



Article

The Impact of Family Ownership on Capital Structure and Business Performance

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Abstract: Financial decision making in family companies is a topical issue that has arisen from an awareness of the significant impact of family businesses on the economies of individual countries. This article deals with the capital structure and business performance of family firms in the Czech Republic, as there is still a significant gap in family business research and empirical verification. This study aims to investigate Czech family businesses' corporate financing practices and compare them with population data from all active companies. The literature distinguishes between the positive and negative impacts of family ownership on capital structure and performance. Our empirical findings hypothesise that family businesses are more leveraged than non-family firms and vice versa. At the same time, a slightly positive impact from family influence on firm financial performance is indicated. This study uses descriptive statistics to detect family influence on corporate capital structure and financial performance regarding business sectors. The results of this study indicate that Czech family firms are less indebted than all/non-family businesses, and that they have proved to be more profitable in terms of ROEs and ROAs. Furthermore, significant differences in financial characteristics have been identified not just between individual business sectors but also between sample family firms and all/non-family firms within one business sector.

Keywords: capital structure; family business; financing; leverage; profitability



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1. Introduction

This paper aims to capture potential differences or similarities in the capital structures of family and non-family firms, thus filling a gap in knowledge and the literature on family business approaches toward financing. Examining the financial data of family businesses also calls for the study of the impact on their performance. A partial goal is also to determine the influence of the business sector on the corporate finances of family businesses. This empirical investigation used financial data from the Bisnode MagnusWeb database of companies and institutions, which contains an overview of all registered business entities in the Czech Republic.

This article first reviews the literature on the topic; then, methods and data collection are discussed in the next section. The research results section is divided into three parts: descriptive statistics, the financial characteristics of family firms vs. all firms, and the financing practices of companies according to the business sector. The results are summarised in the conclusion section, together with possible future research directions in the field.

The typical financial behaviours adopted by non-family businesses cannot be followed by family businesses (López-Gracia and Sánchez-Andújar 2007). The desire to maintain control over a family company over generations limits its financial resources and the firm's ability to increase resources in general. Family managers usually base their financial decisions more on how these decisions may affect family control of the company than on comprehensive assessments of complex economic issues (Crocì et al. 2011).

Academics and financial managers have continuously discussed corporate long-term capital structures and their optimisation. Most theoretical and empirical capital structure

studies focus on public corporations or private companies ([Antoniou et al. 2008](#); [Fryndenberg 2011](#); [Bessler et al. 2011](#)). In the entire body of publications on this topic, only a limited number of studies on capital structure have been conducted on family firms ([Romano et al. 2001](#); [Gottardo and Moisello 2014](#); [Acedo-Ramirez et al. 2017](#)). Whereas some researchers have suggested that family firms prefer internal or family funds (e.g., [Romano et al. 2001](#)) and carry less debt than non-family firms (e.g., [McConaughy et al. 2001](#); [Ampenberger et al. 2012](#)), others indicate that family firms accept similar debt (e.g., [Anderson and Reeb 2003](#); [Gallo et al. 2004](#)) or even more debt than non-family firms (e.g., [Callimaci et al. 2011](#); [Gottardo and Moisello 2014](#); [Burgstaller and Wagner 2015](#)).

Family businesses are becoming an economically relevant global phenomenon. They are widespread in every sector and have various legal forms, from micro-, small-, and medium-sized companies to large public companies. Their economic importance often affects more than half of their nation's GDP, and they are becoming a significant source of employment in most countries ([Chua et al. 1999](#)).

In Europe and other polities, such as the USA and Japan, family businesses have a rich history, and many small-scale family enterprises have successfully grown into larger companies. However, in central Europe, there is still progress to be made in creating favourable conditions to develop family businesses ([Mura 2021](#)).

Family businesses have distinctive traits that can be traced back to the family's bond with its firm, including an emotional dimension. These unique characteristics include differences between family members and external managers in terms of time horizons; objectives; motivations; interest in the success of the company; strategic decision-making processes; organisational schemes; relationships within the family, between family members, and other stakeholders; and succession issues ([Ferraro and Cristiano 2021](#)).

