Report. Retrieved from: <https://www.deutschebank.pl/biuro-prasowe/raporty-i-analizy/kategoria-materialy-analityczne/jak-inwestuja-kobiety-rozwaznic-ale-i-zachowawczo.html> (12.10.2016).

---

<sup>4</sup> Currently, there is one area in Poland where women have a definite advantage over men. GUS data show that since 1985 the difference in this respect in Poland was about 1.2 million at the end of 2016. The feminization rate, which shows the number of women per 100 men since the beginning of 2000 oscillates around 106 – 107 women. Moreover, women live longer than men – the average life expectancy for women is around 82 years, while for men it is about 74 years.

- European Institute for Gender Equality (2013). *Gender Equality Index Report 2013*. Retrieved from: <http://odpowiedzialnybiznes.pl/public/files/GenderEqualityIndex%20Report.pdf> (12.06.2017).
- Fisher, H. (2003). *Pierwsza pleć*. Warsaw: Jacek Santorski&Co.
- Gillet, R., Wąsowski, M. (2017). *Brak kobiet na liście najlepiej opłacanych CEO to objaw głębszego problemu*. Retrieved from: <https://businessinsider.com.pl/firmy/kobiety-wsrod-najlepiej-zarabiajacych-managerow-ceo/p3w40ew> (04.09.2017).
- Hajec, M. (2015). *Wynagrodzenia kobiet i mężczyzn w 2015 roku*. Retrieved from: <http://wynagrodzenia.pl/artykul/wynagrodzenia-kobiet-i-mezczyzn-w-2015-roku> (23.06.2017).
- Haponiuk, M. (2017). Płaca za pracę, nie za pleć. (*S*)*prawa Polek*, 12, 80–85.
- Hatałska, N. (2017). *Trendbook*, Hatałska.com, Retrieved from: <http://hatalaska.com/2017/03/16/trendbook2017-zapraszam-do-lektury/> (02.08.2017).
- Hisrich, R.D. (1985). The woman entrepreneur: characteristics, skills, problem and prescriptions for success. In: D.L. Sexton, R.W. Sailor (eds.), *The Art and Science of Entrepreneurship* Cambridge, MA: Ballinger.
- Kupczyk, T. (2009). *Kobiety w zarządzaniu i czynniki ich sukcesów*. Wrocław: Wyższa Szkoła Handlowa.
- Lisowska, E. (no year), *Kobiety w zarządach i radach nadzorczych*. Retrieved from: [http://www.spolnoczenstwoobywatelskie.gov.pl/sites/default/files/kobiety\\_w\\_zarzadach.pdf](http://www.spolnoczenstwoobywatelskie.gov.pl/sites/default/files/kobiety_w_zarzadach.pdf) (02.12.2016).
- Lisowska, E. (2011). *Kobiety styl zarządzania*. Onepress.
- Lisowska, E. (2012). Przedsiębiorczość kobiet i ich wkład w rozwój gospodarczy. In: K., Nadana-Sokołowska, M. Rudaś-Grodzka, E. Serafin (eds.), *Wiek po Marii Skłodowskiej-Curie. Emancypacja kobiet w Polsce i we Francji*. Warsaw: IBN PAN.
- Ministerstwo Pracy i Polityki Społecznej (2014). *Więcej równości – więcej korzyści gospodarce. Kobiety i mężczyźni na stanowiskach decyzyjnych w polskiej gospodarce w latach 2010–2013*. Warsaw.
- McAdam, M. (2013). *Female entrepreneurship*. London–New York: Routledge Taylor & Francis Group.
- Najlepiej zarabiające kobiety w amerykańskim biznesie* (2015). Forbes. Retrieved from: <http://kariera.forbes.pl/najlepiejzarabiajace-kobiety-w-amerykanskim-biznesie,artykuly,196577,1,1.html> (24.08.2017).
- OMFIF (2018). *Gender Balance Index*. Retrieved from: <http://thinktank.omfif.org/genderbalance-index2018> (06.04.2018).
- Pramerica (2018). *Polki w świecie finansów – niezależne, pewne siebie, wyedukowane i przezorne*. Retrieved from: [https://www.pramerica.pl/wpcontent/uploads/2018/03/Pramerica\\_Press\\_Release\\_08\\_03\\_18.pdf](https://www.pramerica.pl/wpcontent/uploads/2018/03/Pramerica_Press_Release_08_03_18.pdf) (08.03.2018).
- Sandberg, S. (2016). *Włącz się do gry*. Katowice: Wydawnictwo Sonia Draga.
- World Economic Forum (2016). *Insight Report, The Global Gender Gap Report 2016* Retrieved from: [http://www3.weforum.org/docs/GGGR16/WEF\\_Global\\_Gender\\_Gap\\_Report\\_2016.pdf](http://www3.weforum.org/docs/GGGR16/WEF_Global_Gender_Gap_Report_2016.pdf) (12.04.2017).
- World Economic Forum (2017). *Insight Report, The Global Gender Gap Report 2017*. Retrieved from: [http://www3.weforum.org/docs/WEF\\_GGGR\\_2017.pdf](http://www3.weforum.org/docs/WEF_GGGR_2017.pdf) (05.04.2017).

## KOBIETY W FINANSACH

**Słowa kluczowe:** różnorodność, kobiety w finansach, równość w biznesie

**Streszczenie.** Celem artykułu jest prezentacja wybranych badań związanych z różnorodnością na poziomie gospodarczym, ze szczególnym uwzględnieniem sytuacji kobiet w Polsce na tle wskaźników międzynarodowych i europejskich. Również pokazanie analiz dotyczących podejścia kobiet do produktów inwestycyjnych.

Pomiaru równości kobiet i mężczyzn w życiu społecznym i gospodarczym w tle światowym i europejskim można dokonać aktualnie za pomocą dwóch najbardziej znanych indeksów, a mianowicie: Global Gender Gap Index (GGG), Gender Equality Index (GEI) czy Gender Balance Index. Polska w rankingu globalnym w 2017 r. (na 144 kraje) znalazła się na 39 pozycji, natomiast wyniki pomiarów *GEI* pokazują, iż wśród 27 krajów europejskich, Polska jest w grupie państw o najniższym poziomie równości – nasz kraj wyprzedziły Litwa, Bułgaria i Białoruś.

### Citation

Różycka, M. (2018). Women in Finance. *Ekonomiczne Problemy Usług*, 4 (133/2), 61–70. DOI: 10.18276/epu.2018.133/2-06.

Artur Bielan<sup>1</sup>, Marcin Sobieraj<sup>2</sup>

University of Szczecin  
Faculty of Management and Economics of Services  
1 e-mail: arturbielan@gmail.com  
2 e-mail: marcin.sobieraj@wzueu.pl

## Issues Related to the Flow of Receivables and Liabilities versus Code of Ethics in Business in Shared Service Centres Exemplified with a Case Study

**JEL codes:** F30, F65, M41

**Keywords:** shared service, finance, code of ethics, liabilities, receivables

**Abstract.** An increase in investments in the modern shared services sector has been noticeable for over a decade. The article presents the current market situation in the West Pomeranian Voivodeship in the shared services sector; it shows the city of Szczecin against other locations in Poland. It describes the flow of receivables and liabilities and non-ethical behaviour. It presents typical areas of activity in the modern shared services sector and presents examples of relationships based on a case study between a parent company and a daughter company. The presented problems may be the basis for the implementation of certain improvements in the methods of measuring key performance indicators in order to improve the achieved results.

### Introduction

In principle business ethics should present the basic values and acceptable rules of behaviour and business practices with which the company is identified. It creates certain standards to ensure compliance with relevant internal and external standards. The values contained in the code of ethics should be the basis for the operation of any organization. In today's realities, many companies pride themselves on implementing Corporate

Social Responsibility and having their own code of ethics, which they identify with. Nevertheless, some unethical behaviours can still be observed on the market, which will be presented in the article by a shared services company. The cases described will refer to the relationships between a parent company and its subsidiary company in shared service centres. In addition, the characteristics of the modern shared services market in the city of Szczecin will be presented.

## 1. Characteristics and main assumptions of the concept of corporate social responsibility

Corporate social responsibility is a term referring to both the business and social spheres (Żemigala, 2013). It means a concept according to which enterprises, while building a strategy, also take into account the issues of environmental protection, social interests and relations with stakeholders. A group of stakeholders defined as entities that affect or can affect an enterprise can be influenced by its activities from a strategic management point of view (Stachowiak-Kudła, 2014).

The results achieved by the entity may be affected by the activities of individual stakeholders or institutions. This group includes, among others, owners of the unit and its employees, customers, suppliers, which allows to state that this group contains people / institutions from the immediate environment. It is the responsibility of enterprises for their impact on society (Blowfield, Murray, 2008). Blowfield also stated that Corporate Social Responsibility (CSR) is being promoted as an approach to international development, but is also being criticized by development organizations. While Marek Grzybowski (2004) refers to the recognition of CSR as an element conducive to achieving the company's economic goals and consisting in caring for positive relationships among those groups that can affect business success.

Referring to the main assumption of the idea of corporate social responsibility, the actions of individuals should be directed at meeting all formal and legal requirements. What is more, it is assumed that appropriately increased investments in environmental protection, human resources development and relations with various stakeholders may affect the entity's performance and stimulate its innovation.

