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BUSINESS FINANCING STRATEGIES IN POLAND'S FAMILY-OWNED BUSINESSES LISTED ON THE WSE

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Purpose: The aim of the article was to research business financing strategies of family-owned businesses listed on the Warsaw Stock Exchange during the 2007-2009 crisis.
Design/methodology/approach: The research methods included ratio analysis and Ward's clustering method.
Findings: The results showed that the conservative financing sources strategy adopted during the crisis impacted positively the profitability of family businesses.
Research limitations/implications: This article contributes to the discussion on a properly designed business financing strategy under crisis conditions.
Practical implications: The research results can be used by the company to develop its strategy for financing operations during the crisis and emerging difficulties.
Originality/value: The originality of the study consists in proposing a set of indicators and using Ward's method to assess the strategy in the area of solvency and financing sources.
Key words: family-owned companies, companies listed on the stock exchange, business financing strategy.
Category of the paper: Research paper.

1. Introduction

In the contemporary world, family-owned businesses constitute a significant proportion of all economic entities (Gomez-Mejia et al., 2011; Sharma, 2003). The economic importance of business entities of this type is mainly owed to their number, share in generating GDP, and the number of jobs they offer. According to research, the share of family companies on global stock exchanges is also growing (Culasso et al., 2012; Prencipe et al., 2014; Sraer, Thesmar, 2007).

As a result of the socio-economic changes that took place in Central and Eastern Europe after 1989, the number of family businesses in Poland increased significantly. The assessment of the condition of family businesses listed on the Warsaw Stock Exchange during the crisis is an interesting issue in the context of their financing strategies. It is a very interesting and significant research problem due to their relatively little experience in stock exchange activities and their specific functioning. Each company operating on the market should have a consciously formulated financial strategy, including the business financing strategy. The business financing strategy denotes a specific composition of business financing sources in a way that creates the basis for the achievement of the assumed goal of the enterprise (Brealey, Myers, 2000; Brigham, Houston, 2001).

The overriding goal of the article was to research the assessment of applied business financing strategies by family-owned businesses listed on the Warsaw Stock Exchange during the global financial crisis in the years 2007-2009. The research performed fits into research conducted in this field all over the world (Arrondo-García et al., 2016; Catuogno et al., 2018; Kwon, Han, 2020; Van Hoang et al., 2018). An important criterion for selecting a company's financing strategy is the cost of raising capital to finance the company's assets. The choice of financing strategy depends both on the decisions made in the enterprise and the decisions of investors making equity investments in the enterprise when it comes to external financing (Copeland, Weston, 1988).

2. Theoretical Background and Hypotheses

2.1. The specificity of the functioning of family-owned businesses

The concept of a family business has not been clearly defined in the literature on the subject. The lack of a uniform definition results from the significant complexity of the functioning of this type of entities, namely combining family and business. This complexity makes it difficult to adopt quantitative criteria that would allow a simple classification of these entities (Shanker, Astrachan, 1996). In the literature one can find many definitions of a family business. For instance, according to Barnes and Herson (1976), a family business is „a firm in which significant voting rights or ownership is controlled by a member or members of a single family”. La Porta et al. (1999) defined a family business as „a business that is partially owned by one or more family members who collectively control at least 20% of all votes”. In the case of Zahra et al. (2004), in a family business „there is both a family member with some identifiable ownership interest in the business and multiple generations of family members holding managerial positions in that business”. In numerous studies authors coin their own definitions of this concept (Bresciani et al., 2016; Halili et al., 2015; Saravanan et al., 2017;

Wellalage et al., 2012) or use a definition developed by other researchers (Ding, Pukthuanthong, 2013; Saidat et al., 2019).

Family businesses constitute a diverse group of enterprises. The main differences between them concern such aspects as age and period of operation, industry, organizational and legal form as well as the scale of conducted activity (Neubaum et al., 2019). The specificity of a family business lies in the fact that the shaping of the business and its forms of functioning by the family is so unique that it does not occur in other enterprises that are not run by several family members (Martyniuk, Gostkowska-Drzewiecka, 2022; Lewandowska, 2019, Lajstet et al., 2017). Running a family business together by a few family members is performed with greater commitment, dedication and faith in achieving success. It is worth emphasizing that in terms of management, family businesses follow a long-term business orientation (Jiraporn, DaDalt, 2009; Salvato, Moores, 2010) aimed at protecting the developed capital for future generations (Berrone et al., 2012; Hasso, Duncan, 2013) and focus on creating intergenerational value (Brune et al., 2019; Villalonga, Amit, 2006). In family businesses ownership and control are integrated, which in turn leads to the coherence of the interests of owners and managers (Fama, Jensen, 1983; Jensen, Meckling, 1976).

The specificity of a family business also leaves a significant mark in the process of creating its business financing strategy. Decisions regarding the choice of financing sources are fundamental. It is worth noting that in family businesses, financial decisions are not only based on value maximization, but also take into account factors such as running a business according to previously adopted rules, the possibility of offering work to family members, or a long-term strategic perspective (Gallo et al., 2004). Moreover, it was found that managers tend to be altruistic towards their companies and shareholders, ignoring the profit aspect (Bammens et al., 2011; Siebels, zu Knyphausen-Aufseß, 2012). With regard to risk, family businesses show a high degree of caution. This is evident in their significantly lower level of debt compared to non-family businesses (Anderson et al., 2012; Miller et al., 2007; Vasileiou, Samitas, 2015).