The literature offers various definitions of "family business". [Donnelley \(1988\)](#) defined a family firm as one involving at least two generations of a family, especially when this involvement generates a mutual influence on firm policy and family interests and objectives. [Beckhard and Dyer \(1983\)](#) defined family businesses as systems comprising four subsystems: (1) the business as an entity, (2) the family as an entity, (3) the founder as an entity, and (4) linking organisations such as boards of directors. Each subsystem has its own culture, identity, needs, and values. [Chrisman et al. \(2012\)](#) set the following conditions in defining family firms: (1) a percentage of family ownership, (2) the involvement of family members in the management, and (3) the involvement of several generations of family members. Furthermore, trans-generational control intentions and family commitment determine if a business has family qualities. [Ampenberger et al. \(2013\)](#) felt that the founding family must hold at least 25% of the firm's voting rights at the ultimate level, and/or a member of the founding family should be present on the management board, and/or a member of the founding family should be present on the supervisory board. Recent definitions use a variety of variables, and different percentage requirements, such as that offered in [Vandebeek et al. \(2016\)](#), who defined family firms as follows: (1) at least 50% of the shares are family-owned, and the family controls management; or (2) at least 50% of the shares are family-owned, and the company is not managed by a family CEO, but the CEO perceives the firm as a family firm. [Bauweraerts and Colot \(2017\)](#) claimed that a firm can be defined as a family business when the CEO identifies the company as a family firm and members of a single-family own at least 50% of the equity.

The European Commission adopted a simple, clear, and easily applicable definition of family businesses in 2009 ([European Parliament and Council of the European Union 2009](#)). The setting of one common European definition was intended to enable the production of statistics regarding this sector (e.g., the contribution of family businesses to employment, the total turnover of family businesses) and to make comparisons between countries. According to this definition, a firm of any size is a family business if it meets the following criteria: (1) The majority of decision-making rights are in the possession of the natural person(s) who established the firm; the natural person(s) who acquired a share in the capital of the firm; or their spouses, parents, child or children's direct heirs. (2) The majority of

decision-making rights are indirect or direct. (3) At least one representative of the family or kin is formally involved in the firm's governance. (4) Listed companies meet the definition of a family enterprise if the person who established or acquired the firm (share capital) or their families or descendants possess 25 per cent of the decision-making rights mandated by their share capital.

The government of the Czech Republic approved the official definition of family business in 2020 with a resolution (MPO 2020). As the definition of family business did not exist until 2020, there was no official evidence showing the number of family businesses in the Czech Republic until that year. The Czech Association of Small and Medium-Sized Enterprises and Crafts proposed the family business definition used in the Czech Republic. This proposition was primarily based on the standard formulated by the European Family Business Federation.

According to this definition, a family business in the Czech Republic can either be a business corporation or a trade. A family business corporation is one where more than one-half of its members are part of one family, and at least one member of that family is a member of its statutory body. Otherwise, it is a business corporation where members of one family directly or indirectly exercise a majority of voting rights, and at least one member of that family is a member of its statutory body. Alternatively, the majority of the voting rights are exercised in favour of one family by a trust fund or its trustee, provided that at least one member of the family is a member of the statutory body of the trust fund or a trustee of the trust fund. A family trade is a business where at least two members of one family participate in its work or property, and at least one of the family members knows a trade or holds a similar licence or is entitled to conduct business for another reason. In a family trade, members of one family are considered jointly working spouses or partners or one of the following: at least one of the spouses or partners and their relatives up to the third degree; persons with spouses or brothers- and sisters-in-law up to the second degree; or related persons in a direct line or siblings. If a person who is underage or not fully legally competent is among them, they are represented in votes by a legal guardian (MPO 2020).