### Examples of How Firms Define Corporate Social Responsibility

1. PKN ORLEN: Being a leader in our industry, we want to develop social sensitivity. We take care to ensure that our success built by everyday work is created in an ethical and responsible way towards our stakeholders and the environment that we influence by conducting our business (Orlen.pl, 2018).
2. Kongsberg: Sustainability Strategy 2018–2022, Global challenges are the starting point for a variety of business opportunities for KONGSBERG. Sustainable thinking is not an alternative way of thinking, but a prerequisite for sound operation over the next few decades. Customers expect it, authorities and owners expect it, and employees – not least the coming generation in the labour market –

- expect it. Sustainable operation will be necessary in order to obtain a “license to operate”.
- Technological development is crucial for creating a more sustainable society. “Technology companies like KONGSBERG have a key role to play in solving the global and environmental climate challenges that the world faces” (Kongsberg.com, 2018).
3. VESTAS: Social License to Operate: Lowering risk & building community trust. At Vestas we know and understand that establishing and maintaining a Social License to operate is essential for successful and sustainable projects, especially in emerging markets. This is why Vestas prioritizes working with customers, local authorities, communities, and other actors in Emerging markets CSR (Vestas.com, 2018).
  4. Philips: “Living up to our heritage of social commitment we use our capabilities to enhance the lives of our employees and society at large. We believe our responsibility extends to the full value chain and view supplier sustainability as a matter of taking care of the environment and of workers’ lives” (Philips, 2019).
  5. Shell: “Our Business Principles and Code of Conduct define our core values of honesty, integrity and respect for people, and are at the heart of how we manage our business. These are translated into specific requirements through a set of company-wide commitments and standards that define how we operate in socially and environmentally responsible ways” (Shell, 2009).

## 2. Main assumptions, the concept of receivables and liabilities

The concept of finance, as one of the scientific disciplines, is associated with cash. Through finances, one can understand the general monetary phenomena that are the result of economic activity, i.e. the way of creation, collection and storage of financial resources (Podstawka, 2010). In turn, another definition assumes that the term “finance” defines the concept of financial management as the use of money by the state, local governments and other economic entities, households and international institutions (Majchrzycka-Guzowska, 2011). Which indicates the entities involved in the market and shows the essence of the functioning of finances – there are also inseparably linked to the category of money and all related operations.

The finance category also allows the terminology associated with liabilities and receivables to be distinguished. One of the basic definitions assumes that the obligation is the financial or material provision of the debtor to the creditor who must have a strictly defined value as well as a due date as at the date of creation (Duliniec, 2011). On the other hand, from the financial point of view, obligation may be defined to contractually commit the entity to transfer cash or other financial assets to another business entity and exchange financial instruments with another business unit under potentially unfavourable

conditions. Which allows identifying the essence and role that is assigned to the presented category – broadly understood satisfaction of claims by another entity.

In the context of the considerations presented in the article, the idea of trade commitments was also discussed. This group is usually defined as trade payables, i.e. amounts payable for goods or services that have been delivered or made and have been invoiced or formally agreed with the supplier (Pfaff, 2013). This group refers to transactions concluded with external entities, and their timely settlement may indicate high liquidity of the entity and may result, among others, in building positive relationships between the supplier and the recipient.

Receivables are the right to receive cash benefits from earlier deliveries or services at a given date, agreed between the parties. You can also define a receivable as a kind of relationship, trust between companies that conclude a contract. This applies both to transactions concluded with external and internal units, with a lower risk. Ethics in business is also a relationship between an enterprise and a trading partner. Efficient management of receivables is of key importance in the aspect of managing the risk related to loss of financial liquidity as well as managing relationships.

### 3. Characteristics of shared services sector in the West Pomeranian Region (city of Szczecin)

The West Pomeranian Region continues to attract international investment in modern Business Process Outsourcing (BPO) business centres. BPO is outsourcing its own business processes like financial, logistic, customer support, etc. The city of Szczecin in this respect has a lot to offer. This is mainly due to the high intellectual potential, as well as the availability of a highly qualified labour market in the areas of finance, logistics, IT and engineering. High work culture and relatively low labour costs are strong assets of the region. An additional, very important, element is the location. The proximity to the capital of Germany – Berlin, which is only 127 km away from Szczecin and a wide range of connections:

- by land – a combination of highway roads in Poland and the motorway system of Western Europe,
- by sea – ferry terminal in Świnoujście offering connections to Copenhagen and southern Sweden (Ystad, Trelleborg),
- by air – Szczecin Goleniów Airport providing direct flights to Ireland (Dublin), Norway (Oslo and Bergen) and Great Britain (London Stansted, Liverpool).



The characteristics of the large-area real estate market, which is an important element in the shared services industry, were presented in figure 3. The following factors were taken into account: transaction price, office space under construction, demand for office space, total supply, new supply and indicator vacancy. In 2017, there were about 1,300 sq m under construction in three investments in Szczecin. It is worth noting the positive trend of the vacancy rate, which at the beginning of 2017 was at the level of 14.3%. This is a decrease of around 3% compared to 2015. In terms of access to large-scale real estate and developed space on the local market, there is still a lot to do. However, one should notice a significant improvement for the last few years.

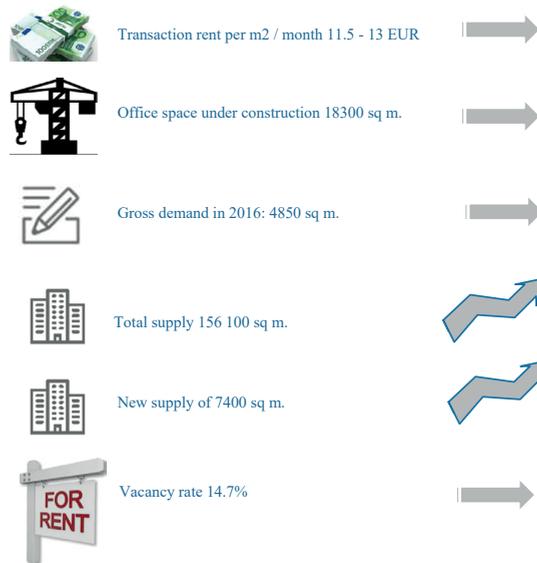


Figure 3. Large-area real estate market for the modern common services sector in Szczecin plus forecasts for 2018–2019

Source: Own design.

The high concentration of companies with foreign capital in the BPO sector gives grounds for stating that investors' interest in the business services industry should grow. Such an assumption may also indicate an increase in new investments in the region in the future or the expansion of the activities of companies already present on the market.

A typical area of activity of shared services provided to the headquarters by daughter companies in the field of invoicing and finance is presented in figure 4. It focuses on the following areas: accounting from the financial side of implemented projects, booking invoices from suppliers and recipients, creating and posting invoices between companies and monitoring payment entitlements.

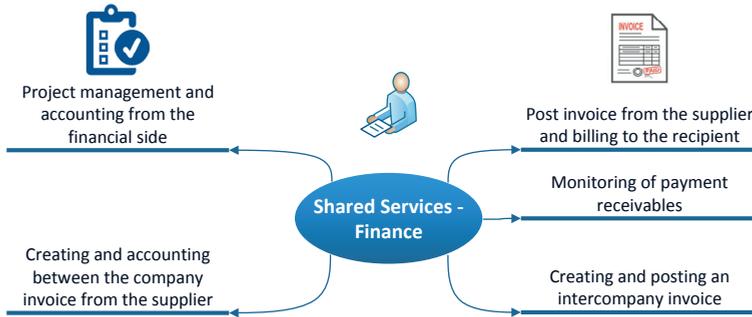


Figure 4. A typical area of activity of modern service centres in the field of finance  
 Source: Own study.

### 5. Relationship between units on the international market

The next point shows the issues of the behaviour of individuals in international relations (Parent Company – subsidiaries, parent / subsidiaries – supplier / recipient) and their reference to the issues of corporate social responsibility. It is worth noting that on the international market more and more often it becomes possible to identify corporations characterized by having a main branch (mother company) and other related companies (daughter companies), between which various relationships can take place. As a rule, the mother company will have the necessary need for equity, however, to meet other financial needs, the entity may use a number of other activities and instruments, for example, by taking intra-corporate loans from related entities, appropriately shaping payment dates for deliveries and services, which may affect the value of the entity’s liquidity.

One of the specific examples may be obtaining funds under parallel loans between companies, shown in figure 5.

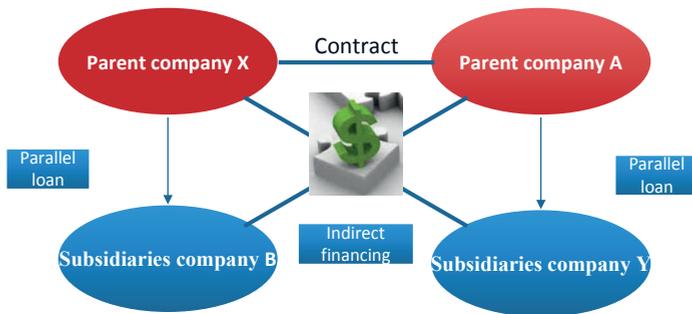


Figure 5. Parallel loans  
 Source: Own study.

As it has been shown, two independent parent companies that operate in different countries, by mutual agreement, finance each other's partner's companies.

According to the assumptions of corporate social responsibility, the relationships and ties between the individual and suppliers can significantly affect its functioning, financial results and market recognition. Both the entity and suppliers strive to achieve the best financial result. It is worth noting that despite the assumption that all formal requirements should be met between the parties to the transaction or the relationship between the supplier and the service provider, it is not always retained.

