Mezzanine Capital Analysis and Financing Results for Companies

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Abstract:

Purpose: The article presents mezzanine capital analysis and the results of mezzanine capital acquisition by companies have been indicated on the basis of the financial analysis measures.

Design/methodology/approach: The financial analysis measures should be made comparable, which is achieved through normalisation. The normalisation procedure is a condition for aggregating diagnostic features with a synthetic description of the financial situation of the entities studied.

Findings: On the basis of the financial analysis measures, Aggregate Index (AI) has been determined as well as its performance in the companies that acquired mezzanine financing.

Practical Implications: Mezzanine capital is adapted to enterprises, taking into account many variables determining the functioning of the enterprises in a given industry.

Originality value: The analysis of mezzanine capital. The integrated AI indicator has been estimated for companies using mezzanine financing to show the effects of this kind of financing.

Keywords: Mezzanine capital, DEA method, hybrid financing, capital sources.

JEL codes: G30, G32, G34.

Paper type: Research article.

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1. Introduction

Joseph Schumpeter formulated a theoretical substantiation for the thesis about the significance of SMEs for economic development. According to his creative thesis, capitalist economies cannot function efficiently without the constant generation of new companies. Their birth and growth are possible owing to the collapse of others and this enforces the closure of inefficient firms, leading to an overall improvement in economic efficiency (Schumpeter, 1960)³.

The significance of small and medium-sized enterprises within economy was best illustrated by P.F. Drucker, as he stated that they were "the salt of the market economy" and constituted the foundation of the democratic socio-economic order. With the consideration of their employees, those enterprises create the most favourable conditions for the entrepreneur (Matejun, 2010)⁴.

SMEs are characterised by major flexibility and the ability to adjust to the changing environment. The strength of the capital, i.e., the bargaining power, however, resides with large enterprises.

The size of the company matters from the perspective of the capital acquisition. The classification of enterprises is based on the division into micro, small and medium-sized enterprises, taking into account the number of employees, annual turnover and annual balance sheet total. In case of small enterprises, the criteria include the number of employees below 50, and the annual turnover or balance sheet value not exceeding $\notin 10$ million.

In the SME sector the largest institutions are medium-sized companies that employ less than 250 people and have a turnover of 50 million euro or of less than 43 million euro⁵ as in statement of assets and liabilities.

In this case, the values of the maximum turnover and balance sheet are not the same, as in the above-mentioned cases the determination of the EU related definition framework of the analyzed entities has been extremely important, because they constitute all companies operating in the territory of the EU community, and this has enabled the introduction of a uniform classification in the countries that make up the community.

³J. Schumpeter, Teoria rozwoju gospodarczego, [Economic development theory], Wyd. PWN Warszawa 1960, p. 57.

⁴M. Matejun, Wyzwania i perspektywy zarządzania w małych i średnich przedsiębiorstwach, [Challenges and perspectives in management in small and medium-sized enterprises], Warszawa 2010 pp. 18-20.

⁵M. Drożdżyński, (2021), Sektor MŚP – siła napędowa polskiej gospodarki, [SME sector – the driving force of Polish economy], Zeszyty Studenckie "Nasze Studia". (11), pp. 121-129.

Enterprise category	Headcount: annual work uni (AWU)	t Annual turnover (in m EUR)	Annual balance sheet total (in m EUR)					
Medium-sized enterprise	< 250	\leq 50 or \leq 43						
Small enterprise	all enterprise < 50		$\leq 10 \text{ or} \leq 10$					
Micro enterprise	< 10	$\leq 2 \text{ or } \leq 2$						

Table 1. Thresholds for SMEs in the European Union.

Source: Developed by the authors, on the basis of User guide to the SME Definition, European Commission, Luxembourg 2015, p. 11.

From the perspective of the acquisition of financing, particularly mezzanine capital, the classification of the financing sources is important (Figure 1).

Mezzanine capital, therefore, consists of the elements that have characteristics of equity and debt and thus it is hybrid financing (Figure 2).

Considering mezzanine capital in the classification of sources of financing, it may be classified as a source that has the characteristics of both equity and a credit (Figure 3).

Taking mezzanine capital into account, it should be emphasized that this financing may add to the financing conglomerate consisting of various sources. The capital constitutes a supplementation of the capital gap. Mezzanine capital is then treated as a supplement to financing, which may consist of equity and credit (Table 2).