2. Literature Review

2.1. International Family Business Literature

According to the EC report (2009), family businesses face the same financial constraints as any other type of business and also face specific challenges related to succession (the transfer of the company within the family) and the choice of financing methods (equity vs. debt financing, reinvestment of profits). In all cases, the issue of taxation plays a significant role. One of the characteristics of family businesses is their long-term sustainability, often associated with cautious risk-taking behaviour. This has an impact on the financial decisions they make. Owner-managers of privately held family firms tend to be reluctant to take on external investors. They prefer financial instruments that do not erode their control. While most family firms have limited access to capital markets, it is in their nature to build a capital base by retaining earnings. Family firms play a significant role in investment. They finance their capital needs primarily using internally available funds or family funds, followed by debt, and consider the use of external equity only as a last resort.

2.1.1. Impact on the Capital Structure

In general, deciding on the specific form of a corporate capital structure is a complex process dependent on many different determinants, selected financial strategies, and the decisions of individual firms. There are many capital structure theories, and the literature defines various internal and external determinants. Internal factors are determined within the enterprise, and they include strategies, goals and missions, the ownership structure, risk attitude, the business sector, the position in the given market, the uniqueness of products and services, the growth potential, the firm's age, the financial results of the company, etc. A company's selection of financing sources is also influenced by the external environment, which consists of the degree of economic development of the country, the political climate,

the level of capital market development, the monetary policy of the country, the level of interest and tax rates, state support for entrepreneurship, the legislation in force, the level of competition in the particular sector, the degree of information asymmetry, and other factors (Rajan and Zingales 1995).

The financial decisions of family businesses have been the subject of many empirical studies, both in Europe and worldwide. Although most studies have focused on the financial decisions of family firms, dealing mainly with capital structures, they have not provided convincing answers as to how family firms constitute their capital structures and actual financial logic. Currently, the vast majority of the studies are based in highly developed economies (e.g., Australia, Germany, Italy, Spain, and the USA). There is a significant gap in family business research in developing countries (Motylska-Kuzma 2017).

Romano et al. (2001) built on the previous family business literature and developed an empirically tested structural equation model for the financing antecedents of family businesses. According to the authors, firm size, family control, business planning, and business objectives are significantly associated with debt. Small family businesses and owners who do not have formal planning processes in place tend to rely on family loans as a source of finance. However, family businesses in the service industry (e.g., retailers and wholesalers) are less likely to use family loans. According to the authors, debt and family loans are negatively related to capital and retained profits. Equity is used primarily by large businesses, young firms, and owners who plan to achieve growth by increasing profit margins. Nevertheless, equity is less likely to be used by older family businesses and owners who prefer retaining family control.

Ampenberger et al. (2012) analysed questions on whether and how founding families influence the capital structure decisions of their firms. A panel dataset of 660 listed German companies from 1995 to 2006 showed that family firms have significantly lower leverage ratios than non-family firms. Overall, their study suggested a strong, negative, and causal relationship between family firm characteristics (especially family management) and the level of leverage.

Gottardo and Moisello (2014) analysed the relationship between leverage and a set of capital structure determinants. They found certain specifics in the capital structures of medium-large family firms, particularly in net working capital and capital turnover. Family firms proved to be more affected by the need to maintain control and influence and were more leveraged than non-family firms. The presence of the family in active management increases leverage, as the family funds invested in the firm are higher.

Glover (2013) focused on how family businesses in the United Kingdom use non-economic resources to follow survival strategies. That study also stressed the importance of exploring all family members, regardless of their share in the family business.

Burgstaller and Wagner (2015) examined the financial behaviour of family firms in Austria. They concluded that family firms are relatively more leveraged and that the effects of many proposed capital structure determinants differ across various types of companies but are highly consistent with predictions from the pecking order theory.

Acedo-Ramirez et al. (2017) studied the financial behaviour of family firms in Spain; nevertheless, their conclusions might (with caution) be generalised to other bank-oriented countries in Europe, where firms use bank financing instead of capital markets. The authors concluded that the leverage ratio of family firms differs from that of non-family firms; more particularly, they found that family firms were more indebted than non-family firms. The interaction between control considerations and information asymmetries explains the strong preference for debt over equity in family firms. Their results show that family businesses have lower transaction costs than non-family firms.

Thiele and Wendt (2017) performed a study on German family companies, revealing significantly higher debt levels in family firms compared with their non-family counterparts. Contrary to the existing literature, they denied the hypothesised higher use of trade credits by family-owned businesses.