2.2. Factors influencing financial results achieved by family businesses

Research shows that there are significant differences in financial matters between family and non-family businesses. Most of these studies have proven a positive relationship between the company's performance and the family's capital structure (Eklund et al., 2010; Maury, 2006; Pindado, Requejo, 2015). The same significant relationship between the identity of owners and financial results is evident in relation to companies listed on the stock exchange (Garcia-Castro, Aguilera, 2014). Although also in their case the obtained research results turned out to be not entirely unambiguous, a significant part of them provided arguments for the claim that when it comes to companies of this type, family businesses achieve better financial results when compared to non-family ones (Carney et al., 2015; Jaskiewicz, 2005; Martínez et al., 2007; Vieira, 2014; Wagner et al., 2015). It should be noted, however, that some studies have shown the opposite or no relationship at all (Barontini, Caprio, 2006). It must be emphasized that

‘a concentration of family ownership’ is not the only factor that impacts the financial advantage of family businesses (Din, Javid, 2012; Halili et al., 2015; King, Santor, 2008; Poutziouris et al., 2015; Shyu, 2011). „Family ownership structures” (Ding et al., 2008; Kowalewski et al., 2010; Minichilli et al., 2016), „Independence (autonomy)” (Culasso et al., 2012) and „the family’s managerial positions” (Chu, 2011; Luo, Chung, 2013; Yammeesri, Lodh, 2004) are also significant.

The global host crisis in the financial markets that began in 2007 had a huge impact on the situation of companies listed on global stock exchanges. The financial results of stock exchange family businesses and their non-family counterparts in the time of the global financial crisis, mainly in the years 2007-2009, have been the subject of numerous empirical studies. It should be noted that the duration of the crisis adopted for the purpose of this study was different and resulted from the economic specificity of the country being analyzed (Arrondo-García et al., 2016; Catuogno et al., 2018; Kwon, Han, 2020; Van Hoang et al., 2018). Most of them confirmed the financial advantage of family businesses compared to non-family businesses. For example, research conducted on a sample of Japanese family and non-family businesses found that family businesses are more resilient both during and after the economic crisis, compared to non-family businesses (Allouche et al., 2008). Similarly, research based on the return on equity (ROE) and return on assets (ROA) ratios and performed on a sample of companies listed on the Australian Securities Exchange found that family businesses with concentrated ownership performed better than non-family businesses with dispersed ownership structures, both in the period of economic stabilization and recession (Saleh et al., 2017). The same results were obtained from research conducted in Europe, for example, on a sample of Spanish family and non-family businesses, based on economic indicators such as the minimum required rate of return and ROE (Ramírez, Romero, 2018), or on a sample of Portuguese companies, based on ROA and the market-to-book ratio (MB) indicators (Vieira, 2018). Therefore, family ownership can be an important factor increasing business efficiency and enabling family businesses to survive in times of crisis.

2.3. Business financing strategies

In theory and practice, there can be distinguished three types of business financing strategies (Brigham, Houston, 2001; DeAngelo, Masulis, 1980):

1) The aggressive strategy.
2) The moderate strategy.
3) The conservative strategy.

The aggressive strategy displays characteristic properties such as (Kołosowska et al., 2019; Levy, Sarnat, 1989; Modigliani, Miller, 1963): negative working capital, profit maximization relative to own capital, big risk and big benefits, low level of financial liquidity, high share of foreign capital in financing activities (even operating ones), negative assessment by creditors due to the risk of the entity's insolvency, exploiting the benefits of leverage.

The moderate strategy is characterized by the following properties (Corr, 1983; Kołosowska et al., 2019): fixed assets are paid for by equity or fixed capital, net working capital is low, close to zero, it is a strategy with average risk and benefits, the level of the tax cover and the applied financial leverage is average, absorbing average financial costs, recording average profitable equity, securing the company's solvency, but the readiness for the demand for short-term foreign capital must be maintained, causing moderate risk related to indebtedness, loans and credits.

The characteristics of the conservative strategy include (Copeland, Weston, 1988; Kołosowska et al., 2019): zero financial risk, increased positions of fixed capital in funding current assets, due to which the company can boast of financial stability, constantly growing need for net working capital financed from own funds, low return on equity, small benefits in relation to low risk, limited possibilities of using the tax shield and the effects of financial leverage, high costs related to the large-scale failure to use external capital, positive values of working capital, minimal risk of losing payment capacity, maintaining a high level of financial liquidity, total assets covered to a large extent by fixed capital.

2.4. Research hypotheses

Summarizing the considerations made so far, it can be concluded that the business financing strategy is one of the important decision-making areas of the enterprise, as it determines the size of the current and future financial needs related to business activities and determines the sources of obtaining funds necessary to meet these needs, which are the most advantageous from the point of view of expenditure and effects. The conducted literature research made it possible to learn about the behavior of companies in the separate business financing strategies as well as to put forward the following research hypotheses:

H1: During the crisis, family-owned businesses listed on the Warsaw Stock Exchange follow a conservative solvency strategy.

H2: During the crisis, family-owned businesses listed on the Warsaw Stock Exchange follow a conservative financing sources strategy.

H3: During the crisis, the adopted conservative strategy positively influences the profitability of family-owned businesses listed on the Warsaw Stock Exchange.

These hypotheses were verified at various stages of the empirical research.

