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ORIGINAL PAPER

STRUCTURE OF ASSETS AND LIABILITIES OF NON-FINANCIAL CORPORATIONS BY SELECTED NACE SECTIONS

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A b s t r a c t

Experience from nations with established market economies demonstrates that small and medium-sized businesses are more inventive and able to respond to client demands and needs more quickly than giant businesses. Many publications produced by the EU institutions emphasize their crucial function. Small- and medium-sized enterprises (SMEs) reflect a society's entrepreneurial spirit and a sign of healthy competition in every economy. However, these businesses have numerous growth constraints in a setting that is changing quickly. At first, it is not simple. Due to the higher risk that start-ups face compared to larger corporations, they have difficulty obtaining funding from traditional sources and SME enterprises experience an equity gap. As a result, having access to finance has become crucial to expanding and competing in a particular market. In accordance with the accepted legal norms, the receiver is required to comply with the conditions set forth by the capital donor-recipient to be able to access external sources.

One of the most significant influences on a company's ability to fulfil current obligations in full and generate adequate financial results is adherence to the fundamentals of asset financing, which highlight, among other things, the structural relationships in a company's balance sheet. The purpose of the analysis presented in this text is to identify differences in the structure of assets and liabilities between selected NACE sections of non-financial corporations in 2021 year. All analysed assets

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and liabilities are characterized by very strong asymmetry. Therefore, the outlier effect has been standardized using Weber median. Further statistical analyses used Kruskal-Wallis non-parametric ANOVA test to determine the similarity between assets and liabilities of selected NACE sections. The analysis showed that there are no significant differences in the assets and liabilities of the different NACE sections.

The PROFIT analysis allowed for a graphical representation of the structure of the similarities between the NACE sections analysed and their arrangement due to the intensity of the assets and liabilities. As regards the NACE sections analysed, three homogeneous groups can be distinguished, of which industry and trade constitute two of them and the others – the third. It has been shown that the industry section is characterized by the highest intensity in both assets and liabilities.

STRUKTURA AKTYWÓW I PASYWÓW PRZEDSIĘBIORSTW NIEFINANSOWYCH WEDŁUG WYBRANYCH SEKCJI PKD

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S ł o w a k l u c z o w e: aktywa, pasywa, przedsiębiorstwa niefinansowe, mediana Webera, PROFIT.

A b s t r a k t

Doświadczenia krajów o ugruntowanej gospodarce rynkowej pokazują, że małe i średnie przedsiębiorstwa są bardziej pomysłowe i potrafią szybciej reagować na żądania i potrzeby klientów niż przedsiębiorstwa olbrzymie. W wielu publikacjach przygotowanych przez instytucje UE podkreślano ich kluczową funkcję. Małe i średnie przedsiębiorstwa (MŚP) są odzwierciedleniem ducha przedsiębiorczości społeczeństwa i oznaką zdrowej konkurencji w każdej gospodarce. W otoczeniu, które szybko się zmienia, przedsiębiorstwa te napotykają jednak na liczne przeszkody w rozwoju. Na początku nie jest to proste. Ze względu na wyższe ryzyko, na jakie narażone są startupy w porównaniu z większymi korporacjami, mają one trudności z uzyskaniem finansowania z tradycyjnych źródeł, a przedsiębiorstwa z sektora MŚP doświadczają luki kapitałowej. W efekcie posiadanie dostępu do finansowania stało się kluczowe dla ekspansji i konkurowania na danym rynku. Zgodnie z przyjętymi normami prawnymi, aby uzyskać dostęp do źródeł zewnętrznych, biorca jest zobowiązany do spełnienia warunków określonych przez dawcę kapitału – biorcę.

Na zdolność do pełnego wywiązywania się z bieżących zobowiązań z jednoczesnym osiąganiem odpowiednich wyników finansowych wpływa wiele czynników, ale jednym z najważniejszych jest przestrzeganie podstaw finansowania aktywów, które obrazują m.in. zależności strukturalne w bilansie przedsiębiorstwa.

Celem analizy przedstawionej w artykule jest identyfikacja różnic w strukturze aktywów i pasywów między wybranymi sekcjami PKD przedsiębiorstw niefinansowych w 2021 roku. Wszystkie analizowane aktywa i pasywa charakteryzują się bardzo silną asymetrią, dlatego aby znormalizować efekt odstający, użyto mediany Webera. Następnie wykorzystano nieparametryczny test

ANOVA Kruskala-Wallisa do określenia podobieństw między aktywami i pasywami wybranych sekcji PKD. Analiza wykazała, że nie ma znaczących różnic w aktywach i pasywach przedsiębiorstw analizowanych sekcji PKD.

Analiza PROFIT pozwoliła na graficzne przedstawienie struktury podobieństw między analizowanymi sekcjami PKD i ich ułożenia ze względu na intensywność aktywów i pasywów. W odniesieniu do analizowanych sekcji PKD można wyróżnić trzy jednorodne grupy, z których przemysł i handel stanowią dwie, a pozostałe – trzecią. Wykazano, że przemysł charakteryzuje się najwyższą intensywnością, zarówno w aktywach, jak i pasywach.

Introduction

Small and medium-sized businesses typically experience growth barriers more keenly than bigger businesses, and the intensity of this sensation varies depending on the local economic climate. During this time, especially the smallest ones, feel them the most strongly (which passes with economic prosperity). The barriers connected to the labor market and qualifications are those that stand out the most during boom times. In contrast, impediments related to business finances and the level of demand are felt most keenly during economic downturns and recessions.

All economic decisions made by business entities are focused at the financial level. Consequently, companies need to analyse the financial criterion alongside other relevant factors such as organisational, legal and human issues. One of the most important management needs is the ability to carry out a rigorous and factually correct assessment of a company's financial situation (Spoz, 2012).