Ntounge et al. (2019) suggested that family-owned businesses have lower financial leverage and maintain a lower debt level than non-family firms. Their research also examined the risk exposure of family firms using the Altman Z-score model, which measures companies' overall financial health and bankruptcy risk. The study provided insights into the financial characteristics and risk profiles of family businesses, highlighting the potential influence of family ownership on capital structure choices and risk management strategies.

Harasheh et al. (2022) contributed to the ongoing debate on the value relevance of capital structure and its determinants by exploring 700 privately held family firms in Italy from 2010 to 2019, focusing on family firms. The authors examined the role of a family firm's innovation activity on leverage by testing whether more innovative family firms attract more debt. Their results show that institutional investors had no relationship with financial leverage measures, suggesting that they did not help family firms establish new debt channels (with some exceptions).

2.1.2. Impact on the Business Performance

There is no consensus on whether family firms outperform non-family firms and, if they do, under what conditions and determinants. The first attempt to summarise the ambiguous findings of previous empirical studies was performed by O'Boyle et al. (2012). The authors conducted a meta-analysis of 78 studies on the impact of family influence on business performance. Surprisingly, they did not reveal any significant impact of family involvement on firm performance. In subsequent years, many other meta-analyses have investigated the specifics of family firm performance, though with a focus on specific countries or regions.

Williams (2018) focused his study on business performance measurements. In contrast with the current trend of measuring family business performance using financial metrics, he also considered non-financial family firm goals.

Hansen and Block (2020) replicated and extended the meta-analyses on family firm performance conducted by O'Boyle et al. (2012). Based on empirical findings in 1095 primary studies from 61 countries, the authors found an economically small but statistically significant positive impact from family influence on firms' financial performance. This outperformance occurs particularly in large and listed firms, as well as in accounting rather than market performance measures. Leopizzi et al. (2021) have provided the latest empirical evidence, revealing that family firms in the tourist industry perform better than non-family firms.

2.1.3. Impact of Business Sector

Hategan et al. (2019) investigated a sample of Romanian family businesses. They concluded that the debt ratio of companies in different sectors varied significantly, ranging from a minimum of 2.7% in the rental industry to a maximum of 97.4% in the pharmaceutical product retail sector.

Pacheco (2022) used a sample of wine firms in Portugal in his empirical study because it represented a business sector where family firms made up a significant portion of the industry. He used an unbalanced panel dataset of 460 firms from 2010 to 2018. His results do not show significant differences between the ownership and capital structures of family and non-family firms.

2.1.4. Impact of External Factors

Regarding variations in the capital structures of family firms, it is also necessary to consider supply-side factors. The behaviour of external stakeholders, such as banks and other debt providers, is affected by competitive advantages generated by a family firm's specifics. Banks and debt providers could potentially prefer family businesses as borrowers if their identities as family businesses are clearly and reliably communicated (Faulkender and Petersen 2006; Zellweger et al. 2010).

2.2. Czech Family Business Literature

The findings of foreign studies cannot be unreservedly applied to the Czech environment because the Czech Republic has undergone a different historical development. However, the Czech expert literature on corporate financing usually takes on the conclusions of foreign publications. As for the issue of family firms, the Czech professional literature first paid attention to the general definition of family businesses, the role of family businesses in the economy, and the issue of succession. Several empirical studies on corporate financing and the financial performance of family firms were recently conducted in the Czech Republic.

[Rydvalova et al. \(2016\)](#) were the first authors to analyse family entrepreneurship in the Czech Republic. The authors found that family entrepreneurship is an essential instrument of municipality development in the Liberec Region, and that, at the same time, municipalities are interested in developing family entrepreneurship. Their innovative idea was that family businesses could be the source of the business environment, preserving and developing traditional activities. Their outputs helped to establish the registration of family businesses in the Czech Republic, evaluating their health and establishing further education in family entrepreneurship.

[Petlina and Korab \(2015\)](#) addressed the role of family businesses in the economy, their development in the Czech Republic, and their strengths and weaknesses. They concluded that family businesses serve as a motor of the Czech economy and have real potential for development.