In trade relations between suppliers and various entities purchasing different services / products, there may appear behaviours that may be perceived as contrary to the assumptions of corporate social responsibility. In order to obtain additional financial benefits or improve the financial result, it is sometimes possible to notice unethical behaviour on the part of suppliers. The unit (service buyer), as a rule a daughter company of an international corporation, caring for its image and wishing to maintain the cooperation with suppliers, often accepts losses associated with such behaviour. Examples of unethical practices used by suppliers are possible to pass:<sup>1</sup>

- providing invoices for purchased materials / services to the entity after the due date (and charging fines or suspending material supplies),
- invoicing the unit in larger quantities than the actually purchased materials (exceeding the accepted deviation threshold by the unit),
- invoicing the unit at a higher unit price of materials / services purchased (exceeding the accepted deviation threshold by the unit).

The examples shown can be seen as examples of actions that run counter to the assumptions of corporate social responsibility and are not intended to take into account positive relations with the stakeholder.

In cases of mass production, an individual may cooperate with many suppliers or buy significant quantities of materials, which may determine the necessity of invoicing and delivery of a large number of invoices to the appropriate department responsible for their correct process (Accounts Payable). As a rule, the due date of payment is set at 30 days from the invoice date.

In the situation of their delivery after maturity, which also results in late payment, the supplier may take various measures to eliminate losses due to late receipt of funds, e.g. stopping the supply chain, raising prices for ordered materials, calculating additional financial penalties. Such behaviour would be justified if the invoices were issued and delivered to the appropriate department of the entity before the maturity date, to be recognized in the accounts and to arrange the payment. When the invoices documenting the transactions concluded are deliberately delivered after the due date, in order to obtain an additional financial benefit, such an action gives grounds for stating that it is contrary to business ethics.

---

<sup>1</sup> Analysis based on data provided by unit X.

Invoicing the unit in the amount / price not matching the ordered one is also a practice that can be identified during the cooperation between the supplier and the customer. As a rule, corporations have a certain tolerance level for deviations from the prices of materials and their quantity, which may be the basis for exercising the necessary control by the purchasing entity. However, by the control process relating to the compliance confirmation established between the parties to the transaction, the unit price of the invoice materials with their actually delivered quantity, incompatibilities are identified that exceed the acceptance threshold (e.g. above 5% of the invoice value or the quantity of materials ordered), which may indicate an incorrect invoicing process. Such an action may again result in additional financial benefits for the suppliers to accept the deviations of the unit.

## 6. Relations between units on the international market – exemplified with shared service enterprises

The presented examples of behaviour of international companies towards suppliers provide a basis for conducting a case study analysis.

The section presents, analyzes and interprets data referring to the ratio of timely payment of liabilities for deliveries and services by the company in comparison with the number of invoices delivered after the deadline.

Table 1. Value of timely settled liabilities for deliveries and services

	Parent company X					
	Liabilities for deliveries and services					
	Month 1			Month 2		
	Yes	No	Invoice provided after due date	Yes	No	Invoice provided after due date
Subsidiaries No 1	75%	25%	15%	80%	20%	9%
Subsidiaries No 2	89%	11%	3%	60%	40%	20%
Subsidiaries No 3	35%	75%	50%	48%	55%	35%
Subsidiaries No 4	55%	45%	35%	50%	50%	25%

Source: Own study.

The data presented in the table 1 allow to visualize the results referring to the index of regulating by the entity of trade liabilities before the due date in relation to the two selected months. It was assumed that the parent company has four daughter companies operating in different countries, and within a month invoices for provided materials and services are delivered to each of them.

One of the basic factors determining the timely payment of liabilities is the due date of payment (usually 30 days). The properly delivered document, proper time organization and other factors referring to the appropriate department responsible for accounting and

settlement of liabilities (Accounts Payable) allow for timely payment for services and materials provided.

Financial departments often face problems that refer not only to internal disruptions that may delay the process. One of the key aspects (belonging to external factors) is timely delivery of accounting documents by recipients. Invoices flowing to the unit after maturity or close to that date eliminate or prevent the timely settlement of liabilities.

Referring to month one, the highest ratio of liabilities settlement by Company Two is observed, where it was at the level of 89%. What is more, the value relating to invoices delivered after the maturity date was 3%.

Comparing the highest achieved result with the lowest value of the indicator, which was achieved by the Company Three (35% of liabilities settled on time), it is also noted that the value of documents delivered after maturity was 47% higher than in Company Two. The result gives the basis for stating that the value of the ratio of documents delivered not on time to the unit (50%) contributed to a reduction in the value of liabilities paid on time.

The data relating to month two allow noticing changes in the value of the ratio of settling liabilities before the maturity date in relation to month one. In the case of Company One, the value of the indicator referring to the number of invoices delivered after maturity decreased (-4 pp) which can give the basis for determining the improvement in the result on timely settlement of liabilities (+5 pp). Company Two recorded an increase in the value of invoices delivered delinquently (+17 pp) with a simultaneous decrease in the value of timely payment of liabilities (-29 pp). In turn, the data relating to Company Three allow for a higher value of the timely payment ratio in month two (+13 pp) with a simultaneous decrease in the value of invoices that have been delayed (-15 pp). Company Four shows that the value of the indicator has changed (decrease by 5 pp), despite the reduction of the number of documents that have been submitted to the entity after the due date. This situation may indicate that despite the improved situation in terms of timely delivery of documents, other factors could have a negative impact on timely payment of liabilities, which in turn resulted in a decrease in the value of the indicator (e.g. problems arising from work organization, communication problems and others).

The following case presents, analyzes and interprets data referring to the forward rate and untimely settlement of liabilities for deliveries and services performed by the subsidiaries company to the parent company.<sup>2</sup>



Figure 6. Services provided in the discussed case in a modern shared services center  
Source: Own study.

<sup>2</sup> Analysis based on data provided by unit A.

Table 2. Value of timely and unpaid liabilities due to supplies and services performed for the parent company

Subsidiary			
Liabilities for deliveries and services			
Month 1		Month 2	
Description	Share (%)	Description	Share (%)
Total	100	Total	100
Non-overdue receivables	50.90	Non-overdue receivables	28.68
Total overdue receivables	49.10	Total overdue receivables	71.32
Overdue receivables 1–30d	26.76	Overdue receivables 1–30d	35.36
Overdue receivables 31–60d	16.60	Overdue receivables 31–60d	19.74
Overdue receivables 61–90d	10.37	Overdue receivables 61–90d	9.68
Overdue receivables 91–180d	10.86	Overdue receivables 91–180d	14.12
Overdue receivables 181–360d	14.94	Overdue receivables 181–360d	7.54
Overdue receivables 360+	20.46	Overdue receivables 360+	13.56

Source: Own study.

The data presented in table 2 allow you to visualize the results relating to the ratio of the parent company's settlement of receivables before and after the maturity date for the two selected months. In this case, the following assumptions were accepted for further consideration. The mother company owns a daughter company that provides services such as BPO (Business Process Outsourcing) and shared services for the mother company.

Referring to month one, one can note the ratio of settling liabilities within the period of 50.9% in relation to liabilities provided after maturity of 49.1%. In further analysis of month one, it is worth paying attention to the high rate of overdue receivables over 360 days, which is at the level of 20.46%. By comparing the data from the second month to the trends in the value of debt ratios within the maturity period, we note a negative trend and the index decreases by – 22.22 points, which may indicate serious financial liquidity problems that the daughter company may face. The total overdue receivables ratio stood at 71.32%. This situation may indicate that despite the implementation of CSR and having a code of ethics, non-ethical practices continue to take place. Each entrepreneur should answer the question whether it is ethical not to pay their obligations on time for the service provided.

## Conclusions

The presented data may indicate the need for close cooperation between the supplier and the recipient in order to create a positive business relationship and comply with the principles of corporate social responsibility, the need to meet commitments and established principles in a timely manner.

The considerations taken up indicate that in order to settle liabilities on time, it is also necessary to commit the party on time (to which the obligation will eventually be met) to provide the necessary documentation on the basis of which the payment will be arranged. An aspect that may also determine the relationship in international transactions is the correctness of the delivery of goods and the timing of the transfer of the scope of responsibility from the supplier to the buyer. It should also be remembered that there are many factors affecting the entire process, so disturbances and problems that occur at any stage may contribute to the delay in the performance of services aimed at repaying liabilities (e.g. price differences outside the acceptable deviation threshold, differences in the quantities delivered) and invoiced materials.

The presented issues can be the basis for the implementation and application of measures to prevent practices that run counter to the generally accepted principles of corporate social responsibility and to improve the methods of measuring key performance indicators in order to improve the achieved results.

## References

- Adamczyk, J. (2009). *Spoleczna odpowiedzialność przedsiębiorstw. Teoria i praktyka*. Warsaw: Polskie Wydawnictwo Ekonomiczne.
- Blowfield, M., Murray, A. (2008). *Corporate Responsibility: A Critical Introduction*. New York: Oxford University Press.
- Bowen, H. (1953). *Social responsibility of the businessman*. New York: Harper and Row.
- DeMartino, G.F., McCloskey, D.N. (2016). *Oxford Handbook of Professional Economic Ethics*. Oxford: Oxford University Press.
- Duliniec, A. (2011). *Finansowanie przedsiębiorstwa*. Warsaw: Polskie Wydawnictwo Ekonomiczne.
- Gasparski, W. (2017). *Biznes, Etyka, Odpowiedzialność*. Warsaw: Wydawnictwo Naukowe PWN.
- Grzybowski, M. (2004). Firma odpowiedzialna społecznie. Filozofia przedsiębiorstwa XXI wieku. In: T. Kamiński, W. Pomykała (eds.), *Spoleczna odpowiedzialność współczesnego marketingu* (pp. 34–47). Warsaw: Fundacja Innowacja.
- Håøy, G. *Technology for meeting global challenges. Sustainability Strategy Kongsberg – 2018–2022*. Retrieved from: [www.kongsberg.com](http://www.kongsberg.com) (29.08.2018).
- Iatridis, K. (2011). *The Influence of Corporate Social Responsibility on Business Practice: The Case of International Certifiable Management Standards*. Preston: University of Central Lancashire.
- Kotler, P., Lee, N. (2004). *Corporate Social responsibility: Doing the Most Good for Your Company and Your Cause*. New York: John Wiley & Sons.
- Littrell, M., Dickson, M. (1999). *Social Responsibility in the Global Market*, London: Sage.
- Margolis, J., Walsh, J. (2001). *People and profits? The search for a link between a company's social and financial performance*, New York: Erlbaum, Mahwah.
- Majchrzycka Guzowska, A. (2011). *Finanse i prawo finansowe*. Warsaw: Wydawnictwo Naukowe PWN.
- Orlen.pl (2018). *Odpowiedzialny biznes*. Retrieved from: [www.orlen.pl](http://www.orlen.pl) (24.08.2018).