In a market economy, the primary objective of an enterprise is to maximise its value. In order to achieve this goal, the enterprise must operate efficiently and profit, defined as the excess of revenue over costs, is the primary determinant of operating efficiency. Adherence to the principles of asset financing, which emphasise, among other things, the structural relationships on a company's balance sheet, is one of the most critical elements in the ability to meet current obligations in full while achieving adequate financial performance. The purpose of the analysis presented in this text is to identify differences in the structure of assets and liabilities between selected NACE sections of non-financial corporations in 2021 year.

All of the events, activities and conditions that occur inside and outside a company have an impact on its financial success. The financial statements are a composite representation of these factors (Spoz, 2012).

Financial statements are a standardised series of financial statements that explain an organisation and its activities. Accounting records and cost accounting data are used to build them. They are a key source of economic data about the company and serve as the basis for investment decisions. They are issued after the end of the financial year and before the issue of securities and corporate mergers, among other things.

The following characteristics should be present in financial statements: user comprehensibility, clarity of presentation, relevance of the information they provide, reliability and completeness, and verifiability and comparability of the information presented (Walińska, 2009).

Financial statements are a display of data from accounting records that characterise the property, financial and performance status of an enterprise, while providing information on various areas of its economic activity through the use of a typical descriptive formula (Walczak, 2007).

The balance sheet, which shows the company's assets and liabilities at a specific date, the income statement, which summarises the company's activities during a given period assessed through the prism of its financial performance, and the cash flow statement are the most relevant financial statements (showing the amount of cash generated during the reporting period and how it was used). These statements provide an assessment of the financial health of the company (Leszczyński *et al.*, 2004).

Methodical Assumptions

Data on the selected assets and liabilities used in the analyses come from the GUS databases (*Bilansowe wyniki finansowe…*, 2022). The balance sheet also presents a description of the methodology of data collection by the GUS. All analysed diagnostic features are characterized by strong or very strong asymmetry. In order to offset, interfere with the calculation, the effect of outliers, standardization using Weber's median[1] was used. The determined vector, minimizing the sum of Euclidean distances from the given points representing the considered objects, located somewhat in the middle, is also resistant to the occurrence of outliers (Młodak, 2006). The standardization of the data was made according to the following formula:

$$z_{ij} = \frac{x_{ij} - \widetilde{\mathrm{med}}(X_j)}{1.4826 \cdot \widetilde{\mathrm{mad}}(X_j)} \tag{1}$$

where:

$\widetilde{\mathrm{med}}(X_j)$ – Weber median j-th features,

$\widetilde{\mathrm{mad}}(X_j)$ – median absolute deviation of the jth characteristic in which the distance of features to the Weber vector, i.e. $\widetilde{\mathrm{mad}}(X_j) = \mathrm{med}_{i=1,\ldots,n}\left|\widetilde{\mathrm{med}}(X_j)\right|$.

The data analysis decided on Weber's standardization, because the standardization does not strictly meet the standardization requirements, ie zero

[1] The use of Weber's media-based standardization allows to overcome the distorting effect of outliers, and at every stage of the research treats a set of diagnostic features as a whole.

median and median absolute deviation equal to one, but a better use of mutual – also indirect – dependencies between diagnostic features (Lira *et al*., 2002; Młodak, 2009).

Selected Assets, Total Equity and Liabilities by NACE Sections in 2021

As in highly developed nations, Poland's economic transformation has facilitated the emergence of a private sector in which small and medium-sized enterprises play a crucial role. They are viewed as dynamic and adaptable entities that rapidly respond to market changes and generate new employment opportunities (Daszkiewicz, 2007),

However, the growth of small and medium-sized businesses is heavily reliant on the scale of their capital, which is typically derived from self-financing and access to external resources. In Poland, financing options from both internal and external sources remain constrained. Companies are unable to manage the collection of receivables due to a chronic shortage of capital (Dominiak *et al*., 2005).

Traditional and most defining characteristics of small and medium-sized businesses are limited access to sources of operational financing and limited financial resources. Financing can be considered in both a limited and broad sense. In the narrow sense, financing refers to activities that contribute to the acquisition (accumulation) of capital, whereas in the broad sense, financing refers to activities through which capital is not only accumulated, but also invested for a particular period of time, a particular purpose, and in a particular form. Despite its undeniably positive impact on the national economy, the sector is not maximizing its potential. Companies in the sector confront numerous obstacles at the outset and throughout their operations, preventing them from operating efficiently (Dębski, 2005).

The value of a company's capital depends on the value of its sources of financing – equity (shareholder funds) and debt (debt financing) – and their ratio, also known as its capital structure. Leverage is created by the ratio of equity to debt, and an increase in leverage results in an increase in debt in the capital structure. Clearly, debt financing is less expensive than equity financing because financiers assume less risk than shareholders. Is it possible to minimize the cost of capital and maximize the company's value by manipulating the capital structure? To answer this question, it is necessary to comprehend the impact of debt financing on the weighted average cost of capital and the establishment of the firm's market value. The first work to provide a theoretical foundation for the discussion was the theory of two American economists, Merton Miller and Franco Modigliani (MM), who arrived at the paradoxical conclusion that "a firm's

value is independent of its capital structure" – what matters is a company's profitability and cash flow generation ability. In their first study, the economists presented equity as common shares and debt capital as bonds; the market value of a company is the sum of equity and debt capital. The ratio between equity and debt capital represents leverage. Miller and Modigliani demonstrated that the market value of a firm is independent of its capital structure under the assumption of a perfect market, including the financial equality of firms and private investors (the ability of both parties to borrow at the same interest rate), the equal yield curves of all borrowers, the absence of transaction costs, and the absence of taxes on both firms and individual investors. Miller used the analogy of dividing a cake whose size cannot be altered by using various methods of slicing to explain the model's outcome (Abeywardhana, 2017).