Apart from the above solution, mezzanine capital can be the main or only source of financing of mergers and acquisitions. It is convenient for enterprises with an established business model that cannot apply for a loan in a given amount. The case may be that the value of collateral is insufficient or it may be serve companies that do not have collateral in the form of real estate.

Mezzanine capital will then be more expensive, but available source of financing. The cost of mezzanine capital financing falls between the cost of a bank loan and the cost of equity (Ickiewicz, 2004) (Table 2).

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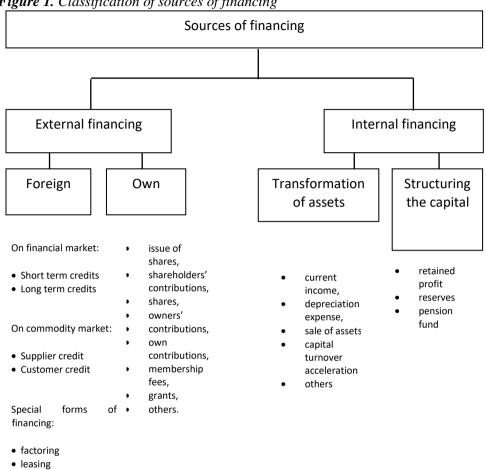


Figure 1. Classification of sources of financing

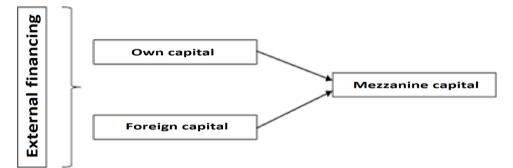
Source: Iwin-Garzyńska J., Adamczyk A. (2009), Wybrane zagadnienia finansów przedsiębiorstw [Selected Issues of Corporate Finance], Warszawa, p.58.

Table 2. Structural components of mezzanine financing and their cost

Type of financing	Proportion in the capital structure [%]	Expected rate of return [%]
Bank loan	30% - 60%	5% - 12%
Mezzanine capital	20% - 30%	13% - 25%
Own capital	20% - 30%	25%+

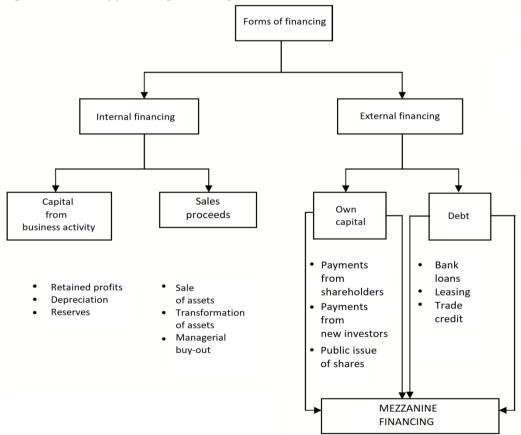
Source: Silbernagel, C., Vaitkunas, D., Mezzanine finance, Bond Capital 2012, pp. 1-7.

Figure 2. Structure of mezzanine capital



Source: Mezzanine finance – A Hybrid Instrument with a Future, Economic Briefing No. 42, Credit Suisse Economic Research, 2008, p. 5.

Figure 3. Forms of financing the enterprises



Source: Mezzanine finance – A Hybrid Instrument with a Future, Economic Briefing No. 42, Credit Suisse Economic Research, 2008, p. 5.

2. Literature review

The literature available in the Scopus database (Figure 4) was first searched for scientific articles including the phrase "mezzanine capital". The subject matter in the database practically comes down to two fields of science:

- Economics, Econometrics, Finance,
- Business, Management and Accounting.

In few cases, the phrase can be found in other fields, but they are not related to the subject of interest, i.e. finance and economics. In the field of Economics, Econometrics and Finance, the available scientific articles mainly concern the subject of alternative sources of financing and financing the development of enterprises (also real estate financing) of various sizes, including family businesses. Few studies deal with the issue of the structure of capital or taxes.

The scientific papers available in the field of Business, Management and Accounting relate to alternative sources of financing including family businesses and research also concerns the implementation of the development strategy in enterprises.