- Pfaff, J. (2013). *Rachunkowość finansowa z uwzględnieniem MSSF*. Warsaw: Wydawnictwo Naukowe PWN.
- Philips.com (2019). *Substantibility*. Retrieved from: [www.phillips.com](http://www.phillips.com) (19.02.2019).
- Podstawka, M. (red.) (2010). *Finanse*. Warsaw: Wydawnictwo Naukowe PWN.
- Porada-Rochoń, M. (2011). Wiedza i świadomość na temat społecznej odpowiedzialności biznesu w województwie zachodniopomorskim – wyniki badań. In: Porada-Rochoń, M. (ed.), *Spoleczna odpowiedzialność biznesu jako wyraz reorientacji działania współczesnych firm* (pp. 11–24). Szczecin: Stowarzyszenie Kreatywni dla Szczecina.
- Stachowiak-Kudła, M. (2014). *Wartościowanie decyzji publicznych metodą konsultacji z interesariuszami*. Warsaw: Oficyna Wydawnicza Uczelni Łazarskiego.
- Vestas.com. *Corporate social responsibility*. Retrieved from: [www.vestas.com](http://www.vestas.com) (23.08.2018).
- Voss, G. (2016). *Kształtowanie norm etycznych a odpowiedzialność zawodowa*. Bydgoszcz: Wydawnictwo Uczelniane Uniwersytetu Technologiczno-Przyrodniczego.
- Wells, J.T. (2006). *Nadużycia w firmach, Vademecum, zapobieganie i wykrywanie*. Warsaw: Lexis Nexis.
- Willmott, M. (2001). *Citizen Brands: Putting Society at the Heart of Your Business*. Chichester: John Wiley & Sons.
- Związek Liderów Sektora Usług Biznesowych (ABSL). *Sektor nowoczesnych usług biznesowych w Polsce 2017*. Retrieved from: [www.g3.gazetaprawna.pl](http://www.g3.gazetaprawna.pl) (06.07.2018).
- Żemigala, M. (2013). *Spoleczna odpowiedzialność biznesu w świetle analiz bibliometrycznych i opinii pracowników na temat równowagi między życiem zawodowym a prywatnym*. Warsaw: Wydawnictwo Naukowe Wydziału Zarządzania Uniwersytetu Warszawskiego.

## PROBLEMATYKA PRZEPLYWU NALEŻNOŚCI I ZOBOWIĄZAŃ A ETYKA W BIZNESIE W CENTRACH USŁUG WSPÓLNYCH NA PRZYKŁADZIE STUDIUM PRZYPADKÓW

**Słowa kluczowe:** centrum usług wspólnych, finanse, kodeks etyczny, zobowiązania, należności

**Streszczenie.** Wzrost inwestycji w nowoczesny sektor usług wspólnych jest zauważalny na przestrzeni dekady. Artykuł przedstawia aktualną sytuację rynkową w województwie zachodniopomorskim w sektorze usług wspólnych. Pokazuje miasto Szczecin na tle innych lokalizacji w Polsce. Opisuje przepływ należności i zobowiązań oraz zachowania nieetyczne. Przedstawia typowe obszary działalności w nowoczesnym sektorze usług wspólnych i prezentuje przykłady relacji opartych na studium przypadku pomiędzy firmą macierzystą a spółką-córką. Przedstawione problemy mogą być podstawą do wdrożenia pewnych ulepszeń i udoskonalenia metod pomiaru kluczowych wskaźników wydajności w celu poprawy osiągniętych wyników.

### Citation

Bielan, A., Sobieraj, M. (2018). Issues Related to the Flow of Receivables and Liabilities versus Code of Ethics in Business in Shared Service Centres Exemplified with a Case Study. *Ekonomiczne Problemy Usług*, 4 (133/2), 71–83. DOI: 10.18276/epu.2018.133/2-07.



Damian Łazarczyk

University of Szczecin  
Faculty of Management and Economics of Services  
e-mail: damian.lazarczyk@wzieu.pl

## The Book of Revenue and Costs – Evolution of the Simplified Form of Record

**JEL Classification:** M4

**Keywords:** record, costs, revenue, book, accounting

**Abstract.** Objective: The aim of the study is to present a modified form of business activity record in the small and medium size enterprise. The tax book does not provide useful information about the revenue and costs and the result of business operations. It is focused on the fiscal aspect. Therefore, the evolution of this simplified form of record is required.

Research methodology: The paper uses the method of logical and comparative analysis of legal acts and literature in the field of tax and financial accounting.

Result: Analysis of the issue allowed for the criticism of the current form of record and the presentation of a modified book of revenues and costs.

### Introduction

Running a business is related to the need to keep an accountancy, i.e. an information and control system that reflects the organization's operation and its result (result / income). In general, we talk about accounting when we have a document and an amount (monetary measure). Legal persons and some natural persons conduct the so-called integrated accounting, while others – simplified accounting, called tax accounting.

The main stage of financial data processing in the accounting information process involves the record of economic operations. Various forms of register are recognized. Various tools, such as an account or a book are used.

Economic activity causes costs which allows to achieve revenues (incomes) allowing the continuation of the production cycle and making a profit, which is the source of development. Information about costs is very important in business management (Sadowska, 2015).

The purpose of the article is to present a modified simplified form of a revenue and cost records. This is the implication of the criticism made of the current record form – the tax book of revenues and outgoings. The main objective of keeping records of revenues and costs should be the information and control aspect<sup>1</sup>. On the other hand, the fiscal aspect is a derivative of the main goal.

The study uses the “accounting” approach to record systems in a small enterprise. The applied methodology is based on a logical and comparative analysis of legal acts and literature from the tax and financial accounting areas.

The first part of this work characterizes the forms and principles of records kept for business activity. In the second part the author focuses on the critical analysis of the tax book in the light of the regulation on keeping the tax revenue and outgoings book. The third part presents a modified form of records – the book of revenues and costs. The structure of the book is discussed. The summary of this study encapsulates the conclusions from the considerations.

## 1. Forms and rules of the record

Record (accounting, recognizing, saving in the book) is an activity consisting in the transformation of source data from accounting documents into economic information, including financial information about costs and revenues as well as result / income. The form of the record depends on the method of taxation and the amount of revenue generated. Legal persons and natural persons undertaking business activity (service, production, commercial) have the obligation to keep records provided for by economic law. The basic forms of records provided for by law are illustrated in table 1.

The principle of a single entry consists in saving business transactions, using the device – a book in the tabular form, individually, without correspondent devices. However, the double entry rule uses accounting devices – accounts.

---

<sup>1</sup> The subject of costs and revenues is dealt with among other authors by: Nowak, Nieplowicz (2012), Szczypa (2014), Lulek (2011), Sadowska (2015).

Table 1. Forms of business activity records

No	Comparison criterion	General rules		Flat forms	
		Tax book of revenues and outgoings	Account books	Flat fee from recorded revenue	Flat rate tax
1.	The objective of running the records	Fiscal objective (mostly for tax settlements)	Satisfying the information needs of external and internal recipients	Fiscal objective (mostly for tax settlements)	Fiscal objective (mostly for tax settlements)
2.	Who is running it?	Natural persons and their companies	Legal persons and some natural persons	Natural persons and their companies	Natural persons and their companies
3.	Basic scope of record	Revenues and costs	Assets and liabilities. Revenues and costs. Result.	Revenues	None
4.	Revenue limits	PLN equivalent of at least € 2,000,000	None	PLN equivalent of at least € 250,000	None
5.	Basis of entry	Document	Document	Document	Document
6.	The principle of entry of economic operation	Single entry principle	Double entry principle	Single entry principle	Single entry principle
7.	Tax rate	18%, 32%, 19% linear tax	18%, 32%, 19% linear tax	3%, 5.5%, 8.5%, 17%, 20%	It is determined by amount

Source: own study based on Regulation (2003), Accounting Act (1994), Act on flat-rate tax (1998), Kiziukiewicz, Sawicki (2012) pp. 16-22.

## 2. Records in the light of the regulation on keeping a tax book

The so-called tax book of revenues and outgoings is one of the forms of simplified records (Regulation, 2003). The semantic antinomy of the name of this book should draw our attention. Namely, the proper name is the “book of revenues and costs” or “book of income and outcome”, not the “tax book of revenues and outgoings”. Revenues are set against costs. In contrast, “outgoing” has a different semantic scope than “cost” or “expense” – the outgoing of cash from the cash register and bank account.

The purpose of keeping a tax book of revenues and outgoings is for the fiscal reasons. The book acts as a proof to determine tax liabilities of individuals and their companies. This device records the result information: sales revenue and revenue from other sources as well as costs broken down into the purchase costs of goods and materials, remuneration and others. Not all costs can be included in the tax book, but only those that meet

the definition (Act on tax, 1991, Article 22, paragraph 1) of tax deductible costs. These costs are the costs incurred in order to achieve revenue or to maintain or secure a source of revenue, with the exception of the costs listed in art. 23.