Cumulative factors within the enterprise itself are among the most frequently cited factors that influence the growth (development) of nonfinancial enterprises. These include the company's size, age, structure, and location, as well as the structure of its assets and liabilities.

The approach to business location has witnessed a sort of transformation. Today, this variable depends on the industry in which a business operates. Numerous variables influence the decision of where to establish and grow a business. In contrast to the manufacturing industry, a company in the service or sales sector bases its location decision on the scale of both demand and market. Due to the dependence of their business on the availability of basic materials and skilled labor, they can afford to locate their enterprise in a remote area (Duliniec, 2015).

In the balance sheet approach, assets and liabilities make up a group of factors. The assets of a company can be separated into fixed and current assets, while the liabilities can be separated into equity and liabilities. The structure of financing a company's assets can be divided into equity, debt and other liabilities, as well as both short-term and long-term financing (fixed capital).

Any changes in assets and liabilities between the end and commencement of the period (reporting period) provide information about the enterprise's financing objects and sources. Any increase in assets, such as the purchase of legal and tangible assets, a fixed asset, an increase in receivables, and a decrease in liabilities, such as the redemption of shares or bonds or the repayment of a bank loan, are the objectives of financing. Sources of finance may include any decrease in assets, such as depreciation (asset depreciation), a decrease in inventories, or the sale of a fixed asset, as well as any increase in liabilities, such as a bank loan, retained earnings, the issuance of shares or bonds, or an increase in operating liabilities. Companies undergoing successive phases of growth have a growing variety of financing structure options from which to choose (Degryse *et al*., 2012).

Various classifications of barriers and difficulties encountered by the SME sector in the course of its activities can be found in the available literature. There

is a classification that takes into account the timing of barriers during the life of a business: entry barriers, which are associated with the moment of entry (start-up) when the idea is put into action. These include imprecise legislation, corruption, poor economic conditions, low demand, and investment costs that exceed entrepreneurs' financial resources. And the second – exit - development barriers, which are associated with decline or transition to the growth phase.

Another classification scheme is that presented by L.C. Leonidou, who classified growth barriers according to those associated with the internationalisation (equivalent to exporting) process. He identified four categories of obstacles:

– internal – domestic (internal – domestic), which stem from within the company, such as a poor perception of the risks associated with exporting products;

– internal – foreign, which are related to the small company's limited marketing capabilities, product delivery issues, and excessive transport costs;

– external – domestic, which are beyond the company's control, such as the intricacy of international marketing documentation;

– external – foreign, resulting from external departments and affecting international markets, such as tariff restrictions and exchange rates.

Due to the paper's topic, it seems more appropriate to classify the internationalisation barriers proposed by K. Miesenbock, who divides them as follows (Daszkiewicz, 2004):

– export barriers, such as export documents, customs formalities, the poor economic and political situation on foreign markets, or a lack of international demand for the company's manufactured goods;

– resource limitations, such as personnel, financial, informational, and production capacity restrictions;

– marketing barriers – difficulties resulting from product adaptation, after-sales service guarantee, commercial intermediaries, communication, and sales logistics;

– obstacles related to the owner's or manager's attitude, including a lack of experience, knowledge, contacts, and interest in exporting the product.

On the other hand, according to D.J. Storey, we should differentiate between the management barrier, which results from insufficient management skills of the owner and excessive use of intuition; the demand barrier, which is characteristic of a market economy and weakens during good times and intensifies during a recession; and the financial barrier, which increases as the company grows due to a greater need for capital (Adamczyk *et al.*, 2004).

In addition to market and financial barriers, W. Pitkowski lists administrative and legal barriers, barriers resulting from the fiscal system (Poland's complex tax system), barriers related to the state (frequent changes in regulations, lengthy waiting times for decisions, administrative procedures), and barriers related to telecommunications (Michalski *et al.*, 2008).

Based on its own research and that of the Ministry of Economy and the Central Statistical Office, the Polish Agency for Enterprise Development distinguishes

the following barriers: market and social barriers, capital barriers, barriers resulting from economic policy, legal barriers, infrastructural barriers, and information barriers, which, despite the state's constant efforts to eliminate them, still effectively impede the development of an e-commerce sector (Mazur, 2007).

The first ones have to do with the market environment of the SME sector, such as regional variations in demand, increasing market competition, etc. The primary challenges small businesses face is a decline in the number of orders, the inability to locate new markets, a decline in local/regional demand, and the effects of foreign direct investment. Due to insufficient financial resources, small and medium-sized businesses are frequently disadvantaged when competing with large corporations. The social barrier, on the other hand, stems from the low mobility of workers on the labor market and the general reluctance of those with advanced degrees to work in small businesses (Bławat, 2004).

Another group of obstacles that small and medium-sized businesses confront is a lack of financial resources to launch or maintain operations. The level of accumulated private assets and private resources at the entrepreneur's disposal is typically insufficient to operate on a larger scale than previously, and the conservative policy pursued by banks is a fundamental impediment to raising capital. In addition, companies in the SME sector are generally viewed as hazardous, resulting in significantly less favorable credit conditions. This is predominantly reflected in high interest rates and stringent potential collateral requirements. The unfavorable treatment of SMEs by banks can be attributed to a number of factors, including the lack of assets required to secure loans/credits, the inability of owners and managers to develop a business plan or credit application correctly, and the inability to document the company's relatively long history. In addition to limiting the growth of small and medium-sized businesses, banking policy contributes to the absence of opportunities to implement technological innovations. This group of obstacles also includes difficulties in obtaining public contracts, with the procurement process being the primary obstacle in this instance. As part of the bidding process, tiny and medium-sized businesses are required to pay a deposit. Frequently, the required amount is so excessive that businesses are simply unable to raise it. Even if they win the bid, entrepreneurs are required to pay an unaffordable deposit. Additionally, payment terms are problematic for the industry. SMEs must conform to the terms stipulated by DPs, which include extended payment terms. After a lengthy wait, the redemption of the cash circulation procedure can result in a loss of liquidity. By virtue of SMEs not going to court, larger companies feel unpunished, while SMEs fear losing an essential customer (Waniak-Michalak, 2007).