3. Research Design

3.1. Description of the entities covered by the study

The research presented in the article concerned Polish family businesses listed on the Warsaw Stock Exchange. It was assumed that a family business is a company meeting the following criteria:

a) 50% + 1 share belongs to natural persons,
b) 50% + 1 share belongs to subsidiaries of natural persons without further checking whether these persons belong to one family,
c) Shareholders directly or indirectly hold more than 5% of the shares, and together they hold more than 50%.

The adopted criteria were also connected with certain limitations. In particular, they concerned the inability to identify owners of closed-end investment funds who are shareholders of companies listed on the Warsaw Stock Exchange, as well as beneficiaries of foundations that are shareholders of companies listed on the WSE, and owners of foreign companies that are shareholders of companies listed on the WSE.

Due to the adopted criteria and the existing limitations, the following were initially selected for the study: in 2007, 222 businesses (including 60 family-owned businesses, which accounted for 27% of all surveyed subjects), in 2008, 236 businesses (including 64 family businesses, which accounted for 27% of all surveyed subjects), in 2009, 251 businesses (including 69 family businesses, which accounted for 27% of all surveyed subjects).

During the preparation of the sample for the study, a further selection of companies was made due to the lack of complete financial statements for the analyzed years or the bankruptcy of the company in the analyzed period. Furthermore, businesses whose results differed significantly from the average results were also eliminated.

As a result of limitations related to the adopted definition of a family business and additional exclusions made during the collection of data for the study, the study finally covered: 125 businesses in 2007 (including 45 family businesses, which accounted for 36% of all analyzed subjects), 130 businesses in 2008 (including 48 family businesses, which constituted 37% of all surveyed subjects), 127 businesses in 2009 (including 51 family businesses, which constituted 40% of all surveyed subjects).

3.2. Description of the method used in the study

The Ward's method was used in the study that allowed to identify, to the greatest possible extent, the behavior of family businesses in selected areas during the financial crisis of 2007-2009. The results obtained will form the basis for further research in this field covering the 2010-2022 time period.

The Ward's method (Ward, 1963) with the Euclidean distance was used for the purpose of this clustering. We decided to take this method because that method performed better than other clustering procedures (Blashfield, 1976; Hands, Everitt, 1987). The following characteristics were used: basic capital structure ratio, general debt ratio, ROE, ROA, 2nd-degree coverage ratio and 3rd-degree financial liquidity ratio. This study was carried out separately for family and for non-family businesses in 2007, 2008 and 2009 (each year separately). The starting point in clustering objects (companies) is the determination of the distance matrix $\boldsymbol{D}$ between individual objects. First, each object forms a separate cluster, then a pair of objects with the shortest distance is searched for. A few clusters with the smallest distance merge into one new cluster. The next step was to determine the distance of the new cluster from all the others (the distance between the clusters is defined as the difference between the sums of squared deviations of the distances of individual units from the center of gravity of the groups to which they belong) (Everitt et al., 2011; Grabiński, 1992; Ostasiewicz, 1998). The distances in the matrix $\boldsymbol{D}$ related to the objects occurring in the new cluster are removed, while inserting the distances of the new cluster from the other clusters. Thus, a new distance matrix is obtained. The process of combining the pairs of clusters was repeated until all of the objects formed one cluster (Everitt et al., 2011; Grabiński, 1992; Ostasiewicz, 1998).

4. Empirical Analysis

Using the Ward's method with the Euclidean distance, from among all family and non-family businesses, independently, three groups of companies were distinguished due to the business financing strategy applied. For the selected clusters of businesses, the average value was calculated for each index (Table 1), and then the *t*-test for the averages was used to verify the hypothesis of the equality of averages between the individual clusters of family and non-family businesses (Table 2).

The calculated values of the averages (Table 1) and the *t*-test results for these averages (Table 2) in 2007 allow to conclude that in the case of an aggressive strategy, the profitability and debt ratios for family businesses are significantly higher than for non-family ones. Exactly the opposite is true for subjects applying a conservative strategy, i.e., these ratios are significantly lower for family businesses compared to non-family businesses. With regard to the moderate strategy, only one debt ratio (basic capital structure ratio) is significantly higher for non-family than for family businesses.

The situation is different in 2008 when, in the case of companies using the moderate strategy, the debt and profitability ratios, as well as one solvency ratio (the 3rd-degree financial liquidity ratio), are statistically different for family and non-family businesses. With regard to the profitability and solvency ratios, these values are higher for non-family businesses than for

family ones. However, for the debt ratios, it is not possible to indicate one general direction of dependence (in one case the average of the ratio is higher for family businesses, in the other for non-family businesses). Companies applying an aggressive strategy significantly differ mainly in profitability ratios – they are higher for family businesses. Subjects applying a conservative strategy differ mainly in the overall debt ratio and the 2nd-degree coverage ratio, the former being higher for family businesses and the latter being higher for non-family ones.

The situation is quite different in 2009 when family businesses using both aggressive and conservative strategies had significantly higher profitability rates than in the case of non-family businesses. The situation is different in companies applying a moderate strategy. Then the debt ratios and ROE are significantly lower for family businesses than for non-family ones.

The results of family businesses applying a conservative strategy in 2007 and 2009 do not give grounds for rejecting H3. Profitability ratios are higher than the results of non-family businesses in each period, and in the mentioned years they are statistically significant.

The results of the research also pointed to very interesting observations regarding the behavior of family businesses in terms of debt. In 2007, family businesses following a conservative strategy had a much lower level of indebtedness than non-family businesses. In the following years, this situation was very diversified, which proves different ways of financing the activity, with the debt ratios for family and non-family businesses statistically at the same level. This proves that companies are taking steps to adapt to the situation.