Costs can be recorded using the accrual method or on the so-called cash basis. The accrual method consists in recognizing in the book of the entity all revenues earned and attributable to it, and costs related to these revenues for a given financial year, regardless of the date of their payment (Accounting Act, 1994, Article 6, paragraph 1). However, the essence of the cash accounting method is the consideration of business operations through the prism of cash flow. In Polish tax law (Act on tax, 1991), with the cash method, the cost is booked in the book on the day of invoice or actual payment. According to the author, this understanding of the cash accounting method is incorrect. The cash method applies to cash inflows and outflows. Documents confirming the inflow are recorded (e.g. bank statement, cash register “cash receipt”) and expenditure (e.g. bank statement, cash register “cash withdrawal”).

Considering the above, column 13 of the “Other expenditure” of the book is controversial, as it is intended for (Regulation, 2003, Annex 1): entering other costs (except for those listed in columns 10–12), except for costs which, according to art. 23 of the Income Tax Act are not recognized as tax deductible costs. This column includes, in particular, expenses such as: rent for premises, electricity, gas, water, c.h., telephone fee, fuel purchase, expenses related to repairs, depreciation of fixed assets, pension contributions for employees, in part financed by the employer, employee accident insurance contributions, value of purchased equipment. Expenses related to the use of non-recorded fixed assets and intangible assets of a passenger car, also owned by a person running a business, for business purposes, should be entered in this column after the end of the month based on a monthly statement of expenses.

First of all, the expense is not the cost. The cost is the consumption of assets, and the expense is the outgoing of cash. In addition, blocked costs and entry of depreciation costs together with the costs of insurance contribution in one item is incorrect in the opinion of the author. Depreciation, also one-off, is always a cost. Expenses related to the acquisition of a fixed asset with one-off depreciation due to low value inform about the material orientation of assets and the cost of a particular reporting period.

The “other expenses” item, according to the author, should refer to costs that occur sporadically or are relatively low in a given month. Perhaps, a situation that the “others” will exceed the costs of the main operating activity is likely to occur.

Does an obligatory record of income and costs in the form of a book provide useful information about costs, especially for management in an unstable economic environment? The answer is negative. However, an evolution of this form may be a possible solution to this issue.

### 3. The structure of the book of revenue and costs

The evolution of the simplified form of entries to the book of revenue and costs is based on the following assumptions:

- the purpose of the book of revenue and costs is to obtain more useful information on the revenue and structure of costs of business operations,
- the advantage of the information and control purpose over the tax (fiscal) goal,
- records of business operations are carried out on an accrual basis,
- booking according to the single entry principle,
- the book was expanded from seventeen to twenty-three columns,
- unquestionable catalog of revenue and costs of obtaining revenue is provided, there is no room for interpretation,
- costs of basic operating activities are recognized by type,
- the enterprise operates in a friendly legal environment.

The structure of the book of revenue and costs is presented in table 2.

Table 2. The book of revenue and costs

No.	Date of business operation	Accounting evidence	Settlements		Revenue							
			Name of the contractor	Company data	From basic business activities		From other business activities		Financial		Total	
					PLN	gr.	PLN	gr.	PLN	gr.	PLN	gr.
1	2	3	4	5	6		7		8		9	

Costs															
Depreciation		Consumption of materials and energy		Outsourced services		Taxes and fees		Remuneration		Social security and other benefits		The value of sold goods and materials		Other basic costs	
PLN	gr.	PLN	gr.	PLN	gr.	PLN	gr.	PLN	gr.	PLN	gr.	PLN	gr.	PLN	gr.
10		11		12		13		14		15		16		17	

Costs									Notes			
Total basic costs		Other business costs		Financial costs		Total costs						
PLN	gr.	PLN	gr.	PLN	gr.	gr.	gr.	PLN	gr.	PLN	gr.	
18		19		20		21		22		23		

Source: own study based on Regulation (2003) Annex No. 1.

The book of revenue and costs consists of twenty-three columns. The structure of the book with columns and the principles of accounting of revenue and costs are discussed below.

The next record number in the book should be entered in Column 1. For control purposes, the same order number in the accounting document should be entered.

The date of the business operation, i.e. the date of the event subject to the record should be entered in Column 2. Every economic operation is an event, but not every event is an operation (Jaklik, Micherda, 1994, p. 52). The resulting economic operations, i.e. those forming revenue and costs, are recorded. The date of the economic operation determines the period of allocation of a given revenue or cost in the book, because the accounting entry (Accounting Act, 1994, Article 23.2) may concern three dates: the date of the business operation, the date of accounting (if different from the date of the event) and the date of recording in the book. Accounting creates an image of the business. It describes the past, so the dates should be unified: issuing proof of account in accordance with the accrual principle.

Column 3 should specify the name and number of the accounting document, i.e. the document constituting the basis for data processing – accounting. VAT invoices for sales and purchase are the basic accounting proof documenting revenue and costs.

Columns 4 and 5 are meant for settlements, i.e. receivables and liabilities. The abbreviated name and the basic data identifying the contractor are entered here. These columns are not filled in the case of sales revenue records based on daily sales statements and internal evidence.

Column 6 is used to record revenue from the core business for which the entity was established, e.g. provision of services, trade, production. The records concern net sales. Companies that run bureaux de change enter the monthly amount of revenue (sales of foreign exchange values) resulting from the records of purchase and sale of foreign exchange values in this column.

Column 7 should include other operating revenues, i.e. revenue related to the main operating activities indirectly (Act, 1994, Article 3, paragraph 1, point 32):

- a) social activities;
- b) the disposal of fixed assets, fixed assets under construction and intangible and legal assets;
- c) maintaining real estate and intangible assets included in the investment, including the updating of the value of these investments, as well as their reclassification to fixed assets and intangible assets, if the market value or otherwise determined fair value was used to value the investment;
- d) writing-off of receivables redeemed, overdue debts or non-collectible debts with the exception of non-payable public liabilities;
- e) damages and penalties;
- f) receiving, free of charge, including donation of assets, including cash for other purposes than subsidies for selling prices, acquisition or production of fixed as-

sets, fixed assets under construction or intangible and legal assets;

g) random events.

Column 8 relates to revenue from financial operations, mainly due to received interest and positive exchange differences.

The total amount of revenue recorded in columns 6, 7 and 8 should be entered in Column 9.

Columns 10 to 17 are intended for prime costs (Szczypa, 2014, pp. 170–173).

Column 10 is used to post depreciation write-offs for fixed assets and intangible assets calculated according to each method, including one-off depreciation. This column should be linked to additional records of fixed assets and intangible and legal assets.

Column 11 is used to record consumption, of e.g. basic materials, auxiliary materials, semi-finished products, non-returnable packaging; energy, gas, water, purchase of professional magazines.

Column 12 is used for services provided by other entities, including transport, renovation and equipment services; letting and leasing, telecommunications, postal services, property supervision, accountancy, banking and consultancy.

Column 13 includes mainly: real estate tax, VAT not deductible, excise tax, tax on transport means, waste storage fee, product charge, municipal fees, stamp duty fees, court fees and notarial fees.

Remuneration is the basic cost for the employer. Therefore, column 14 is meant for gross remuneration paid to employees (in cash and in kind) based on a contract of employment or a civil law contract. The entry is made on the basis of a payroll or other document of the labor cost. This column should be correlated with additional records of employees' revenues.

Column 15 is used to register mainly social insurance contributions financed by the employer and other employee benefits constituting non-wage labor costs, such as: medical examination costs, employee training costs, protective clothing and work clothes costs.

Column 16 should include costs related to the value of goods and materials sold at the acquisition price or purchase price. These are costs commensurate with basic revenues (column 6), if the main activity is, for example, trade.

Column 17 is meant for accounting other types of costs, such as travel expenses, representation and advertising or property insurance costs.

Column 18 is the total amount of costs shown in columns from 10 to 17.

Column 19 relates to other operating expenses. Similarly to column 7, the following are eligible, e.g. costs of disposal of fixed assets, costs of expired receivables, costs of random events.

In column 20 the costs of financial operations, e.g. the costs of interest on a loan taken out for running a business, costs of negative exchange differences are recorded.

Column 21 is the amount of all costs, the sum of the columns 18, 19 and 20.

Column 22 is blank. In this column it is possible to determine which costs constitute the costs of manufacturing a work product, e.g. MC – given cost is an element

of the manufacturing cost or AC – an activated cost. The costs of research and development activities are also recorded here. In this column you can enter other business events, except those mentioned earlier.

Column 23 is intended for comments on the content of entries in columns 1–22, e.g. anomalies regarding the date of the business operation and the ordinal number. This column can also be used, e.g. to enter advances made for personal income tax.

After the end of the accounting period (month), entries made in that month should be highlighted, and the data from the columns should be added up. The difference in value between column 9 “Total revenue” and column 21 “Total costs” is the financial result and / or taxable income.

## Conclusions

The above considerations lead to the following conclusions:

1. There is no simplified mandatory form of records that would meet all the information needs of external recipients, including fiscal authorities and internal recipients, e.g. the owner of the enterprise.
2. The currently applicable simplified record formula contains semantic errors.
3. Blocked costs in column 13 “Other costs” distort a true and clear picture of the business costs.
4. Records should provide information on the economic content generated by using accounting devices, including books.
5. Records of prime costs according to the classic costs by type system enables comparability of information on costs in cross-section of various industries or reporting periods. The costs by type system makes it possible to answer the question – what was the cost in the company?
6. The book of revenue and costs is not a perfect device.
7. From the point of view of a small entrepreneur, relevant information is the information on income and outcome and the balance on a bank account. Should the evolution go in the direction of the cash accounting method and records of business transactions only at cash register and in bank accounts?