Additionally, unfavorable economic policies hinder the development and operation of businesses. This is especially true for the labor market and social security. As a result of the obligation to pay additional benefits, employees cost the company more than their total salary, and the costs of creating new positions

are extremely high. The rather complex regulations of Polish law and the level of taxes are also significant impediments to the operations of small and medium-sized businesses. Instability and ambiguity of legal regulations, manifested in constant changes to regulations, making it difficult to predict/plan the future and increasing the costs of business through the involvement of advisors and specialists, burdensome administrative procedures and administrative limitations related to undertaking a given business activity, which interfere with the generally accepted in the European Union freedom of undertaking business, are the most frequently cited obstacles.

Access to infrastructure is difficult for businesses for several reasons, including its complexity, poor quality, and expense. The infrastructural barrier, as it is known, pertains to transportation, communications, energy, and telecommunications. The quality of Polish highways is severely lacking. They require improvement, the construction of new sewage treatment facilities, and the disposal of waste (Ostrowska, 2014).

Information barriers result from the lack of involvement of local, regional, and central authorities in organizing information campaigns that would bring closer the issues pertaining to the use of aid programmers, public procurement, and macroeconomic indicators (Dominiak *et al.*, 2005):

– related to the low availability of advisory, legal, technical, etc. services, i.e. information available at the local level;

– related to the low level of technical infrastructure and local barriers, e.g. related to insufficient space of occupied premises or rather high maintenance costs;

– related to employment barriers, such as those resulting from structural mismatches between the labour market and the education system.

The classification of factors influencing the capital structure of economic entities demonstrated their diversity and multiplicity. Numerous factors are interconnected, which makes the problem complex, and the analysis of variables that may influence the level of a company's debt presents a few challenges. Nonetheless, understanding this issue enables business managers to make more informed judgments regarding the selection of financing sources. Therefore, it is justifiable to conduct empirical research into the factors that influence the selection of a particular capital structure (Michalski, 2009).

The balance sheet is a record that statistically represents in value terms the state of economic resources (assets) and their sources of financing (origin), considering the financial result (profit or loss), or liabilities, at a given point in time. The balance sheet gives a picture of a company's assets and the finances that sustain them by listing these assets and indicating the parties that have a legal claim to them.

The assets of a company on the balance sheet are all the resources it owns, uses and can monetize (or earn from) (Dynus *et al.*, 2005). A company's assets are the resources it has access to and uses to conduct its business, including

physical property, intellectual property, money, and other financial instruments. For balance sheet purposes, assets are summarized according to a liquidity criterion that is based on their economic and financial content. Equity, reserves, liabilities, accumulated expenses and accrued income form the liabilities side, while fixed assets, current assets and accrued expenses form the assets side. All a company's assets and debts are arranged in a specific order on its balance sheet. Assets in manufacturing companies are ranked according to their liquidity, while liabilities are ranked according to their maturity (Gabrusewicz, 2014).

The balance sheet is considered the most important element of the financial statements as it provides the most comprehensive information for assessing the asset and financial condition of any business entity. Both external stakeholders such as investors and management benefit from the results of financial analysis, which is based on the information contained in the balance sheet (Michalski, 2004). Based on the data presented in Table 1, basic statistics for the selected assets and liabilities adopted for the analysis have been determined (Tab. 2).

Table 1

Selected assets, total equity and liabilities by NACE sections

Specification	Fixed assets	Current assets	Stocks	Equity	Liabilities and provisions	Long-term liabilities	Current liabilities	Liabilities from deliveries and services
	in billions PLN							
Industry	1,131.8	841.3	263.7	982.6	991.2	238.5	584.0	262.3
Construction	46.3	120.8	31.8	69.2	98.1	14.2	64.3	29.4
Trade; repair of motor vehicles	222.7	422.9	171.1	269.2	376.9	59.0	285.0	181.7
Transportation and storage	216.0	84.9	4.5	97.0	203.9	60.7	53.7	25.3
Accommodation and catering	26.4	6.7	0.5	16.6	16.5	9.5	5.5	1.9
Information and communication	139.0	70.8	5.0	113.1	97.1	44.7	37.8	16.9
Real estate activities	127.8	36.0	8.7	105.3	59.6	29.8	19.9	5.2
Professional, scientific and technical activities	107.7	113.3	3.4	90.5	130.8	84.2	35.2	12.2
Administrative and support service activities	71.3	36.9	1.8	25.4	82.8	37.6	39.6	6.8
Other service activities	2.9	1.7	0.2	1.9	2.7	1.2	1.3	0.8

Source: *Bilansowe wyniki finansowe…* (2022).

Table 2

Selected assets, total equity and liabilities by NACE sections – Basic statistics

Specification	Fixed assets	Current assets	Stocks	Equity	Liabilities and provisions	Long-term liabilities	Current liabilities	Liabilities from deliveries and services
Arithmetic average	209.2	173.5	49.1	177.1	206.0	57.9	112.6	54.3
Median	117.8	77.9	4.8	93.8	97.6	41.2	38.7	14.6
Weber's median	112.4	78.1	11.6	88	102.9	42.8	42.4	17.7
Standard deviation	315.4	250.6	87.1	277.8	280.8	64.9	175.2	86.3
Median standard deviation	76.05	42.4	10.45	43.85	64.85	23.25	22.2	12.1
Skewness	2.9	2.2	2.0	2.8	2.5	2.4	2.3	1.9

Source: author's own elaboration using Statistica 13.3.