[Breckova \(2016\)](#) performed a study survey focused on the internally perceived advantages (such as flexibility, business ethics, company stability, and team mood) and disadvantages (particularly access to financing) of family businesses in the SME sector. Their study also examined the current priorities of family businesses, which are no different from the problems of the entire SME sector. One difference, however, was identified in the area of succession and transfer of the company to another generation in the family or new management; the historical experience resulting from the relatively short market development of the Czech economy after the fall of the socialist economy is missing, and no best practices in the local conditions are readily available.

Another expert study based on a survey of family enterprises was conducted by [Machova and Tausl-Prochazkova \(2017\)](#). This study provided a realistic view of family businesses in the Czech environment. It also mentioned the issue of generational change but did not address family business funding issues in more detail.

[Petru and Tomaskova \(2020\)](#) performed an empirical study on preferences for debt or equity financing and the diversity of its allocation for the specific needs of a company's growth based on a qualitative analysis of 245 family businesses with varying degrees of generational involvement. Their study confirmed the dependence of equity and debt financing on the number of generations in management. This brought differing perspectives, opinions, and practices for financial management regarding preferences for debt or equity financing. A need for debt arises when compensating for the transfer of ownership between generations. Their results indicate that family businesses managed by one generation prefer equity financing; that companies managed together by the first and second generations prefer debt financing; and that companies controlled by the second and third generations prefer equity financing.

3. Research Methodology

The literature distinguishes between the positive and negative impacts of family ownership on capital structure: the empirical findings have indicated that family businesses are more leveraged than non-family firms and vice versa. The impact of family ownership on business performance is even less unambiguous; however, the latest empirical evidence is more indicative of a positive effect on performance. The influence of the business sector on corporate finances has already been confirmed in the literature. However, this influence

is also tested in this study regarding the impact of family ownership. Based on the literature and empirical findings, the following hypotheses were formulated as follows:

H1. *Family involvement does not significantly influence a firm's capital structure, indicating that family-owned businesses do not display a distinct preference for either equity or debt financing.*

H2. *Family involvement does not significantly impact firm performance.*

H3. *Financing decisions in family businesses are not influenced by the specific business sector in which they operate, indicating independence of financing choices from industry factors.*

This study commenced by conducting an analysis of expert publications and scientific papers, forming the foundation for developing the theoretical framework through knowledge synthesis. Additionally, it integrates findings from an empirical investigation, employing a combination of analytical and descriptive methodologies.

The empirical investigation was conducted in several phases. The first phase involved a determination of the population and representative sample. The [Bisnode MagnusWeb \(2021\)](#) database of companies and institutions contains an overview of all registered business entities in the Czech Republic and was used as the data source on the subjects. All economically active business companies in the Czech Republic served as the investigation population; the sample consisted of 106,481 companies for which financial data from 2016 to 2018 were available.

The sample of family businesses was composed of companies registered in the Registry of Family Firms operated by the Association of Small and Medium-Sized Enterprises and Crafts of the Czech Republic. By entering into the Registry, family business corporations or family firms (self-employed persons) prove their compliance with the requirements of the Definition of a Family Business according to Government Resolution No. 330 of 13 May 2019. The sample of family businesses (dataset of 255 family companies) was compared with the sample of all economic subjects in the Czech Republic (dataset of 106,481 companies). Companies that did not publish financial results were removed from the data files. The next phase involved data cleaning, eliminating companies that did not publish data, and statistical data processing. Descriptive statistics (*t*-test) were used to verify the significance of differences between the two samples' mean values. The two-sample *t*-test is used to determine whether the unknown means of two populations differ based on independent samples from each population. If the two-sample means are sufficiently different from each other, then the population means are different ([Moore 2010](#)).

Leverage in this empirical study refers to the financing methods of a company and its ability to meet its financial obligations. It is measured using the debt ratio (total-debt-to-total-assets ratio), the debt-to-equity ratio, and financial leverage.