A detailed analysis of the average nominal values contained in Table 1 will be presented below.

When assessing the data contained in Table 1 regarding the conservative strategy for family businesses, it can be observed that in all analyzed years the basic capital structure ratio was at a very low level and was contained in the range 0.01–0.08. Thus, at the end of 2009, it reached the highest level of 0.08 which was the value of interest liabilities in relation to equity on average in family businesses. Similar values of this relation can be observed in non-family businesses in all of the periods analyzed. A higher level of debt was shown by the general debt ratio, which for family businesses was in the range of 0.24-0.28. Thus, in the structure of liabilities of these businesses, foreign capital accounted for 28% in 2008. In non-family businesses, the highest share of foreign capital was observed in 2007 (34%). In the remaining periods, the level of indebtedness in non-family businesses was lower. For family and non-family businesses, the solvency and liquidity ratios were very different at the end of individual years. It is difficult to define any trends at this point. Based on this, it can be concluded that the hypothesis H1 should be rejected. This is also confirmed by the statistical analysis, in which the hypothesis of the equality of averages for family and non-family businesses was not rejected (see Table 2).

In 2009, family businesses applying a conservative strategy achieved higher profitability ratios than non-family ones. At the same time, non-family businesses achieved lower profitability ratios by applying a conservative strategy. This strategy ended with the

achievement of the highest profitability, which does not constitute grounds for rejecting the assumed hypothesis H3. This was presented in the previous statistical analysis. On the opposite side, we have an aggressive strategy that is characterized by considerable volatility of indebtedness ratios. This is also confirmed by the results of the statistical analysis that show the statistical difference in the averages for family and non-family businesses. Therefore, conclusions in this area should be formulated very cautiously.

Table 1.
Average values of selected ratios for companies grouped using the Ward's method that characterize the business financing strategy

Specification	**2007**					
	Non-family businesses			**Family businesses**		
	1 (A)	**2 (C)**	**3 (M)**	**1 (A)**	**2 (C)**	**3 (M)**
Basic capital structure ratio	0.80	0.05	0.10	0.32	0.01	0.25
Overall debt ratio	0.61	0.34	0.35	0.56	0.24	0.46
ROE	0.06	0.28	0.04	0.31	0.16	0.07
ROA	-0.02	0.16	0.03	0.15	0.11	0.04
2nd-degree coverage ratio	1.07	3.00	1.33	1.76	4.54	1.66
3rd-degree financial liquidity ratio	1.96	3.48	1.96	1.48	3.48	1.73
Specification	**2008**					
	Non-family businesses			**Family businesses**		
	1 (A)	**2 (C)**	**3 (M)**	**1 (A)**	**2 (C)**	**3 (M)**
Basic capital structure ratio	0.38	0.02	0.08	0.62	0.04	0.01
Overall debt ratio	0.54	0.19	0.24	0.60	0.28	0.63
ROE	0.06	0.08	0.06	0.26	0.09	-0.12
ROA	0.02	0.05	0.05	0.09	0.06	-0.06
2nd-degree coverage ratio	1.27	2.41	1.36	1.54	1.89	1.44
3rd-degree financial liquidity ratio	1.24	4.80	2.09	1.63	6.07	1.30
Specification	**2009**					
	Non-family businesses			**Family businesses**		
	1 (A)	**2 (C)**	**3 (M)**	**1 (A)**	**2 (C)**	**3 (M)**
Basic capital structure ratio	1.02	0.08	0.26	0.47	0.08	0.08
Overall debt ratio	0.47	0.19	0.41	0.58	0.25	0.35
ROE	-0.35	0.05	0.12	0.02	0.21	0.07
ROA	-0.22	0.04	0.06	0.01	0.12	0.04
2nd-degree coverage ratio	1.09	2.11	1.40	1.40	2.18	1.47
3rd-degree financial liquidity ratio	1.20	5.09	1.64	1.69	7.03	1.96

Abbreviations used:
1 (A) – The aggressive strategy.
2 (C) – The conservative strategy.
3 (M) – The moderate strategy.

Source: Own elaboration based on the results of own research.

Table 2.
t-Test for Averages (p value) of indicators for the family and non-family groups of businesses

	2007					
	Assuming Equal Variances			Assuming Unequal Variances		
Specification	1(A)	2(C)	3(M)	1(A)	2(C)	3(M)
Basic capital structure ratio	0.003	0.082	0.003	0.010	0.095	0.005
Overall debt ratio	0.057	0.071	0.236	0.116	0.067	0.245
ROE	0.000	0.009	0.374	0.001	0.016	0.373
ROA	0.001	0.083	0.142	0.003	0.109	0.175
2nd-degree coverage ratio	0.129	0.096	0.185	0.224	0.117	0.202
3rd-degree financial liquidity ratio	0.171	0.396	0.238	0.180	0.395	0.271
	2008					
Specification	**Assuming Equal Variances**			**Assuming Unequal Variances**		
	1(A)	2(C)	3(M)	1(A)	2(C)	3(M)
Basic capital structure ratio	0.095	0.228	0.022	0.115	0.207	0.009
Overall debt ratio	0.125	0.076	0.000	0.123	0.073	0.000
ROE	0.059	0.379	0.000	0.106	0.382	0.000
ROA	0.100	0.330	0.000	0.095	0.343	0.000
2nd-degree coverage ratio	0.131	0.091	0.347	0.176	0.093	0.352
3rd-degree financial liquidity ratio	0.189	0.366	0.001	0.259	0.364	0.001
	2009					
Specification	**Assuming Equal Variances**			**Assuming Unequal Variances**		
	1(A)	2(C)	3(M)	1(A)	2(C)	3(M)
Basic capital structure ratio	0.185	0.394	0.001	0.244	0.393	0.001
Overall debt ratio	0.199	0.283	0.050	0.254	0.296	0.044
ROE	0.004	0.025	0.056	0.020	0.061	0.049
ROA	0.005	0.020	0.112	0.037	0.036	0.106
2nd-degree coverage ratio	0.183	0.389	0.285	0.173	0.389	0.277
3rd-degree financial liquidity ratio	0.282	0.240	0.097	0.265	0.285	0.105