After analyzing the variable distributions, it turned out that there was a lack of normal distribution for each assets and liabilities, and the lack of homogeneity of variance, which precludes the use of ANOVA one-way analysis. Therefore, Kruskal-Wallis non-parametric ANOVA test (nonparametric equivalent of one-way analysis of variance) was carried out, which will allow to determine whether there are significant differences between assets.

At the beginning of the data analysis, the following hypotheses were put forward:

H_0: There are no significant differences in the assets and liabilities of the different NACE sections.

H_1: There are significant differences in the assets and liabilities of the different NACE sections.

The results of Kruskal-Wallis's ANOVA test are presented in Table 3.

On the basis of $p > 0.05$ there are no grounds for rejecting the H_0 hypothesis and so it can be concluded that there are no significant differences in the assets and liabilities by NACE sections.

According to statistical data, the holdings of assets and liabilities by individual NACE sections divisions of non-financial firms in Poland varied slightly. Similar amounts of assets and liabilities are often held in larger parts of the NACE sections, such as industry, trade, or construction. Admittedly, a comprehensive sectoral analysis may reveal some discrepancies, but the general trend indicates that the amounts of assets and liabilities in individual sections of the NACE are comparable (Walińska, 2009).

Table 3

Kruskal-Wallis test results ANOVA

Dependent: bilions PLN	Kruskal-Wallis ANOVA		
	Dependent variable (Grouping): ACTIVE		
	Kruskal-Wallis test: H (7, N = 80) = .1922222, p = 1.00		
	code	the sum of ranks	average rank
Fixed assets	1	420	42
Current assets	2	401	40
Stocks	3	396	39
Equity	4	396	39
Liabilities and provisions	5	425	42
Long-term liabilities	6	390	39
Current liabilities	7	404	40.4
Liabilities from deliveries and services	8	408	40.8

Source: author's own elaboration using Statistica 13.3.

Non-financial companies in the Polish economy are diversified in terms of the NACE sections in which they operate. There is a division into industry, trade, construction, and transport. Having adequate assets and liabilities is critical to the functioning of these companies. It may seem strange that, despite such a wide range of activities, the amount of assets and liabilities held by the different parts of the NACE sections shows no noticeable differences (Leszczyński *et al.*, 2004).

Analysing data from public sources, it can be concluded that, in general, assets and liabilities in the NACE sections divisions in Poland are stable. For example, in the case of the industrial area, where many different manufacturing enterprises operate, the size of assets and liabilities is at a comparable level. In the trade area, where numerous trading and wholesale companies operate, there are no visible differences in the level of assets and liabilities. The situation is similar in the construction and transport area (Walczak, 2007).

However, it should be noted that a broad sectoral analysis may reveal some differences in the asset and liability holdings of individual companies. In the fast-growing construction sector, several corporations own huge amounts of real estate, such as building plots or finished buildings. Vehicles, on the other hand, account for a significant proportion of assets in the transport industry.

Notwithstanding these minor differences, the general trend indicates that asset and liability levels are comparable in the different parts of the NACE sections. It is worth mentioning that this situation may be since most companies operate in a consistent manner, without significant deviations from industry norms. Enterprises employ the same number of people, have the same infrastructure, and use comparable sources of financing (Gad, 2015).

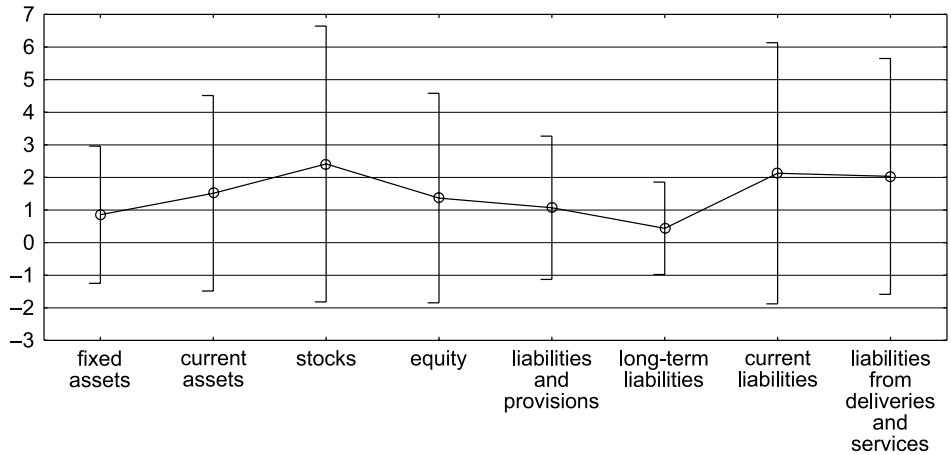

Fig. 1. Expected marginal averages of NACE sections' assets and liabilities
Source: author's own elaboration using Statistica 13.3.

The selection of contrast groups was made on the basis of Figure 2. The focus was therefore on the contrasts between the group: construction (x_B), transportation and storage (x_D), accommodation and catering (x_E), information and communication (x_F), real estate activities (x_G), professional, scientific and technical activities (x_H), administrative and support service activities (x_I), other service activities (x_J) and industry (x_A) and trade (x_C). The following hypotheses were tested for this purpose:

A: H_0: $K = -4x_A + x_B - 4x_C + x_D + x_E + x_F + x_G + x_H + x_I + x_J = 0$

B: H_0: $K = -x_A + x_C = 0$

The determined contrast ratios are shown in Table 4. On the basis of $p < 0.05$ for both contrasts A and B hypothesis have to be rejected.