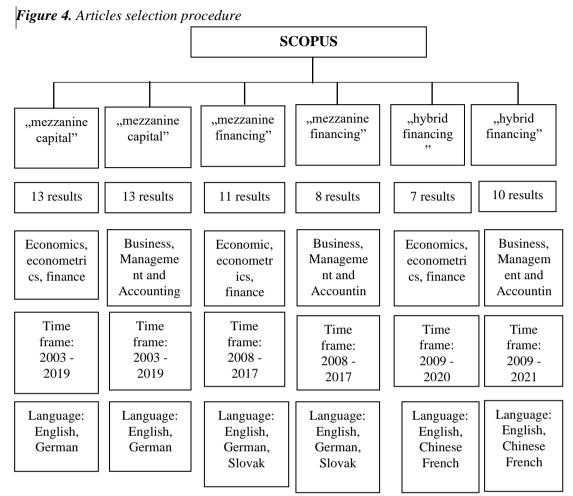
The research papers included in the Scopus database that contain the phrase "mezzanine financing", focus mainly on methods of financing large infrastructural projects (Project Finance), on financing innovative SMEs, on risk assessment and rate of return. In the world research, mezzanine capital is often treated as a supplement to the capital gap in enterprise development projects (in the Economics, Econometrics, Finance and Business, Management and Accounting groups).

Global research in the Scopus database (phrase "hybrid financing", in the Economics, Econometrics, Finance group) mainly concerns the investor's perspective – the model of profit and risk sharing, financial instruments such as convertible bonds. Secondly, there are articles on filling the capital gap. The research (phrase "hybrid financing", in the Business, Management and Accounting group) focuses on the financing strategy, sources and financing of the development of enterprises.

Referring to mezzanine capital, i.e., to the sources of financing enterprises, the pecking order theory should be taken into account. This theory shows how enterprises use sources of financing. Internal financing is used first and external financing next (Duliniec, 2015; Kuryłek, 2014). The sequence of sources of financing was observed by Donaldson (1961).

Modigliani Miller's model (Modigliani and Miller, 1958), that later also included taxes (Modigliani and Miller, 1963), was an important element in the development of research on the structure of capital. The authors showed that the cost of capital did not depend on the capital structure, assuming functioning in a perfect capital market.





Source: Authors' own analysis based on Scopus.

In companies with significant profitability, debt was low that was an element leading to the creation of the theory of the hierarchy of funding sources (Myers 1977; Myers 1984; Myers and Majluf, 1984).

Mezzanine capital constitutes the supplement of the capital gap and is a solution for the time when access to capital is difficult. It is a subordinated instrument, but very important from the point of view of available sources of financing: equity, credit and mezzanine capital (Sameer and Myburgh, 2013). The accounting approach to entries in the balance sheet and the implementation of accounting entries in accordance with the principle of a true and fair view are important issues (Jastrzęboski and Wierzbiński, 2019).

The cost of capital, and at the same time the rate of return on investment for the supplier of the capital, may fluctuate at higher levels than in the case of a loan and it

may amount to 14% or more. The cost of mezzanine capital includes not only the typical interest payments, but also participation in the capital or PIK interest⁶ (Czajkowska, 2015; Kuryłek, 2017). Enterprises using external sources of financing may have a greater ability to use the acquired capital more efficiently and thus may achieve better results from the invested funds. It may also be related to the innovative approach of the enterprise in a given field (Mueller and Reize, 2013).

Mezzanine financing applies to small and medium-sized enterprises, as well as family businesses and the implementation of strategic goals of these companies (Węcławski, 2015; Achleitner *et al.*, 2011).

Mezzanine capital is also a solution for more difficult times, worse moments that occur in the business cycle. This type of financing in times of crisis is more difficult to obtain by enterprises and may be characterized by a higher cost of financing. However, it is another financing option worth consideration (Amon and Dorfleitner, 2013). At times, mezzanine capital is used not only to finance SMEs, but it can also be an element of Project Finance. It serves as an element in the financing of infrastructure projects. Thanks to the use of mezzanine capital, it is possible to optimize the capital structure (Yoo, Lee, and Choi, 2018).

Mezzanine capital can be used in financing strategies and determining the level of sensitivity of the financing strategy related to the enterprise or its valuation (Dierkes, de Maeyer, 2020).