Abbreviations used:
1 (A) – The aggressive strategy.
2 (C) – The conservative strategy.
3 (M) – The moderate strategy.

Source: Own elaboration based on the results of own research.

The companies were characterized by similar solvency and financial liquidity ratios, with slightly higher levels in family businesses. Throughout the period, they achieved much higher profitability ratios. Their highest values appeared in 2007. In 2009, a significant decrease in the value of profitability ratios was observed, while non-family businesses recorded negative values of the analyzed ratios. The use of the aggressive strategy ended positively for these companies.

The moderate strategy was characterized in the first year of the analysis by high debt ratios in family businesses. Later, their average values systematically decreased and were similar in both studied groups. When assessing the solvency and financial liquidity ratios, we did not observe any significant differences. In family businesses, the fixed capital covered the fixed assets of these businesses to a greater extent. The effectiveness of the decisions made, assessed by profitability ratios, was much lower only in 2008. This year ended in many cases with a deficit of family businesses.

5. Conclusions

This study examines business financing strategies of family businesses listed on the Warsaw Stock Exchange in the 2007-2009 period. They are a signpost facilitating the rational management of enterprises. The financing strategy is a set of specific concepts of activities related to the determination of current and future capital needs. Each decision about choosing a strategy should be made dependent on a specific situation and depending on it, managers ought to choose the right one and use the opportunity in time. The basis of the company's success is high flexibility in operation and the ability to anticipate and adapt to changes that occur in the environment, especially under crisis. Therefore, it is so important for the management of the enterprise to be able to quickly adapt to these changes, thanks to which they will be able to make appropriate adjustments to the implemented financing strategy, so that the cost of raising capital is the lowest and the value of the company is the highest.

The results of the research made it possible to verify the research hypotheses presented in the article. For family and non-family businesses, the solvency and liquidity ratios were very different at the end of individual years. It is difficult to define any trends at this point. Based on this, it can be concluded that the hypothesis H1 should be rejected. This is confirmed by the statistical analysis, in which the hypothesis of the equality of averages for family and non-family companies was not rejected.

The results of the research also showed very interesting observations regarding the behavior of family businesses in the area of debt. In 2007, family businesses following a conservative strategy had a much lower level of indebtedness than non-family ones. In the following years, this situation was very diverse, which proves the search for methods of business financing adequate to the situation, therefore the debt ratios of family and non-family businesses are statistically at the same level. This proves that companies are taking steps to adapt to the situation. The most numerous group were companies that applied a conservative financing sources strategy, which does not provide grounds for rejecting the hypothesis H2.

The results of family companies applying a conservative strategy in all analyzed years do not provide grounds for rejecting the hypothesis H3.

It should be noted that for 2007 and 2009 the profitability ratios for family businesses are statistically significant, so they are higher than the results of non-family businesses.

One of the biggest barriers to the functioning of enterprises are capital limitations. Therefore, favorable and preferential solutions should be introduced to facilitate the acquisition of stable capital in the widest possible area. It becomes necessary to build lasting cooperation with the immediate environment, including financial institutions. It is the capital market that should be seen primarily as a very important place to raise capital.

References

1. Allouche, J., Amann, B., Jaussaud, J., Kurashina, T. (2008). The Impact of Family Control on the Performance and Financial Characteristics of Family Versus Nonfamily Businesses in Japan: A Matched-Pair Investigation. Fam*ily Business Review, 21(4),* pp. 315-330, https://doi.org/10.1177/08944865080210040104
2. Anderson, R.C., Reeb, D.M., Zhao, W. (2012). Family-Controlled Firms and Informed Trading: Evidence from Short Sales. T*he Journal of Finance, 67(1),* pp. 351-385, https://doi.org/10.1111/j.1540-6261.2011.01714.x
3. Arrondo-García, R., Fernández-Méndez, C., Menéndez-Requejo, S. (2016). The growth and performance of family businesses during the global financial crisis: The role of the generation in control. Journ*al of Family Business Strategy, 7(4),* pp. 227-237. https://doi.org/10.1016/j.jfbs.2016.11.003
4. Bammens, Y., Voordeckers, W., Van Gils, A. (2011). Boards of Directors in Family Businesses: A Literature Review and Research Agenda. *International Journal of Management Reviews, 13(2),* pp. 134-152. https://doi.org/10.1111/j.1468-2370.2010.00289.x
5. Barnes, L.B., Hershon, S.A. (1976). Transferring Power in the Family Business. Ha*rvard Business Review, 54(4),* pp. 105-114. https://doi.org/10.1111/j.1741-6248.1989.00187.x
6. Barontini, R., Caprio, L. (2006). The effect of family control on firm value and performance: Evidence from continental Europe. Euro*pean Financial Management, 12(5),* pp. 689-723. https://doi.org/10.1111/j.1468-036X.2006.00273.x
7. Berrone, P., Cruz, C., Gomez-Mejia, L.R. (2012). Socioemotional Wealth in Family Firms: Theoretical Dimensions, Assessment Approaches, and Agenda for Future Research. *Family Business Review, 25(3),* pp. 258-279. https://doi.org/10.1177/0894486511435355
8. Blashfield, R.K. (1976). Mixture model tests of cluster analysis: Accuracy of four agglomerative hierarchical methods. *Psychological Bulletin, 83(3),* pp. 377-388. https://doi.org/10.1037//0033-2909.83.3.377
9. Brealey, R.A., Myers, S.C. (2000). *Principles of Corporate Finance.* McGraw-Hill.
10. Bresciani, S., Giacosa, E., Broccardo, L., Culasso, F. (2016). The family variable in the French and Italian wine sector. *EuroMed Journal of Business, 11(1)*, pp. 101-118, https://doi.org/10.1108/EMJB-03-2015-0012
11. Brigham, E.F., Houston, J.F. (2001). *Fundamentals of financial management.* Fort Worth : Harcourt College Publ.
12. Brune, A., Thomsen, M., Watrin, C. (2019). Family Firm Heterogeneity and Tax Avoidance: The Role of the Founder. *Family Business Review, 32(3),* pp. 296-317. https://doi.org/10.1177/0894486519831467