According to Jaworski (2012, p. 205), two opinion trends currently exist as to the modification of the form of tax records:

- a) the use of extensive recording systems in the small enterprise sector is unnecessary; small companies should concentrate on the technical side of their business by controlling the smallest amount of financial parameters;
- b) the financial management plays a key role in the functioning of small enterprises, and they should apply recording systems covered by developed standards ensuring information security of making key economic decisions.

It is certain that without proper records of revenue and costs, it is difficult to obtain reliable information, not only in order to make decisions, but also to pay public and legal obligations.

According to Gierusz (2005, p. 232), the information created by accounting should be characterized by utility, and that means: intelligibility, relevance, reliability, as well as comparability.

## References

- Gierusz, J. (2005). *Koszty i przychody w świetle nadrzędnych zasad rachunkowości. Pojęcie – klasyfikacja – zakres ujawnień*. Gdańsk: ODiDK.
- Jaklik, A., Micherda, B. (1994). *Zasady rachunkowości*. Warsaw: Wydawnictwa Szkolne i Pedagogiczne.
- Jaworski, J. (2012). *Informacja finansowa w zarządzaniu małym przedsiębiorstwem. Potrzeby – źródła – wykorzystanie*. Warsaw: CeDeWu.
- Kiziukiewicz, T., Sawicki, K. (2012). *Rachunkowość małych przedsiębiorstw*. Warsaw: Polskie Wydawnictwo Ekonomiczne.
- Lulek, A. (2011). Sprawozdawczość jako sposób komunikowania się z inwestorami. In: Pracownicy Katedry Rachunkowości (eds.), *Rachunkowość sztuka pomiaru i komunikowania* (pp. 337–344). Warsaw: Oficyna Wydawnicza Szkoła Główna Handlowa w Warszawie.
- Lulek, A. (2012). Użyteczność rachunku zysków i strat w zastosowaniu narzędzi rachunkowości zarządczej. In: E. Nowak, M. Nieplowicz (eds.), *Rachunkowość a controlling* (pp. 329–338). Wrocław: Wydawnictwo Uniwersytetu ekonomicznego we Wrocławiu.
- Nowak, E., Nieplowicz, M. (eds.) (2012). *Rachunkowość a controlling*. Wrocław: Wydawnictwo Uniwersytetu ekonomicznego we Wrocławiu.
- Sadowska, B. (2015). Rachunek kosztów działań – teoria i praktyka. In: E. Nowak, M. Kowalewski (eds.), *Zarządzanie kosztami i dokonania* (pp. 420–432). Wrocław: Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu.
- Sadowska, B. (2016). System pomiaru dokonań w Państwowym Gospodarstwie Leśnym Lasy Państwowe – proces przygotowania i implementacji. In: *Wyzwania w zarządzaniu kosztami i dokonania* (pp. 399–407). Wrocław: Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu.
- Szczypa, P. (ed.) (2014). *Indywidualna działalność gospodarcza (samozatrudnienie). Uproszczone formy ewidencji*. Warsaw: CeDeWu.
- Accounting Act of 29 September 1994. Journal of Laws 2018, item 395, as amended.
- Act on tax of 26 July 1991. Journal of Laws 2018, item 200, as amended.
- Act on flat-rate tax of 20 November 1998. Journal of Laws 2017, item 2157, as amended.
- Regulation of the Minister of Finance on regarding the tax revenue and expense book of 26 August 2003. Journal of Laws 2017, item 728, as amended.

---

## KSIEGA PRZYCHODÓW I KOSZTÓW – EWOLUCJA UPROSZCZONEJ FORMY EWIDENCYJNEJ

**Słowa kluczowe:** ewidencja, koszty, przychody, księga, rachunkowość

**Streszczenie.** Cel artykułu: Celem opracowania jest prezentacja zmodyfikowanej formy ewidencji działalności gospodarczej w małym i średnim przedsiębiorstwie. Księga podatkowa nie dostarcza użytecznych informacji o przychodach i kosztach oraz wyniku działalności gospodarczej. Jest ukierunkowana na aspekt fiskalny. Dlatego, potrzeba ewolucji tej uproszczonej formy ewidencyjnej.

Metodologia badania: W pracy zastosowano metodę analizy logicznej i analizy porównawczej aktów prawnych oraz literatury z zakresu rachunkowości podatkowej i rachunkowości finansowej.

Rezultat: Analiza zagadnienia pozwoliła na krytykę dotychczasowej formy ewidencyjnej oraz prezentację zmodyfikowanej księgi przychodów i kosztów.

### Citation

Łazarczyk, D. (2018). The Book of Revenue and Costs – Evolution of the Simplified Form of Record. *Ekonomiczne Problemy Usług*, 4 (133/2), 85–94. DOI: 10.18276/epu.2018.133/2-08.

Agnieszka Paluch-Dybek

University of Szczecin  
Faculty of Management and Economics of Services  
e-mail: agnieszka.paluch-dybek@wziewu.pl

## The Structure of Income of Lubuskie Local Government Units

**JEL code:** H72

**Key words:** revenue, budget, local government, municipality

**Abstract.** This study is of descriptive and explanatory character. It refers to the presentation of income of Lubuskie local government units in 2015–2016 in the area of financial independence and depiction of income items in the budget structure of municipalities. The aim of the study is to familiarize the reader with the structure of income of Lubuskie local government units. The following research methods were used in the work: literature studies, analysis and inference. An in-depth analysis of the sources of external law and inference on the basis of available report on the implementation of budgets by Lubuskie local government units in 2016, the results of the supervisory, opinion-giving and audit activity of the RIO (Regional Chamber of Audit) in Zielona Góra were also necessary.

### Introduction

Financial autonomy of municipalities includes two aspects, i.e. income and expenditure. The sources of the income have been indicated in statutes, first of all in the Act on local government and the Act on revenues of local government units. The catalog of these sources is closed, but it also includes those sources that the municipality may introduce on its territory, based on municipal regulations. The closed nature of the revenue

catalog results from the fact that it is unacceptable to generate income from other sources, e.g. additional fees or taxes (Wyrok, 1990).

The paper has been divided into three parts. The article uses the comparative method, deductive method and literature analysis. The first chapter is an introduction to revenue issues in the aspect of decentralization and financial independence. It also defines the notion of a local government unit. The threads concerning income, their structure and place in the municipal budget system are presented. The necessary concepts have been specified and used later in the article. The rest of the work is devoted to the analysis of source data. An attempt was made to discuss the results obtained and their interpretation. Additionally, a study of the possibilities of shaping the amount of revenue was presented.

## 1. The revenues of municipalities

Issues in the area of local government activity, its essence, functions, income, expenses, risk related to activity and information are a phenomenon described extensively in the literature on the subject (Sadowska, 2014, pp. 61–74; 2017, pp. 229–243; Czernski, Hanusz, Niezgodna, 2010, pp. 180–241). This is a subject widely discussed in both legal and political sciences. It should be pointed out that the concept of local government (self-government) has become one of the most important categories in the science of administrative law. This results both from the rich tradition of this government in the Polish lands, as well as from the extremely important role of the administration in the process of building Polish democracy.

The functioning of the local government is based on a three-level division, where we distinguish:

- municipalities,
- counties,
- provinces.

At present, it is difficult to speak of one definition referring to all types of self-government. In the case of territorial self-government, the formal criterion allowing to distinguish types of self-governments is to name them by a legislator. Self-government participates in the exercise of public authority. The local government administering a significant part of public tasks under its laws acts on its own behalf and on its own responsibility (Ustawa, 1997).

The municipality as the basic, smallest local government unit has legal personality, thanks to which it is an economic entity performing public tasks on its own behalf and on its own responsibility. The budget economy is the basic form of financial activity of local self-government. The attestation of the above-mentioned considerations has direct authority in the Constitution of the Republic of Poland (Ustawa, 1997).

The municipality is understood by the legislator as not only the local self-government community, but also as the corresponding territory (Niewiadomski, Siemiński, Sosnowski, Tetera, 2001, p. 90). According to Grzeškiewicz, in general, the municipality is created by

a community created by the inhabitants and an appropriate, limited area (Grzeńkiewicz, 2002, p. 41).

The state and local self-governments fulfill the tasks assigned by law. They receive certain financial resources that determine the possibilities, sizes and quality of the tasks performed (Ustawa, 1997).

A very important aspect of the municipality's independence results from its financial independence. Unfortunately, the literature on the subject does not provide a uniform definition of the concept. Nevertheless, one can agree with the statement that the financial independence of municipalities is undoubtedly a derivative of the state's transfer of a part of financial authority to that unit (Kornberger-Sokołowska, 2001, p. 40).

The authorities of municipalities and cities with county (powiat) rights have many instruments to support entrepreneurship, however, as the literature on the subject indicates, in practice they rely mainly on budget tools. Instruments from the area of income policy may play an important role among these tools. In the opinion of Jastrzębska, the income policy instruments of local government units include individual types of budget revenues, including primarily types of own revenues, e.g. local taxes, whose structures are influenced by self-government bodies (Jastrzębska, 2005, p. 67).