3. Methodology and Data

The set of diagnostic features used to describe the situation of Companies that are using mezzanine financial strategy usually includes financial analysis measures from different indexes and also sometimes of different preference function. This is why these features should be freed from indexes and made comparable, which is achieved through normalisation. The normalisation procedure is a condition for aggregating diagnostic features with a synthetic description of the financial situation of the entities studied.

Before carrying out the normalisation, it is necessary to classify diagnostic features into three basic groups, where⁷ (Kopiński, 2008):

• stimulants are the features (variables) whose higher value implicates a higher evaluation of an entity, and are determined by the formula:

⁶Pay in kind

⁷Kopiński, A. (2008) Analiza finansowa banku. (Bank's financial analysis), Warsaw: PWE, 60.

$$Z_{ij} = \frac{x_{ij}}{\max\limits_{k} \{x_{jk}\}} \tag{1}$$

• destimulants are the features whose higher value implicates a lower (worse) evaluation of an entity, and are determined by the formula:

$$Z_{ij} = \frac{\min_{k} \{x_{jk}\}}{x_{ij}} \tag{2}$$

• nominants are the features for whom the recommended value is a range of values. They are determined by two formulas:

$$Z_{ij} = \frac{x_{ij}}{\underset{k}{\text{nom}} \{x_{jk}\}}$$
(3)

$$Z_{ij} = \frac{\sum_{k=1}^{nom} \{x_{ijk}\}}{x_{ij}}$$
(4)

In case (3), the values of a variable are smaller than the nominal value; in case (4) vice versa, the values of a feature are higher than the nominal value. In the formulas presented above, x_{ij} and x_{jk} are primary values of diagnostic features (financial measures from Table 1) compared to their maximum or minimum values (depends on the classification), while Z_{ij} means normalized values of those features that fall within the range from 0 to 1 (or 0% to 100%).

The solutions presented are perfectly useful while transforming various data like in creating KPI (Key Performance Indicators) ratios, as well as KPI decision matrixes based on negative and positive criteria⁸ (Kopiński, 2008).

However, with a large number of units considered for the analysis and with an even larger quantity of data that these entities generate, this type of a solution is very time-consuming. The next section presents the author's proposal that can facilitate the process of transformation⁹ (Porębski, 2021).

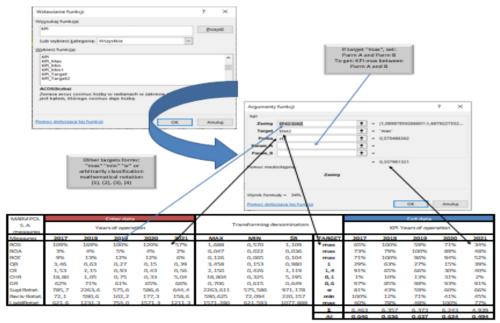
An author creates own MS Excel function called KPI. Inside that function, the formulas (1), (2), (3) and (4) have been put together. Thanks to those formulas it is possible to easily create aggregate index. This index shows the efficiency of the company financed by Mezzanine strategy related to the economic situation.

⁸Ibidem, 60.

⁹Porębski Dariusz, W: Information Systems in Management XIX / Orłowski Arkadiusz, Łukasiewicz Piotr, Ząbkowski Tomasz (ed.), 2021, Warszawa, Szkoła Główna Gospodarstwa Wiejskiego w Warszawie, pp.60-73, ISBN 9788382370188.

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Figure 5. Diagram of the creation of KPI and the aggregation of the AI ratio, on the basis of Marvipol



Source: Own study.

Zaberd S.A. financial ratio transformed by KPI Formula to one Aggregate Index (AI) can be found in the following Table 3:

Table 3. Aggregate Index shows economic situation of Zaberd S.A. from company financial ratios data.