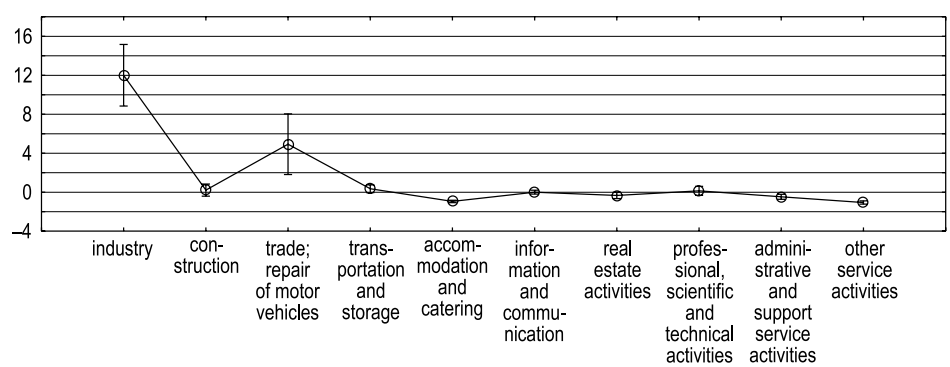

Fig. 2. Expected marginal averages of NACE sections
Source: author's own elaboration using Statistica 13.3.

Table 4

Coefficients of contrast and evaluation for the comparisons between group

No. of subclass	Contrast coefficients for intergroup comparisons	
	assets, total equity and liabilities	contrast ratios for the subclass
1	industry	-4
2	construction	1
3	trade; repair of motor vehicles	-4
4	transportation and storage	1
5	accommodation and catering	1
6	information and communication	1
7	real estate activities	1
8	professional, scientific and technical activities	1
9	administrative and support service activities	1
10	other service activities	1
One-dimensional significance tests for comparisons		
	effect	error
Sum of squares	975.11	206.69
Degrees of freedom	1	70
Average squares	975.11	2.95
F	330.24	
P	0.00	
No. of subclass	contrast coefficients *B* for intergroup comparisons	
	assets, total equity and liabilities	contrast ratios for the subclass
1	industry	-1
2	construction	0
3	trade; repair of motor vehicles	1
4	transportation and storage	0
5	accommodation and catering	0
6	information and communication	0
7	real estate activities	0
8	professional, scientific and technical activities	0
9	administrative and support service activities	0
10	other service activities	0
One-dimensional significance tests for comparisons		
	effect	error
Sum of squares	200.22	206.69
Degrees of freedom	1	70
Average squares	200.22	2.95
F	67.81	
P	0.00	

Source: author's own elaboration using Statistica 13.3.

The contrast *A* between group come with group of construction, transportation and storage, accommodation and catering, information and communication, real estate activities, professional, scientific and technical activities, administrative and support service activities, other service activities and group of industry and trade went significantly different from zero. That is, the average of the first group (construction, transportation and storage, accommodation and catering, information and communication, real estate activities, professional, scientific and technical activities, administrative and support service activities, other service activities) is significantly different from the mean of second group (industry and trade). Similarly, contrast *B* is interpreted (Tab. 4). That is we can consider three homogeneous groups.

PROFIT analysis is a procedure that combines two analytical techniques: multivariate scaling and multiple regressions. The purpose of multivariate scaling is a graphic presentation of structure of similarity between NACE sections with regard to the analysed assets and liabilities (Fig. 3). It is assumed that the shorter the distance between sections, the more they are similar to each other due to the analysed assets, total equity and liabilities. The graph shows that the section trade and section industry are clearly out of step with the rest of NACE sections just like analized contrasts above.

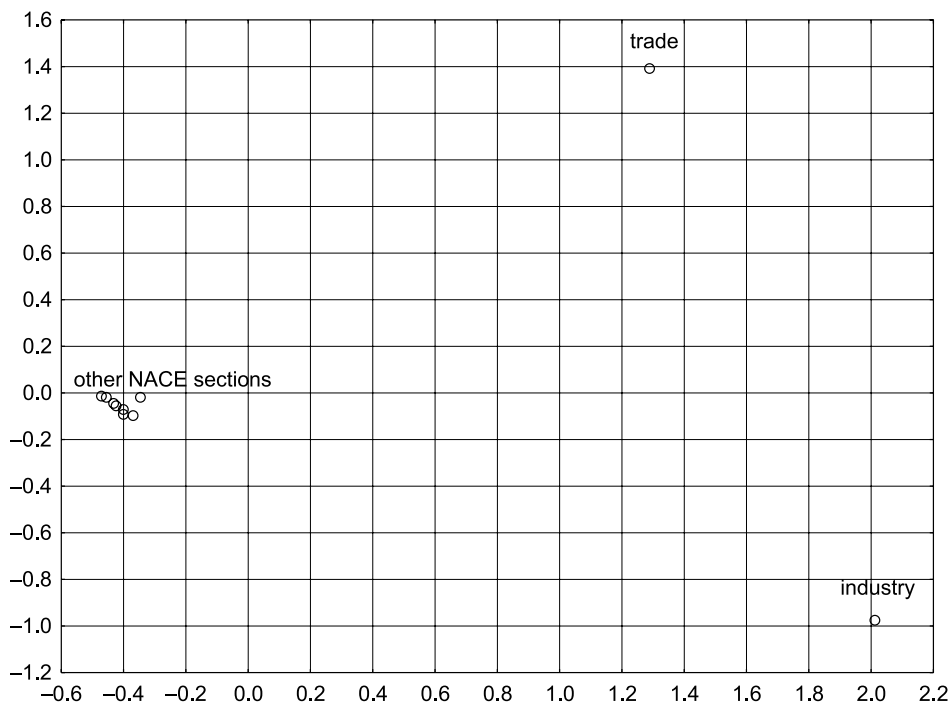

Fig. 3. Map of perception of NACE sections

Source: author's own elaboration using Statistica 13.3.

Probably the main reason for this is attest to the fact that due to the nature of their activities, companies in areas such as industry, manufacturing, trade and repair have a high value of current assets, particularly inventories. In contrast, companies in areas such as health care, service activities, hotels and restaurants reduce the value of current assets to the minimum necessary. The structure of a company's assets is determined by the industry. In contrast to manufacturing organizations, which make greater use of assets in the production process, service companies often have lower asset values.