Municipal revenues (fig. 1), taking into account the source of their origin, are divided into:

- own income,
- general subventions from the state budget,
- earmarked subsidies from the state budget (Agopszowicz, Gilowska, Taniewska-Peszko, 1999, p. 146; Wójtowicz, 2003, p. 98)

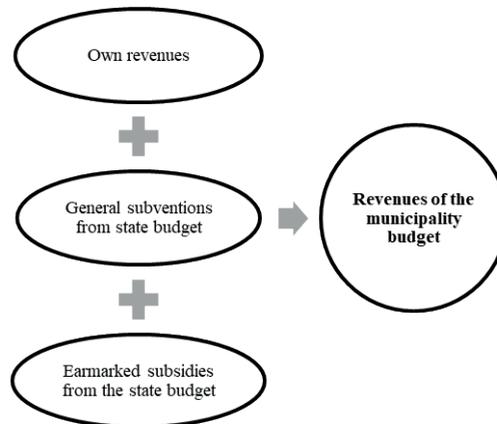


Figure 1. Revenue supporting the budget of the municipality

Source: Own elaboration based on Agopszowicz, Gilowska, Taniewska-Peszko (1999).

Own income is a source of financing the municipality's own tasks and is also a basis for applying for co-financing from external sources. According to the Constitution, own income is all income of the commune with the exception of subsidies (Hanusz, Niezgoda, Czerski, 2006, p. 13). Tax revenues are the main source of municipality budget supply. In accordance with the postulate of decentralization, territorial self-government, as the basic and most complete form of decentralization of administration, is appointed to perform public tasks in an independent manner. The above approach to the concept of local government results from its legal nature. From the material point of view, there is basically no difference between central and local government administration, as they are parts of the administration functioning on the territory of the entire state. Differences between central and local government administration are of formal and organizational character. The functions and tasks of territorial self-government depend on the tasks and functions of the state and their division between the central authority and the local self-government (Kotulski, 2000, pp. 85–86).

The scope of the municipality's operation is quite wide. According to art. 6 of the Act on municipal self-government, the scope of the activity includes all public matters of local significance, not reserved by laws for other entities. If the law does not provide otherwise, the settlement in matters referred to in paragraph 1, belongs to the municipality (Ustawa, 1990).

Article 7 paragraph 1 of the Act on municipal self-government (Ustawa, 1990) lists the main tasks of municipalities, which can be reduced to four categories:

- technical infrastructure,
- social infrastructure,
- protection and public safety,
- spatial and ecological order (Niewiadomski, Grzelczak, 1990, p. 12).

Art. 7 paragraph 2 of the Act on Municipal Self-Government specifies which own, municipal tasks are compulsory (Ustawa, 2004), which leads to the conclusion that some of the municipality's own tasks are obligatory tasks, and some are optional, i.e. taken by municipalities as part of their financial resources. Mandatory own tasks are those that the municipality must perform. Statutory division of tasks into own obligatory and optional tasks is a correct solution. This division ensures execution of own tasks at least at a minimum level (Storczyński, 2006, p. 38). The execution of own tasks takes place on the basis of the municipality's resources, and commissioned tasks – after providing funds by the government administration (Zięba-Załużka, 1999, p. 54).

Despite the local character, a large part of the affairs is at the same time the responsibility of the municipal government as well as the government administration (Podgórski, 1991, p. 21). The local government financial system is an element of the entire system of public finances in the state (Gajl, 1992, p. 23).

The Constitution of the Republic of Poland also regulates the issue of sources of income of local government units (JST) – local tax authorities and guarantees for the level

of income received by local government units from the state budget (Nowacka, 1997, pp. 21–24).

The scope of financial autonomy of territorial self-government units is determined by the amount of monetary resources transferred to their independent disposal (in relation to the size of monetary resources of the state) and the scope of freedom in shaping expenditures, spending funds, organizing local government budgets, budget planning and budget implementation (Ruśkowski, 1998, p. 85).

The income dimension of independence is the most important issue while analyzing the aspect of financial independence of local government units. Therefore, it is important to create such legal mechanisms that would secure local government units through stable and efficient sources of income occurring in the area of territorial range of these units, as well as ensuring the authorities of local government units the influence on the structure and efficiency of these sources through income control (Miemieć, 2011, p. 384).

Self-government own income is of fundamental importance for the independence and self-sufficiency of local governments. They determine the extent of financial independence of local authorities from decisions of government administration and promote freedom in creating and using sources of income (Wojewódzic, Płonka, 2008). Local government revenues and local fees play a special role among municipalities' own revenues, in relation to which municipalities in Poland have tax authorities. In the current legal system, the budgets of municipalities can generate income, though, among others, the fees related to:

- trade,
- place,
- health resorts,
- having dogs,
- duty,
- operations,
- betterment,
- perpetual usufruct and permanent management,
- planning,
- product,
- parking,
- prolongation,
- sale of alcohol,
- removing trees and shrubs.

The sources of local government revenue and their structure fulfill certain functions in relation to the economy and financial policy. Own revenues provided to the local government by law are certain and clearly defined as to the criteria, time and dimension of their collection increase the degree of independence of local authorities. On the other hand, a significant share of compensatory (transfer) income in local government budgets, based largely on the discretion of their distribution by central authorities, limits the

financial independence of local government units. It is a manifestation of the deceleration of the process of decentralization of public finances (Szewczuk, 2004, p. 39).

## 2. The structure of income of Lubuskie local government units

For the purposes of public finances, the budget is a statement of income and revenues as well as expenditures and outlays planned for a given period in the state (state budget) or in a local government unit (budget of a local government unit – i.e. the budget of a municipality, powiat).

The budget of local government units is planned for the period of the budget year, which coincides with the calendar year. The budget income and revenue plan is a forecast, therefore it is predictive in nature.

When analyzing the data contained in the “Results of Supervisory, consultative and control activity of the RIO in Zielona Góra”, it should be noted that in 2016 budget revenues of Lubuskie JST (i.e. local government units) planned at 1,239,580,180.54 Euro were implemented in 99.9 % (i.e. in the amount of 1,238,703,107.16 Euro). In 2016, the revenue of the entire local government sector increased by 7.4% compared to income generated in 2015. Overall revenue of Lubuskie JSTs in 2016 increased by 9.7%, which was mainly due to the increase in revenues obtained from targeted subsidies (by 34.2%). Own income and income from subsidies increased by 1.5% and 3.4%, respectively. A noticeable increase in the total amount of local government revenues was influenced by the funds transferred to local government units on commissioned tasks in the field of government administration related to the financing of the “Family 500+” program. Without taking into account these inflows, the total income obtained by Lubuskie local governments compared to 2015 would increase by 0.8%, and the income from special-purpose subsidies would decrease to the level of 94.6% of revenues from the previous year. Total budget income of local government units in the Lubuskie Voivodeship was executed in 99.9%, i.e. in the amount of 1,238,703,107.16 Euro, including property income in the amount of 79,562,341.79 Euro (95.3% of the plan), while current income in the amount of 1,159,140,765 Euro (100.3% of the plan).

Table 1. Income of Lubuskie local government units in 2015–2016 – execution, dynamics.

Specification	2015			2016			Dynamics of execution according to types of JST (last year = 100)	
	plan	execution	%	plan	execution	%	2015	2016
Total income	1,170,679,346.24	1,159,352,133.29	99.0	1,239,580,180.54	1,238,703,107.16	99.9	102.8	109.7
Own income	573,417,015.60	574,113,617.03	100.1	560,398,610.73	567,728,637.47	101.3	108.6	101.5
Shares in revenues from state taxes	2,259,299,205.44	229,898,916.34	101.8	236,120,975.61	242,876,061.65	102.9	113.2	108.5
Taxes and fees	218,381,613.04	219,488,293.55	100.5	22,017,288.32	222,679,659.02	101.1	105.7	104.2
Target subsidies in total	284,518,653.99	272,516,715.71	95.8	364,413,795.05	356,096,620.19	97.7	96.9	134.2
Targeted subsidies received from the state budget for the implementation of own tasks in total	126,805,632.75	120,242,212.13	94.8	105,305,618.53	100,057,056.69	95.0	96.3	85.4
Total subventions	312,743,676.40	312,721,801.71	100.0	314,767,774.75	315,877,849.25	100.0	98.4	103.4
Subventions for education	240,924,573.03	240,889,764.87	100.0	240,428,330.55	240,453,676.44	100.0	103.2	102.5
General subvention – compensating part	1,989.90	1,989.90	100.0	0	0	–	100.0	0.0
General subvention-balancing part	14,982,071.10	14,982,093.62	100.0	16,397,483.60	16,397,517.65	100.0	58.1	112.4
General subvention – leveling part	55,608,241.46	55,608,241.46	100.0	56,598,335.58	56,598,335.58	100.0	95.5	104.5
General subvention – income supplement (current)	1,117,323.71	1,130,233.48	101.2	88,349.52	171,672.87	195.9	593.6	15.7
General subvention – income supplement (property)	109,477.17	109,477.17	100.0	1,255,275.49	1,255,275.49	100.0	89.1	1177.3
Current income	1,040,832,773.91	1,043,034,951.54	100.2	1,156,117,178.74	1,159,140,765.36	100.3	103.5	114.1
Income from targeted subsidies for current tasks in general	525,844,643.20	532,438,758.18	101.3	529,019,781.74	538,761,411.88	101.8	108.5	103.9
Property income	146,035,733.66	198,000,765.45	97.8	313,584,897.50	306,756,779.71	97.8	99.5	159.1
Property sale income	129,846,572.33	116,317,181.74	89.6	83,463,001.80	79,562,341.79	95.3	96.4	70.2
Income from targeted subsidies for investments and investment purchases in total	27345,846.53	22,418,023.46	82.0	23,747,781.15	22,779,653.76	95.9	102.6	104.3
	82,164,722.51	74,532,845.71	90.7	50,828,897.54	49,339,840.48	97.1	90.6	68.0

Data in Euro currency according to the average exchange rate of the National Bank of Poland in 2015, i.e. 4.2615 PLN and in 2016 – 4.3757 PLN.