ratio	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2018
ROS	0%	2%	3%	3%	4%	5%	1%	-9%	0%	1%	-12%	2%	-4%	2%	4%	5%	3%
ROA	1%	4%	7%	7%	4%	7%	1%	-9%	0%	1%	-13%	3%	-6%	6%	8%	10%	7%
ROE	11%	37%	41%	32%	18%	27%	6%	-109%	7%	34%	-378%	41%	-59%	35%	33%	34%	15%
QR	0,56	0,75	0,82	0,88	1,34	1,03	0,84	0,68	0,69	0,83	0,48	0,54	0,41	0,47	0,58	0,85	1,00
CR	0,90	1,01	1,02	1,06	1,47	1,22	1,07	0,93	0,82	0,96	0,60	0,67	0,55	0,60	0,73	1,00	1,41
CHR	0,02	0,02	0,09	0,02	0,39	0,38	0,05	0,05	0,03	0,09	0,06	0,13	0,03	0,09	0,27	0,22	0,14
DR	92%	87%	81%	78%	76%	74%	82%	92%	95%	96%	96%	93%	89%	84%	76%	69%	55%
Rzap	42,18	25,91	20,48	22,18	14,75	20,78	27,47	30,89	22,66	25,58	34,24	20,45	24,78	15,03	16,66	13,06	22,68
Rnal	62,37	71,04	75,83	103,84	102,91	69,17	92,13	72,13	81,18	0,00	116,92	65,82	65,96	42,86	32,57	51,00	39,83
Rzob	125,17	101,54	106,68	122,41	109,91	108,15	121,89	122,50	181,08	194,11	283,62	163,22	184,00	117,14	114,53	86,89	54,68
			L	VD		RM	I II A	TDA	V VIC		NATI						
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RATIO	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2018
RATIO ROS	2001 6%	2002 30%	2003 54%										2013 0%	2014 47%	2015 68%	2016 88%	2018 55%
				2004	2005	2006	2007	2008	2009	2010	2011	2012					
ROS	6%	30%	54%	2004 59%	2005 70%	2006 100%	2007 24%	2008 0%	2009 7%	2010 23%	2011 0%	2012 37%	0%	47%	68%	88%	55%
ROS ROA	6% 8%	30% 41%	54% 69%	2004 59% 66%	2005 70% 39%	2006 100% 66%	2007 24% 11%	2008 0% 0%	2009 7% 3%	2010 23% 14%	2011 0% 0%	2012 37% 26%	0% 0%	47% 54%	68% 76%	88% 100%	55% 65%
ROS ROA ROE	6% 8% 26%	30% 41% 89%	54% 69% 100%	2004 59% 66% 78%	2005 70% 39% 43%	2006 100% 66% 65%	2007 24% 11% 15%	2008 0% 0%	2009 7% 3% 16%	2010 23% 14% 81%	2011 0% 0% 0%	2012 37% 26% 99%	0% 0% 0%	47% 54% 84%	68% 76% 80%	88% 100% 82%	55% 65% 36%
ROS ROA ROE QR	6% 8% 26% 0,56	30% 41% 89% 0,75	54% 69% 100% 0,82	2004 59% 66% 78% 0,88	2005 70% 39% 43% 0,75	2006 100% 66% 65% 0,97	2007 24% 11% 15% 0,84	2008 0% 0% 0,68	2009 7% 3% 16% 0,69	2010 23% 14% 81% 0,83	2011 0% 0% 0% 0,48	2012 37% 26% 99% 0,54	0% 0% 0% 0,41	47% 54% 84% 0,47	68% 76% 80% 0,58	88% 100% 82% 0,85	55% 65% 36% 1,00
ROS ROA ROE QR CR	6% 8% 26% 0,56 0,64	30% 41% 89% 0,75 0,72	54% 69% 100% 0,82 0,73	2004 59% 66% 78% 0,88 0,76	2005 70% 39% 43% 0,75 0,95	2006 100% 66% 65% 0,97 0,87	2007 24% 11% 15% 0,84 0,76	2008 0% 0% 0,68 0,66	2009 7% 3% 16% 0,69 0,58	2010 23% 14% 81% 0,83 0,69	2011 0% 0% 0,48 0,43	2012 37% 26% 99% 0,54 0,48	0% 0% 0,41 0,39	47% 54% 84% 0,47 0,43	68% 76% 80% 0,58 0,52	88% 100% 82% 0,85 0,71	55% 65% 36% 1,00 0,99