13. Carney, M., Van Essen, M., Gedajlovic, E.R., Heugens, P.P.M.A.R. (2015). What do we know about private family firms? A meta-analytical review. *Entrepreneurship: Theory and Practice, 39(3)*, pp. 513-544. https://doi.org/10.1111/etap.12054
14. Catuogno, S., Arena, C., Cirillo, A., Pennacchio, L. (2018). Exploring the relation between family ownership and incentive stock options: The contingency of family leadership, board monitoring and financial crisis. *Journal of Family Business Strategy, 9(1),* pp. 59-72. https://doi.org/10.1016/j.jfbs.2017.11.005
15. Chu, W. (2011). Family ownership and firm performance: Influence of family management, family control, and firm size. *Asia Pacific Journal of Management, 28(4),* pp. 833-851. https://doi.org/10.1007/s10490-009-9180-1
16. Copeland, T.E., Weston, J.F. (1988). *Financial Theory and Corporate Policy (3rd edn).* Addison-Wesley.
17. Corr, A.V. (1983). *The Capital Expenditure Decision.* National Association of Accountants and the Society of Management Accountants of Canada.
18. Culasso, F., Broccardo, L., Giacosa, E., Mazzoleni, A. (2012). Corporate Governance in Listed Italian Family Firms: Impact on Performance and Comparison with Non-Family Firms. *Journal of Management and Changened, 29(1),* pp. 67-88.
19. DeAngelo, H., Masulis, R.W. (1980). Optimal capital structure under corporate and personal taxation. *Journal of Financial Economics, 8(1),* pp. 3-29. https://doi.org/10.1016/0304-405X(80)90019-7
20. Din, S.-D., Javid, A.Y. (2012). Impact of Family Ownership concentration on the Firm's Performance: Evidence from Pakistani Capital Market. *Journal of Asian Business Strategy, 2(1)*, pp. 35-43.
21. Ding, H., Pukthuanthong, K. (2013), Legitimacy signals and family IPO performances. *Journal of Business Economics and Management, 14(1),* pp. 156-181. https://doi.org/10.3846/16111699.2012.711359
22. Ding, Y., Zhang, H., Zhang, J. (2008). The Financial and Operating Performance of Chinese Family-Owned Listed Firms. *Management International Review, 48(3),* pp. 297-318. https://doi.org/10.1007/s11575-008-0017-9
23. Eklund, J.E., Palmberg, J., Wiberg, D. (2010). *Family Ownership and Returns on Investment – Founders, Heirs, and External Managers, 50th Congress of the European Regional Science Association: „Sustainable Regional Growth and Development in the Creative Knowledge Economy",* 19-23 August 2010. Jönköping, Sweden, http://hdl.handle.net/10419/119246.
24. Everitt, B.S., Landau, S., Leese, M., Stahl, D. (2011). *Cluster Analysis (5th ed.).* Wiley.
25. Fama, E.F., Jensen, M.C. (1983). Separation of ownership and control. *Journal of Law and Economics, 26(2),* pp. 301-325. https://doi.org/10.1086/467037
26. Gallo, M.Á., Tàpies, J., Cappuyns, K. (2004). Comparison of Family and Nonfamily Business: Financial Logic and Personal Preferences. *Family Business Review, 17(4),*