Then each NACE section was assigned the values of its coordinates on the map. The PROFIT analysis algorithm will use information about coordinates (independent variables) and values of objects in relation to each of the assets, total equity and liabilities, performing multiple regression analysis. Eight regression analyses were performed. Standardized regression equation coefficients determine the direction and the sense of the vector of each assets, total equity and liabilities. To make the graphs clearer, assets and liabilities were shown in two separate figures (Figs. 4, 5).

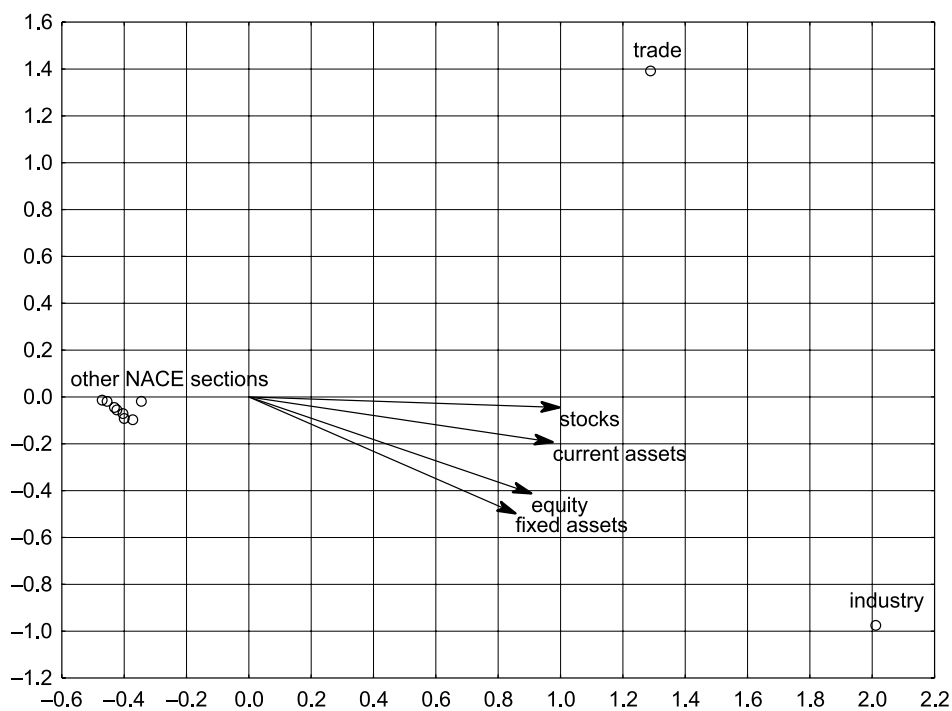

Fig. 4. Map of perception of all assets

Source: author's own elaboration using Statistica 13.3.

If we put all the vectors of each analysed NACE section on the perception map (Fig. 4), we see that, the section industry located in the fourth quadrant of the coordinate system is characterized by the highest intensity of all types of assets and all NACE sections located in third quadrant of the coordinate system are characterized by the lowest intensity of all types of assets. The section trade located in first quadrant of coordinate system ranks second in terms of intensity of all asset types. Similarly the situation is when it comes to liabilities (Fig. 5).

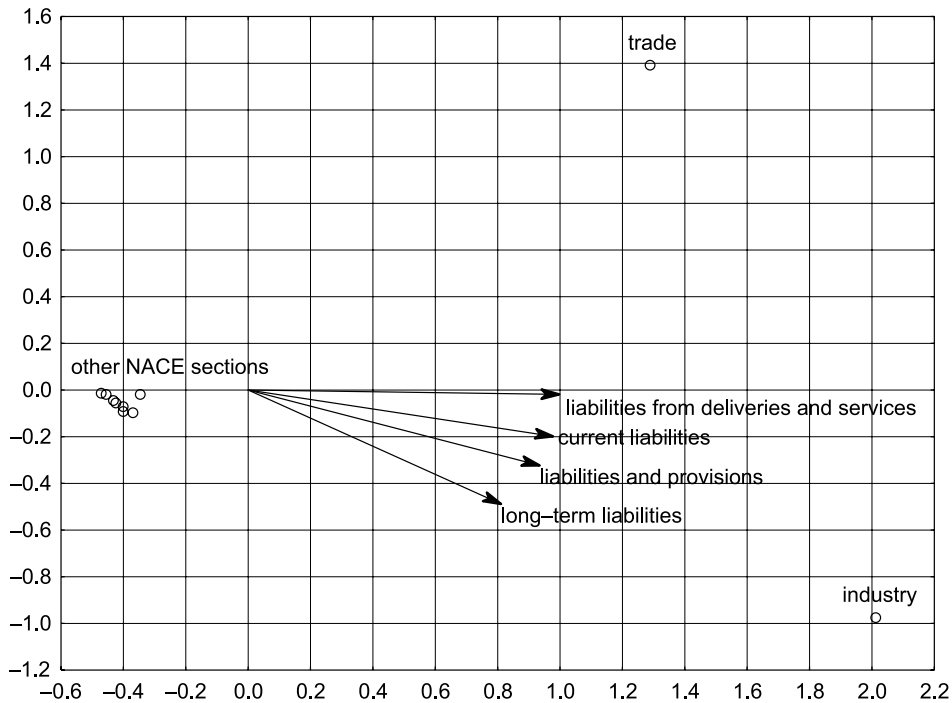

Fig. 5. Map of perception of all liabilities

Source: author's own elaboration using Statistica 13.3.