ROS ROA ROE QR CR CHR	6% 8% 26% 0,56 0,64 0,19	30% 41% 89% 0,75 0,72 0,21	54% 69% 100% 0,82 0,73 0,92	2004 59% 66% 78% 0,88 0,76 0,19	2005 70% 39% 43% 0,75 0,95 0,26	2006 100% 66% 0,97 0,87 0,27	2007 24% 11% 15% 0,84 0,76 0,53	2008 0% 0% 0,68 0,66 0,52	2009 7% 3% 16% 0,69 0,58 0,33	2010 23% 14% 81% 0,83 0,69 0,86	2011 0% 0% 0,48 0,43 0,64	2012 37% 26% 99% 0,54 0,48 0,78	0% 0% 0,41 0,39 0,30	47% 54% 84% 0,47 0,43 0,94	68% 76% 80% 0,58 0,52 0,38	88% 100% 82% 0,85 0,71 0,45	55% 65% 36% 1,00 0,99 0,74
ROS ROA ROE QR CR CR CHR DR Rzap	6% 8% 26% 0,56 0,64 0,19 65%	30% 41% 89% 0,75 0,72 0,21 69%	54% 69% 100% 0,82 0,73 0,92 74%	2004 59% 66% 78% 0,88 0,76 0,19 77%	2005 70% 39% 43% 0,75 0,95 0,26 79%	2006 100% 66% 65% 0,97 0,87 0,27 81%	2007 24% 11% 15% 0,84 0,76 0,53 73%	2008 0% 0% 0,68 0,66 0,52 65%	2009 7% 3% 16% 0,69 0,58 0,33 63%	2010 23% 14% 81% 0,83 0,69 0,86 63%	2011 0% 0% 0,48 0,43 0,64 62%	2012 37% 26% 99% 0,54 0,48 0,78 64%	0% 0% 0,41 0,39 0,30 67%	47% 54% 84% 0,47 0,43 0,94 72%	68% 76% 80% 0,58 0,52 0,38 79%	88% 100% 82% 0,85 0,71 0,45 86%	55% 65% 36% 1,00 0,99 0,74 91%
ROS ROA ROE QR CR CR CHR DR Rzap Rnal	6% 8% 26% 0,56 0,64 0,19 65% 0,56	30% 41% 89% 0,75 0,72 0,21 69% 0,91	54% 69% 100% 0,82 0,73 0,92 74% 0,87	2004 59% 66% 78% 0,88 0,76 0,19 77% 0,94	2005 70% 39% 43% 0,75 0,95 0,26 79% 0,63	2006 100% 66% 65% 0,97 0,87 0,27 81% 0,88	2007 24% 11% 15% 0,84 0,76 0,53 73% 0,86	2008 0% 0% 0,68 0,66 0,52 65% 0,76	2009 7% 3% 16% 0,69 0,58 0,33 63% 0,96	2010 23% 14% 81% 0,83 0,69 0,86 63% 0,92	2011 0% 0% 0,48 0,43 0,64 62% 0,69	2012 37% 26% 99% 0,54 0,48 0,78 64% 0,87	0% 0% 0,41 0,39 0,30 67% 0,95	47% 54% 84% 0,47 0,43 0,94 72% 0,64	68% 76% 80% 0,58 0,52 0,38 79% 0,71	88% 100% 82% 0,85 0,71 0,45 86% 0,56	55% 65% 36% 1,00 0,99 0,74 91% 0,96
ROS ROA ROE QR CR CR CHR DR	6% 8% 26% 0,56 0,64 0,19 65% 0,56 0,52	30% 41% 89% 0,75 0,72 0,21 69% 0,91 0,46	54% 69% 100% 0,82 0,73 0,92 74% 0,87 0,43	2004 59% 66% 78% 0,88 0,76 0,19 77% 0,94 0,31	2005 70% 39% 43% 0,75 0,95 0,26 79% 0,63 0,32	2006 100% 66% 65% 0,97 0,87 0,27 81% 0,88 0,88	2007 24% 11% 15% 0,84 0,76 0,53 73% 0,86 0,35	2008 0% 0% 0,68 0,66 0,52 65% 0,76 0,45	2009 7% 3% 16% 0,69 0,58 0,33 63% 0,96 0,40	2010 23% 14% 81% 0,83 0,69 0,86 63% 0,92 1,00	2011 0% 0% 0,48 0,43 0,64 62% 0,69 0,28	2012 37% 26% 99% 0,54 0,48 0,78 64% 0,87 0,87 0,49	0% 0% 0,41 0,39 0,30 67% 0,95 0,49	47% 54% 84% 0,47 0,43 0,94 72% 0,64 0,76	68% 76% 80% 0,58 0,52 0,38 79% 0,71 1,00	88% 100% 82% 0,85 0,71 0,45 86% 0,56 0,64	55% 65% 36% 1,00 0,99 0,74 91% 0,96 0,82