The debt ratio indicates the relative amount of corporate debt in proportion to a company's assets. The debt ratio is calculated by dividing total liabilities (i.e., long-term and short-term liabilities) by total assets ([Brooks 2020](#)):

$$\text{Debt ratio} = \text{Total liabilities} / \text{Total assets}. \quad (1)$$

This indicates the proportion of equity and debt the company uses to finance its assets, or, in other words, it measures the percentage of funds provided by creditors ([Nissim and Penman 2003](#)).

The debt-to-equity ratio (D/E ratio), as a measure of a company's financial leverage, is calculated by dividing its total liabilities by the stockholders' equity ([Brooks 2020](#)):

$$\text{Debt-to-equity ratio} = \text{Liabilities} / \text{Equity}. \quad (2)$$

This indicates the proportion of equity and debt the company uses to finance its assets.

Financial leverage is measured using the equity multiplier (total assets/total equity), one of three ratios used in the DuPont analysis. The formula is as follows ([Brooks 2020](#)):

$$\text{Financial leverage} = \text{Total assets} / \text{Total equity} = \text{ROE} / \text{ROA}. \quad (3)$$

This is considered a risk indicator that measures the portion of a company's assets financed by equity rather than by debt. The higher the debt portion, the higher the financial leverage indicator (Brooks 2020).

The return on assets (ROA) and return on equity (ROE) are profitability ratios that measure a firm's effectiveness in turning sales or assets into profits. Those measures are standard in most empirical studies (e.g., Williams 2018; Zimon et al. 2022). The return on assets ratio (or return on total assets ratio) relates a company's after-tax net income during a specific year to the company's average total assets during the same year. The ROA shows how efficiently management uses its assets to generate earnings. The formula is as follows (Brooks 2020):

$$\text{Return on assets} = \text{Net income} / \text{Total assets.} \quad (4)$$

The return on equity is a crucial ratio for a company's owners. It indicates how much profit the company generates for the owners based on their ownership claims. The ROE is also known as return on net worth. The formula is as follows (Brooks 2020):

$$\text{Return on equity} = \text{Net income} / \text{Total owners' equity.} \quad (5)$$

4. Results and Discussion

The results of this study show a comparison of selected financial indicators for family firms using a dataset (years 2016, 2017, and 2018) including all companies in the Czech Republic.

Table 1 provides descriptive statistics for the family firms vs. all firms datasets based on the legal business forms and the prevailing business sectors of the enterprises.

Table 1. Distribution of companies according to the legal business forms and the prevailing business sectors of the enterprises for the year 2018.

	All Firms	Family Firms	All Firms	Family Firms
	Quantity		Percentage	
Business sector				
A—Agriculture, fishery, and forestry	3524	9	3.3%	3.5%
B—Mining and quarrying	137	1	0.1%	0.4%
C—Manufacturing	15,610	87	14.7%	34.1%
D—Electricity, gas, steam, and air conditioning	1122	0	1.1%	0.0%
E—Water supply; sewerage, waste management, and remediation activities	1077	2	1.0%	0.8%
F—Construction	11,435	23	10.7%	9.0%
G—Wholesale and retail trade; repair of motor vehicles and motorcycles	27,411	60	25.7%	23.5%
H—Transportation and storage	3648	9	3.4%	3.5%
I—Accommodation and food service activities	5463	15	5.1%	5.9%
J—Information and communication	4820	8	4.5%	3.1%
L—Real estate activities	13,237	9	12.4%	3.5%
M—Professional, scientific, and technical activities	15,386	20	14.4%	7.8%
N—Administrative and support service activities	3611	12	3.4%	4.7%
Total	106,481	255	100.0%	100.0%
Legal form of business				
Limited liability company	95,903	232	90.1%	91.0%
Joint-stock company	9656	19	9.1%	7.5%
Other (state-owned enterprise)	922	4	0.9%	1.6%
Total	106,481	255	100.0%	100.0%

The frequency of companies in business sectors C—Manufacturing, G—Wholesale and retail trade; repair of motor vehicles and motorcycles and M—Professional, scientific, and technical activities is statistically more significant than companies doing business in the remaining business sectors in both datasets. However, in general, most companies

conduct business in the field of G—Wholesale and retail trade, including repair of motor vehicles and motorcycles (25.7%), while most family firms (34.1%) conduct business in the field of C—Manufacturing. Except for business sectors L—Real estate activities and M—Professional, scientific, and technical activities, the representation ratio of individual business sectors is surprisingly analogous in both monitored datasets.