pp. 303-318. https://doi.org/10.1111/j.1741-6248.2004.00020.x

27. Garcia-Castro, R., Aguilera, R.V. (2014). Family involvement in business and financial performance: A set-theoretic cross-national inquiry. *Journal of Family Business Strategy, 5(1),* pp. 85-96. https://doi.org/10.1016/j.jfbs.2014.01.006
28. Gomez-Mejia, L.R., Cruz, C., Berrone, P., de Castro, J. (2011). The Bind that ties: Socioemotional wealth preservation in family firms. *Academy of Management Annals, Vol. 5, Iss. 1,* pp. 653-707. https://doi.org/10.1080/19416520.2011.593320
29. Grabiński, T. (1992). *Metody taksonometrii.* AE, https://fbc.pionier.net.pl/details/nnl9rkg
30. Halili, E., Saleh, A.S., Zeitun, R. (2015). Governance and long-term operating performance of family and non-family firms in Australia. *Studies in Economics and Finance, 32(4),* pp. 398-421. https://doi.org/10.1108/SEF-02-2014-0034
31. Hands, S., Everitt, B. (1987). A Monte Carlo Study of the Recovery of Cluster Structure in Binary Data by Hierarchical Clustering Techniques. *Multivariate Behavioral Research, 22(2),* pp. 235-243. https://doi.org/10.1207/s15327906mbr2202_6
32. Hasso, T., Duncan, K. (2013). Valuation of family firms: The limitations of accounting information. *Australian Accounting Review, Vol. 23, Iss. 2*, pp. 135-150, https://doi.org/10.1111/j.1835-2561.2013.00202.x
33. Jaskiewicz, P. (2005). *Family influence and performance: An empirical study for Germany and France.* Paper Presented at the FBN-IFERA Conference, Portland, OK.
34. Jensen, M.C., Meckling, W.H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics, 3(4),* pp. 305-360, https://doi.org/10.1016/0304-405X(76)90026-X
35. Jiraporn, P., DaDalt, P.J. (2009). Does founding family control affect earnings management? *Applied Economics Letters, 16(2),* pp. 113-119, https://doi.org/10.1080/17446540701720592
36. King, M.R., Santor, E. (2008). Family values: Ownership structure, performance and capital structure of Canadian firms. *Journal of Banking and Finance, 32(11),* pp. 2423-2432, https://doi.org/10.1016/j.jbankfin.2008.02.002
37. Kołosowska, B., Chojnacka, E., Tokarski, A., Tokarski, M. (2019). *Strategie finansowania działalnosci przedsiębiorstw.* Wydawnictwo Nieoczywiste.
38. Kowalewski, O., Talavera, O., Stetsyuk, I. (2010). Influence of Family Involvement in Management and Ownership on Firm Performance: Evidence From Poland. *Family Business Review, 23(1)*, pp. 45-59, https://doi.org/10.1177/0894486509355803
39. Kwon, Y., Han, S.H. (2020). Controlling Shareholders' Preference in Business Groups: Evidence from Korea. *Emerging Markets Finance and Trade, 56(4),* 940-959. https://doi.org/10.1080/1540496X.2018.1553157
40. La Porta, R., Lopez-De-Silanes, F., Shleifer, A. (1999). Corporate Ownership Around the World. *The Journal of Finance, 54(2),* pp. 471-517, https://doi.org/10.1111/0022-1082.00115

41. Lajstet, J., Karwacki, A., Escher, I., Karwacka, M., Królicka, B. (2017). *Firmy rodzinne: ludzie, relacje, wartości.* Toruń: Wydawnictwo Naukowe Uniwersytetu Mikołaja Kopernika.
42. Levy, H., Sarnat, M. (1989). *Capital Investment and Financial Decisions (4th edn).* Prentice-Hall International.
43. Lewandowska, A. (2019). *Strategiczna logika firm rodzinnych.* Warszawa: PWN.
44. Luo, X.R., Chung, C.N. (2013). Filling or abusing the institutional void? Ownership and management control of public family businesses in an emerging market. *Organization Science, 24(2),* pp. 591-613, https://doi.org/10.1287/orsc.1120.0751
45. Martínez, J.I., Stöhr, B.S., Quiroga, B.F. (2007). Family Ownership and Firm Performance: Evidence From Public Companies in Chile. *Family Business Review, 20(2),* pp. 83-94. https://doi.org/10.1111/j.1741-6248.2007.00087.x
46. Martyniuk O., Gostkowska-Drzewicka M. (2022). Raportowanie informacji niefinansowych polskich firm rodzinnych i nierodzinnych. Analiza porównawcza. *Zeszyty Teoretyczne Rachunkowości, Vol. 46, Iss. 4*, pp. 69-91.
47. Maury, B. (2006). Family ownership and firm performance: Empirical evidence from Western European corporations. *Journal of Corporate Finance, 12(2),* pp. 321-341, https://doi.org/10.1016/j.jcorpfin.2005.02.002
48. Miller, D., Le Breton-Miller, I., Lester, R.H., Cannella, A.A. (2007). Are family firms really superior performers? *Journal of Corporate Finance, 13(5),* pp. 829-858, https://doi.org/10.1016/j.jcorpfin.2007.03.004
49. Minichilli, A., Brogi, M., Calabrò, A. (2016). Weathering the Storm: Family Ownership, Governance, and Performance Through the Financial and Economic Crisis. *Corporate Governance: An International Review, 24(6),* pp. 552-568. https://doi.org/10.1111/corg.12125
50. Modigliani, F., Miller, M.H. (1963). Corporate Income Taxes and the Cost of Capital: A Correction. *American Economic Review, 53*.
51. Neubaum, D.O., Kammerlander, N., Brigham, K.H. (2019). Capturing Family Firm Heterogeneity: How Taxonomies and Typologies Can Help the Field Move Forward. *Family Business Review, Vol. 32, Iss. 2,* pp. 106-130. SAGE Publications Inc, https://doi.org/10.1177/0894486519848512
52. Ostasiewicz, W. (Ed.) (1998). *Statystyczne metody analizy danych.* Wydawnictwo Akademii Ekonomicznej im. Oskara Langego we Wrocławiu.
53. Pindado, J., Requejo, I. (2015). Family Business Performance from a Governance Perspective: A Review of Empirical Research. *International Journal of Management Reviews, 17(3),* pp. 279-311. https://doi.org/10.1111/ijmr.12040
54. Poutziouris, P., Savva, C.S., Hadjielias, E. (2015). Family involvement and firm performance: Evidence from UK listed firms. *Journal of Family Business Strategy, 6(1),* pp. 14-32. https://doi.org/10.1016/j.jfbs.2014.12.001