Source: Own study.

KPI formula created by the authors is a modification of Hellwig Z. aggregate ratio¹⁰. In Hellwig's ratio every measure is treated as stimulation ratio. Because financial ratios have different meaning, some of them have stimulating character and others destimulating one; also, some of them are nominants or even neutral. Thanks to the created formula all ratios are brought to the stimulating character.

Authors have collected data from the Emis Intelligence database. Then, the calculations using the indicated formulas reduced to the KPI formula in MS Excel have been made. The integrated AI indicator has been estimated for 11 companies using mezzanine financing. The estimated ratios have been presented graphically in the charts, where the course of the economic efficiency of the surveyed companies has been illustrated.

The following charts mark the moment when the financing of Mezzanine started, because all of the surveyed companies used this form of financing. The moments of the periods when hybrid financing was used have been marked on the charts.

4. Results

In order to perform the study, based on selected ratio analysis indicators for enterprises that used mezzanine financing in selected years, an aggregated indicator was created. The study included the following:

- profitability ratios (ROE, ROA, ROS),
- financial liquidity ratios (current, quick and immediate liquidity ratio),
- total debt ratio,
- turnover ratios (inventory, receivables and payables turnover ratio).

Figure 6 presents the aggregated indicator marking (with an arrow) when mezzanine financing was obtained has been graphically presented.

A year after the acquisition of mezzanine capital, the ZAM ratio increased in W Zaberd S.A. (Figure 6), for the next three years the index dropped. Between 2010 and 2013 the index fluctuated. The increase of the index started from 2013.

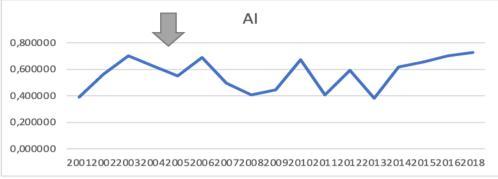
Following the acquisition of mezzanine capital, ZAM index (Figure 8) decreased in the first year and for the two consecutive years demonstrated an upward trend. Between 2012 - 2019 it became stable.

Following the acquisition of the financing, ZAM index (Figure 7) in Centrum Medyczne Luxmed Sp. z o.o. decreased until 2008. Next, it was stabilised and increased since 2020.

¹⁰Source to Hellwig's ratio.

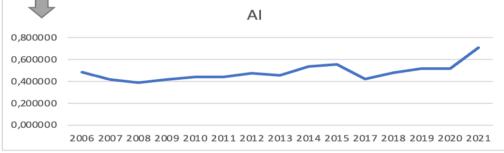


Figure 6. Aggregated Index (AI) for ZABERD S.A. enterprise in the period between 2001 and 2018. The moment of the acquisition of mezzanine financing (2005) has been indicated with an arrow.



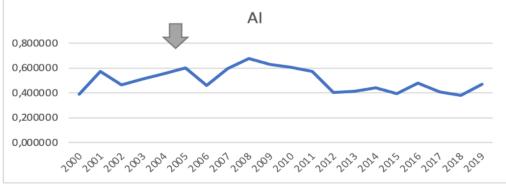
Source: Authors' own work on the basis of EMIS derived data.

Figure 7. Aggregated Index (AI) for Centrum Medyczne Luxmed Sp. z o.o. enterprise in the period between 2006 and 2021. The moment of the acquisition of mezzanine financing (2004) has been indicated with an arrow.



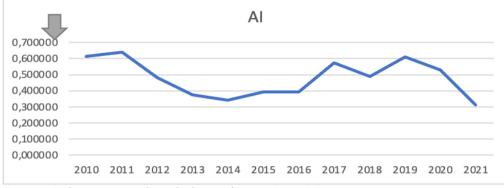
Source: Authors' own work on the basis of EMIS derived data.

Figure 8. Aggregated Index (AI) for Solaris Bus & Coach S.A. enterprise in the period between 2000 and 2019. The moment of the acquisition of mezzanine financing (2005) has been indicated with an arrow.



Source: Authors' own work on the basis of EMIS derived data.