They made it possible to determine how NACE sections were located due the intensity of given assets and liabilities. It should be said that for the interpretation of results the information about distance the objects (NACE sections) from a straight line containing the vector is not important. The point is how located are orthogonal projections of the objects on this straight line. The ordering of these orthogonal projections is interpreted.

On the map (Fig. 6), we can see that due to Fixed assets, industry has the highest value and other service activities – the lowest.

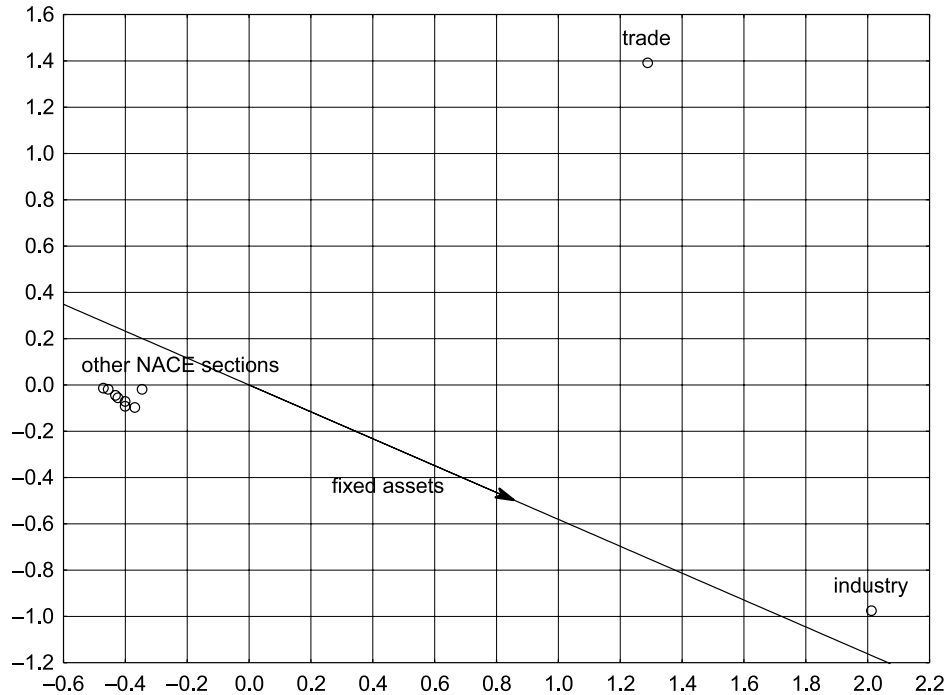

Fig. 6. Map of perception of the selected asset (fixed assets)
Source: author's own elaboration using Statistica 13.3.

Conclusions

Economic and financial analysis, which is carried out in part by using the information contained in financial statements, serves as a platform for making judgements about the performance of companies. These judgements can be positive or negative. Because it reveals the monetary value of a company's assets and financing as at the last day of the reporting period, the balance sheet is an important element of the financial statements (Gad, 2015).

The nature of the company is the primary determinant of the asset structure. According to the perception map, the most valuable sector in terms of fixed assets, also known as property, plant and equipment, is the manufacturing sector, while the least valuable sector is the service activities. This is because the manufacturing sector tends to require a large investment in machinery, equipment, and real estate, resulting in a high value of fixed assets. This is because the industrial sector usually requires this type of investment (Błach, 2009).

On the other hand, the value of fixed assets in the service sector is often characterized by a lower average cost, and the service industry usually requires

less investment. Investment in people, both in terms of their knowledge and skills, is prioritized in the service sector, which ultimately translates into improvements in the quality of services offered by enterprises.

In addition, on the basis of the analyses carried out, it was shown that:

– there are no significant differences between the assets and liabilities of corporations of all analyzed NACE sections;

– due to assets and liabilities, there are some similarities and differences between the corporations of the NACE section. Three homogeneous groups were distinguished: industrial, trade and other sections;

– the highest intensity of both assets and liabilities is shown by the corporations of the Industry section. The corporations of the Trade section were classified second, and other sections as the third.

In Poland, according to the NACE, the manufacturing sector still plays an important role in the economy, while the service sector has seen significant progress and dynamic development. However, the value of fixed assets in the manufacturing sector tends to be higher than in the service sector. This difference in value can affect how customers and investors view the manufacturing and service sectors. When a company pursues an asset financing strategy that is inadequate in relation to its market risk, the structure of the balance sheet has a significant impact on the company's profitability as well as its liquidity. This is because the structure of the balance sheet is reflected in the valuation of assets.

Small and medium-sized enterprises (SMEs) do not operate on a large scale, and the possibilities of financing an investment project frequently depend on the size of the enterprise, so it is possible to conclude that the diversity of financing sources available on the market is merely theoretical. The lack of experience, which is contingent on a brief period of operation, or the aforementioned local diversity of activities causes institutions that provide capital to entrepreneurs to dampen their enthusiasm. Without adequate capital expenditures, it is impossible to remain on the market, and as we all know, companies operate in a dynamic environment where ideas and innovative activities introduced by competitors force business owners to constantly evolve. Therefore, having adequate resources becomes a necessity for a business.

It should be noted that the significance of small and medium-sized enterprises (SMEs) to the economic development of a nation is not solely determined by economic potential. Small and medium-sized businesses have a highly dynamic perspective on the environment. They are the quickest on the market to adapt to the ever-changing needs and preferences of customers, and their production is based on seeking market opportunities and niches in which they can operate actively without fear of competition from large corporations; they only subcontract with DPs. Typically, businesses in the sector have a comprehension of the local market and potential competition. Therefore, their function in stimulating the economic growth of the nation, region, or in eliminating unemployment is indispensable.

The elimination of both internal and external obstacles can enhance the utilization of diverse sources of financial support. To establish a favorable environment for the development of SMEs in Poland and to enable an increase in the competitiveness of the entire enterprise sector, time and effort are required.

Translated by Authors

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