The limited liability company legal form was represented statistically with the most significant frequency in both groups. The representation of particular legal business forms is similar in both examined datasets.

In general, concerning the structure of examined datasets, the findings of this research can be considered relevant in the formulation of conclusions for firms with the limited liability company legal form operating in the manufacturing sector; wholesale and retail trade, including motor vehicle and motorcycle repair; and professional, scientific, and technical activities.

A statistical test, “*t*-test”, was used to compare the means of the two observation groups: selected financial data and the ratios of family firms and all companies. Hypothesis testing determined whether a family firm’s approach to debt financing and capital structure, in general, has similar patterns to the general population of companies or whether the two groups are different from one another. When the value of the significance level, α , is ≤ 0.05 , the null hypothesis, that there is no difference between mean values, can be rejected. If α is ≥ 0.05 , it is not possible to reject the null hypothesis that there is no difference between means, and the alternative hypothesis, that the means of the two groups are not equal, is accepted.

Tables 2–4 provide descriptive statistics for the financial characteristics of the family firms tested vs. all companies (including non-family businesses). Statistical tests such as the *t*-test can verify the significance of differences between two samples’ mean values. This subsection is focused on verifying hypotheses H1: “Family involvement does not significantly influence a firm’s capital structure, indicating that family-owned businesses do not display a distinct preference for either equity or debt financing” and H2: “Family involvement does not significantly impact firm performance.”

The data for the year 2018 (in Table 2) suggest that family firms generally keep higher total assets, as well as equity and debt. Testing suggests we should not reject the null hypothesis about the equal means of total assets, equity, and debt in both samples. The null hypothesis does not apply to profit and profit-related ratios (ROE and ROA). A statistically significant difference between the mean values of both groups was demonstrated at a level of significance $\alpha = 0.05$.

Table 2. Financial characteristics of family firms vs. all firms for the year 2018.

	All Firms n = 106,481	Family Firms n = 255	<i>t</i> -Test	<i>p</i> -Value	Null Hypothesis: Difference between Means = 0.0 Alternative: Not Equal
Thousands of CZK	Mean	Mean			
Total assets	41,527.97	59,132.66	1.0241	0.305780000	Do not reject the null hypothesis for alpha = 0.05.
Equity	19,237.75	28,033.45	−1.2793	0.200800000	Do not reject the null hypothesis for alpha = 0.05.
Debt	22,290.22	31,099.21	−1.3241	0.185476000	Do not reject the null hypothesis for alpha = 0.05.
Profit	1833.12	3652.66	−2.8618	0.004212270	Reject the null hypothesis for alpha = 0.05.
Debt ratio	53.68	52.59	−1.4440	0.148749000	Do not reject the null hypothesis for alpha = 0.05.
D/E ratio	1.16	1.11	0.0091	0.992761000	Do not reject the null hypothesis for alpha = 0.05.
ROE	0.10	0.13	−5.9209	0.000000003	Reject the null hypothesis for alpha = 0.05.
ROA	0.04	0.06	−9.5908	0.000000000	Reject the null hypothesis for alpha = 0.05.
Financial leverage	2.16	2.11	2.8749	0.004041550	Reject the null hypothesis for alpha = 0.05.

From a capital structure point of view, some researchers suggest that family firms prefer internal and family sources and carry less debt than non-family firms (e.g., [Ampenberger et al. 2012](#)), while others tend to claim the opposite (e.g., [Gallo et al. 2004](#); [Keasey et al. 2015](#); [Burgstaller and Wagner 2015](#)): that family firms carry similar or even higher debt. The comparison of the debt ratios of the two samples from 2018 implies the first

option—the debt ratio is slightly lower in the sample of family firms; the value was 52.59 for family firms and 53.68 for all/non-family companies. The comparison of financial leverage ratios confirms this statement—it is slightly higher for all companies (2.16) than for family businesses (2.11). Nevertheless, debt financing prevails in both samples over equity financing; the D/E ratios are 1.16 for all firms and 1.11 for family firms.