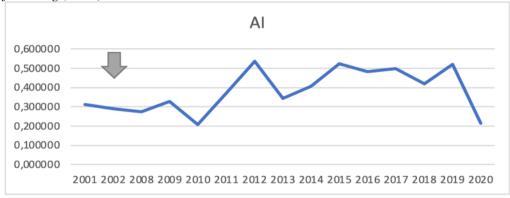
Figure 9. Aggregated Index (AI) for Kisan Insaat Muhendislik A.S. enterprise in the period between 2010 and 2021. The moment of the acquisition of mezzanine financing (2008) has been indicated with an arrow.



Source: Authors' own work on the basis of EMIS derived data.

Following the acquisition of mezzanine capital, ZAM index (Figure 9) increased dynamically. Its fall took place in the fourth year from the mezzanine capital acquisition.

Figure 10. Aggregated Index (AI) for Internet Group sp. z o.o. enterprise in the period between 2001 and 2020. The moment of the acquisition of mezzanine financing (2007) has been indicated with an arrow.



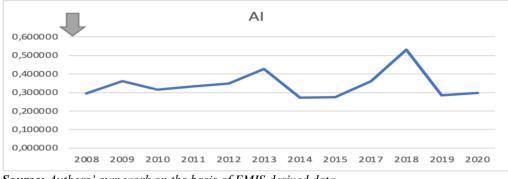
Source: Authors' own work on the basis of EMIS derived data.

Following the acquisition of mezzanine financing, ZAM index (Figure 10) increased in the first year. It was subject to a drop in the next year, and then increased dynamically (third and fourth year after the acquisition of the financing).

Following the acquisition of mezzanine capital (Figure 11), ZAM index increased. It increased also in 2012 and 2013. Two years after the acquisition of mezzanine capital (Figure 12), ZAM indicator decreased; in the subsequent years it increased and stabilised until 2015 that was followed by its drop.

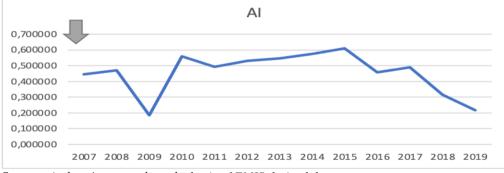


Figure 11. Aggregated Index (AI) for Ctl Logistics Sp. z o.o enterprise in the period between 2008 and 2020. The moment of the acquisition of mezzanine financing (2008) has been indicated with an arrow.



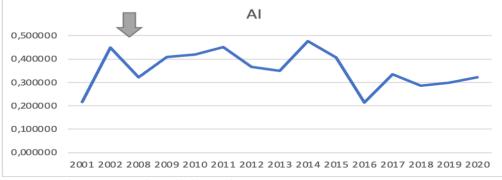
Source: Authors' own work on the basis of EMIS derived data.

Figure 12. Aggregated Index (AI) for Vicis New Investments S.A. (Polska) enterprise, former ABC, in the period between 2008 and 2020. The moment of the acquisition of mezzanine financing (2007) has been indicated with an arrow.



Source: Authors' own work on the basis of EMIS derived data.

Figure 13. Aggregated Index (AI) for Wheelabrator Czech S.R.O. (Czechia) enterprise, former ABC, in the period between 2008 and 2020. The moment of the acquisition of mezzanine financing (2008) has been indicated with an arrow.



Source: Authors' own work on the basis of EMIS derived data.

From the moment of mezzanine capital acquisition until 2011, there was an increase of ZAM indicator, followed by drop and another increase (2014) and then a drop, again (2016).

5. Conclusions

An aggregated index (AI) was calculated for enterprises that acquired mezzanine capital. In four enterprises, the index increased in the first year after obtaining financing. In three enterprises, the index decreased in the first year, and in one enterprise, due to the lack of data, the index was not calculated a year after obtaining the financing.

In the perspective of several years, the AI for enterprises that acquired mezzanine capital behaved differently, with a growth trend. In two analysed enterprises, the AI showed a downward trend over the years. However, the trend of the AI for all surveyed enterprises that acquired mezzanine capital cannot be unequivocally determined. This may serve as the basis for extending the research. Mezzanine capital is adapted to enterprises, taking into account many variables determining the functioning of the enterprises in a given industry.

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