55. Prencipe, A., Bar-Yosef, S., Dekker, H.C. (2014). Accounting research in family firms: Theoretical and empirical challenges. *European Accounting Review, 23(3),* pp. 361-385. https://doi.org/10.1080/09638180.2014.895621
56. Ramírez, A.A.R., Romero, M.J.M. (2018). Required and obtained equity returns in privately held businesses: the impact of family nature—evidence before and after the global economic crisis. *Review of Managerial Science, 12(3),* pp. 771-801, https://doi.org/10.1007/s11846-017-0230-7
57. Saidat, Z., Silva, M., Seaman, C. (2019). The relationship between corporate governance and financial performance: Evidence from Jordanian family and nonfamily firms. *Journal of Family Business Management, 9(1),* pp. 54-78, https://doi.org/10.1108/JFBM-11-2017-0036
58. Saleh, A.S., Halili, E., Zeitun, R., Salim, R. (2017). Global financial crisis, ownership structure and firm financial performance: An examination of listed firms in Australia. *Studies in Economics and Finance, 34(4),* pp. 447-465, https://doi.org/10.1108/SEF-09-2016-0223
59. Salvato, C., Moores, K. (2010). Research on accounting in family firms: Past accomplishments and future challenges. *Family Business Review, Vol. 23, Iss. 3*, pp. 193-215, https://doi.org/10.1177/0894486510375069
60. Saravanan, P., Srikanth, M., Avabruth, S.M. (2017). Compensation of top brass, corporate governance and performance of the Indian family firms - An empirical study. *Social Responsibility Journal, 13(3),* pp. 529-551, https://doi.org/10.1108/SRJ-03-2016-0048
61. Shanker, M.C., Astrachan, J.H. (1996). Myths and Realities: Family Businesses' Contribution to the US Economy— A Framework for Assessing Family Business Statistics. *Family Business Review, 9(2),* pp. 107-123, https://doi.org/10.1111/j.1741-6248.1996.00107.x
62. Sharma, P. (2003). *Stakeholder mapping technique: Toward the development of a family firm typology.* Academy of Management - Annual Conference, September, 1-24.
63. Shyu, J. (2011). Family ownership and firm performance: Evidence from Taiwanese firms. *International Journal of Managerial Finance, 7(4),* pp. 397-411, https://doi.org/10.1108/17439131111166393
64. Siebels, J.-F., zu Knyphausen-Aufseß, D. (2012). A Review of Theory in Family Business Research: The Implications for Corporate Governance. *International Journal of Management Reviews, 14(3),* pp. 280-304, https://doi.org/10.1111/j.1468-2370.2011.00317.x
65. Sraer, D., Thesmar, D. (2007). Performance and behavior of family firms: Evidence from the French stock market. *Journal of the European Economic Association*, *5(4),* pp. 709-751, https://doi.org/10.1162/JEEA.2007.5.4.709
66. Van Hoang, T.H., Gurău, C., Lahiani, A., Seran, T.L. (2018). Do crises impact capital structure? A study of French micro-enterprises. *Small Business Economics*, *50(1)*, pp. 181-

199, https://doi.org/10.1007/s11187-017-9899-x

67. Vasileiou, E., Samitas, A. (2015). Does the financial crisis influence the month and the trading month effects? Evidence from the athens stock exchange. *Studies in Economics and Finance*, *32(2),* pp. 181-203, https://doi.org/10.1108/SEF-01-2014-0002
68. Vieira, E.F.S. (2014). The effect on the performance of listed family and non-family firms. *Managerial Finance*, *40(3),* pp. 234-253, https://doi.org/10.1108/MF-06-2013-0134
69. Vieira, E.S. (2018). Board of directors characteristics and performance in family firms and under the crisis. *Corporate Governance (Bingley)*, *18(1),* pp. 119-142, https://doi.org/10.1108/CG-01-2017-0010
70. Villalonga, B., Amit, R. (2006). How Do Family Ownership, Control and Management Affect Firm Value? *Journal of Financial Economics*, *80(2),* pp. 385-417, https://doi.org/10.1016/j.jfineco.2004.12.005
71. Wagner, D., Block, J.H., Miller, D., Schwens, C., Xi, G. (2015). A meta-analysis of the financial performance of family firms: Another attempt. *Journal of Family Business Strategy*, *6(1),* pp. 3-13, https://doi.org/10.1016/j.jfbs.2015.01.001
72. Ward, J.H. (1963). Hierarchical Grouping to Optimize an Objective Function. *Journal of the American Statistical Association*, *58(301),* pp. 236-244, https://doi.org/10.1080/01621459.1963.10500845
73. Yammeesri, J., Lodh, S.C. (2004). Is Family Ownership a Pain or Gain to Firm Performance? *Journal of American Academy of Business*, *4*, pp. 263-270.
74. Zahra, S.A., Hayton, J.C., Salvato, C. (2004). Entrepreneurship in Family vs. Non-Family Firms: A Resource-Based Analysis of the Effect of Organizational Culture. *Entrepreneurship Theory and Practice*, *28(4),* pp. 363-381, https://doi.org/10.1111/j.1540-6520.2004.00051.x