Source: study based on Implementation of budgets by Lubuskie local government units in 2016, Results of Supervisory, consultative and control activities of the RIO in Zielona Góra, [www.zielonagora.rio.gov.pl](http://www.zielonagora.rio.gov.pl) (27.07.2018).

In 2016 in the structure of JST income invariably reveals bigger share of current income than property. In Lubuskie voivodeship JST budgets, current income in 2016 accounted for 93.6% (country average of 93.9%) of total income generated and was performed by all types of JST at the level of 103.5%. Execution of property income (constituting 6.4% of total income, with the national average of 6.1%), amounted to 95.3%. In the amount of income obtained in 2016 by Lubuskie local governments, current own income accounted for 43.5% (on average in the country, 47.9%). Revenue from the share in income taxes accounted for 19.6%, taxes and fees – 18.0% (in the entire country, these revenues accounted for 22.7% and 17.7% respectively). In turn, the property income in Lubuskie JST constituted 6.4% of total income, including revenues from asset sales – 1.8%, and earmarked subsidies for investment expenditure – 4.0% (nationwide respectively: 6.1%, 1.6% and 3.9%).

## Conclusions

In recent years, local governments have been delegated new tasks, the implementation of which has not been closely linked to providing adequate amounts of subsidies, subventions or establishing additional sources of own revenue. The efficient functioning of local government units requires responsible management of public funds. Due to the constantly growing social needs and limited resources, the municipality's economy should be rational (Kožuch, Brzozowska, 2006, p. 11).

The implementation of tasks by local governments is dependent on sufficient sources of financing. For this reason, a proper functioning of the income system is so important in the budget. It should be emphasized that the increase of the overall amount of revenues in 2016 was influenced by funds transferred to local governments units for tasks in the field of government administration, related to the financing of the "Family 500+" program. Without including these takings, the total income obtained by Lubuskie District governments in comparing to 2015 would have increased slightly.

The analysis of the data presented in the article shows that the taxes constitute the group with the highest income among all the sources constituting the own revenue of the commune in the Lubuskie District. A positive phenomenon that should be pointed out is the income growth. It is caused by the fact that the commune authorities are conducting a fiscal policy aspiring to the maximization of the obtained inflows.

In order to obtain the funds necessary for the implementation of tasks imposed by the legislator, affecting the development status of the municipality and the standard of living of residents, it is necessary to activate the activities of local authorities in terms of acquiring financial resources (Kožuch, Mirończuk, 2005, p. 12).

The analysis of income of local government units was carried out on the basis of available real data for 2016. The study of the structure of income sources was aimed at identifying the most significant sources of income in the budgets of local government units in the Lubuskie voivodeship. Finally, it should be added that the public funds planned in

the budget for a given year (inflows) must be equal to the sum of planned expenditures and public outlays (outflows). The public funds realized in a given year must also be balanced with the sum of expenditures and public outlays made in a given year.

## References

- Agopszowicz, A., Gilowska, Z., Taniewska-Peszko, M. (1999). *Prawo samorządu terytorialnego w zarysie*. Katowice: Wydawnictwo Uniwersytetu Śląskiego.
- Czerski, P., Hanusz, A., Niezgodą, A. (2010). *Dochody budżetu jednostek samorządu terytorialnego*. Warsaw: Wolters Kluwer.
- Gajl, N. (1992). *Finanse i prawo finansowe*. Warsaw: Wydawnictwo Naukowe PWN.
- Grzeźkiewicz, W. (2002). *Zagrożenia wynikające z deficytu i samorządowego długu publicznego*. *Samorząd Terytorialny*, 4, 37–47.
- Hanusz, A., Niezgodą, A., Czerski, P. (2006). *Dochody budżetu gminy*. Warsaw: Wolters Kluwer.
- Jastrzębska, M. (2005). *Polityka budżetowa jednostek samorządu terytorialnego*. Gdańsk: Wydawnictwo Uniwersytetu Gdańskiego.
- Kotulski, M. (2000). *Pojęcie i istota samorządu terytorialnego*. *Samorząd Terytorialny*, 1–2, 82–90.
- Kornberger-Sokołowska, E. (2001). *Decentralizacja finansów publicznych a samodzielność finansowa jednostek samorządu terytorialnego*. Warsaw: Wydawnictwo Liber.
- Kożuch, A., Brzozowska K. (2006). *Istota i zakres zarządzania finansami lokalnymi*. In: A. Kożuch, K. Brzozowska (eds.) *Współczesne problemy zarządzania finansami lokalnymi* (pp. 11). Cracow: Fundacja Współczesne Zarządzanie, Instytut Spraw Publicznych Uniwersytetu Jagiellońskiego.
- Kożuch, A., Mirończuk, A. (2005). *Planowanie finansowe w gminie, Zarządzanie finansami lokalnymi*. Białystok: Wydawnictwo Fundacja Współczesne Zarządzanie.
- Miemiec, W. (2011). *Decentralizacja finansów publicznych a samodzielność finansowa jednostek samorządu terytorialnego*. Warsaw: Wydawnictwo Difin.
- Nowacka, E.J. (1997). *Samorząd terytorialny w administracji publicznej*. Warsaw: Wydawnictwa Prawnicze PWN.
- Niewiadomski, Z., Grzelczak, W. (1990). *Ustawa o samorządzie terytorialnym z komentarzem oraz teksty innych ustaw samorządowych*. Warsaw: Wydawnictwo Prawnicze.
- Niewiadomski, Z., Siemiński, W., Sosnowski, P., Tetera, M. (2001). *Samorząd terytorialny. Ustrój i gospodarka*. Bydgoszcz–Warsaw: Kwartalnik Prawa Publicznego.
- Podgórski, K. (1991). *Ustawowa regulacja zadań gminy jako jednostki samorządu terytorialnego*. *Samorząd Terytorialny*, 11–12, 20–26.
- Ruśkowski, E. (1998). *Struktura polskiego prawa finansowego ze szczególnym uwzględnieniem Konstytucji i orzecznictwa sądowego*. Warsaw: Wydawnictwo Polskie prawo finansowe.
- Sadowska, B. (2014). *Znaczenie i warunki stosowania zintegrowanych systemów informatycznych w sferze budżetowej*. Warsaw: Stowarzyszenie Księgowych w Polsce.
- Sadowska, B. (2017). *Ryzyko w jednostkach samorządu terytorialnego jako element kontroli zarządczej*. Szczecin: Wydawnictwo Naukowe Uniwersytetu Szczecińskiego.
- Storczyński, J. (2006). *Nadzór regionalnej izby obrachunkowej nad samorządem terytorialnym*. Bydgoszcz–Chorzów: Oficyna Wydawnicza Branta.

- Szewczuk, A. (2004). *Strategia decentralizacji systemu finansów publicznych w Polsce i jej wpływ na funkcjonowanie sektora samorządowego, Finansowanie jednostek samorządu terytorialnego*. Poznań–Wrocław: Wydawnictwo Wyższej Szkoły Bankowej.
- Talik, A., Lachiewicz, W. (2017). *Dotacje z budżetów samorządu terytorialnego*. Warsaw: C.H. Beck.
- Wojewodziec, T., Płonka, A. (2008). *Polityka gmin województwa małopolskiego w zakresie podatku od nieruchomości*, Warsaw: Szkoła Główna Gospodarstwa Wiejskiego.
- Wójtowicz, W. (2003). *Zarys finansów publicznych i prawa finansowego*. Warsaw: Dom Wydawniczy ABC.
- Zięba-Załucka, H. (1999). *Samorząd Terytorialny Rzeczypospolitej Polskiej po reformie ustrojowej – wybrane zagadnienia*. Rzeszów: Wydawnictwo Fosze.
- Ustawa z 8.03.1990 r. o samorządzie gminnym. Journal of Laws 2001 No. 142, item 1591 as amended.
- Ustawa z 2.04.1997 r. Konstytucja Rzeczypospolitej Polskiej. Journal of Laws 2009 No. 114, item 946.
- Ustawa z 12.03.2004 r. o pomocy społecznej. Journal of Laws No. 64, item 593 as amended.
- Wyrok Naczelnego Sądu Administracyjnego z 27.11.1990 r., SA/P 1267/90, Orzecznictwo Naczelnego Sądu Administracyjnego 1990, No. 4, item 14.

## STRUKTURA DOCHODÓW LUBUSKICH JEDNOSTEK SAMORZĄDU TERYTORIALNEGO

**Słowa kluczowe:** dochody, budżet, samorząd, gmina

**Streszczenie.** Niniejsze opracowanie ma charakter opisowy i wyjaśniający. Dotyczy prezentacji dochodów lubuskich jednostek samorządu terytorialnego w latach 2015–2016 w aspekcie samodzielności finansowej oraz zobrazowania pozycji dochodów w strukturze budżetu gmin. Celem opracowania jest zapoznanie czytelnia ze strukturą dochodów budżetowych jak również prezentacja otrzymanych wyników. W pracy zastosowano następujące metody badawcze: studia literaturowe, analizę oraz wnioskowanie. Niezbędna była również dogłębna analiza źródeł prawa zewnętrznego oraz wnioskowanie na podstawie dostępnego sprawozdania z wykonania budżetów przez lubuskie jednostki samorządu terytorialnego w roku 2016. Wyniki Działalności nadzorczej, opiniodawczej i kontrolnej RIO w Zielonej Górze.

### Citation

Paluch-Dybek, A. (2018). The Structure of Income of Lubuskie Local Government Units. *Ekonomiczne Problemy Usług*, 4 (133/2), 95–104. DOI: 10.18276/epu.2018.133/2-09.