Table 3. Financial characteristics of family firms vs. all firms for the year 2017.

	All Firms n = 110,406	Family Firms n = 255	t-Test	p-Value	Null Hypothesis: Difference between Means = 0.0 Alternative: Not Equal
Thousands of CZK	Mean	Mean			
Total assets	38,264.04	55,838.75	−0.3334	0.738858000	Do not reject the null hypothesis for alpha = 0.05.
Equity	17,646.82	26,830.34	−0.4334	0.664744000	Do not reject the null hypothesis for alpha = 0.05.
Debt	20,617.23	29,008.41	−0.3746	0.707918000	Do not reject the null hypothesis for alpha = 0.05.
Profit	1847.23	3903.74	−0.9436	0.345373000	Do not reject the null hypothesis for alpha = 0.05.
Debt ratio	53.88	51.95	−0.8032	0.421884000	Do not reject the null hypothesis for alpha = 0.05.
D/E ratio	1.17	1.08	0.0190	0.984800000	Do not reject the null hypothesis for alpha = 0.05.
ROE	0.10	0.15	−12.6770	0.000000000	Reject the null hypothesis for alpha = 0.05.
ROA	0.05	0.07	−11.8366	0.000000000	Reject the null hypothesis for alpha = 0.05.
Financial leverage	2.17	2.08	4.5389	0.000005660	Reject the null hypothesis for alpha = 0.05.

Table 4. Financial characteristics of family firms vs. all firms for the year 2016.

	All Firms n = 120,145	Family Firms n = 255	t-Test	p-Value	Null Hypothesis: Difference between Means = 0.0 Alternative: Not Equal
Thousands of CZK	Mean	Mean			
Total assets	35,238.69	51,826.90	−2.0495	0.040418000	Reject the null hypothesis for alpha = 0.05.
Equity	16,106.00	25,296.33	−2.1380	0.032519200	Reject the null hypothesis for alpha = 0.05.
Debt	19,132.69	26,530.57	−1.1868	0.235324000	Do not reject the null hypothesis for alpha = 0.05.
Profit	1654.80	3580.00	−5.1902	0.000000211	Reject the null hypothesis for alpha = 0.05.
Debt ratio	54.29	51.19	4.9633	0.000000694	Reject the null hypothesis for alpha = 0.05.
D/E ratio	1.19	1.05	0.0213	0.983033000	Do not reject the null hypothesis for alpha = 0.05.
ROE	0.10	0.14	−7.7876	0.000000000	Reject the null hypothesis for alpha = 0.05.
ROA	0.05	0.07	−12.1122	0.000000000	Reject the null hypothesis for alpha = 0.05.
Financial leverage	2.19	2.05	1.0129	0.311106000	Do not reject the null hypothesis for alpha = 0.05.

Family firms seem to be more profitable than all companies in general, as the profit mean value is CZK 3,652.66 for family firms and CZK 1833.12 for all companies. A *t*-test revealed a statistically significant difference between the mean profit values for the two samples analogously, e.g., in [Gottardo and Moisello \(2014\)](#), who recorded a higher profitability level for family firms. In terms of profitability, some researchers (e.g., [Andres 2008](#); [Anderson and Reeb 2003](#)) also put the family's board representation in family firms into context. When family members serve as CEOs, a family firm's performance is even better compared with a family firm managed by a non-family member CEO. The mean value of the ROE indicator is significantly higher than the mean value of the ROA in both groups of companies. These results could be due to companies taking advantage of debt financing for assets.

Table 3 shows that the financial characteristics of family firms and all companies in 2017 are similar to those in 2018.

Regarding capital structure and financing decisions, the results from 2017 are consistent with the results from 2018—the mean value of the debt ratio is slightly higher for all/non-family firms (53.88) than the debt ratio of all companies (51.95); the mean D/E ratio is higher for all companies (1.17) than for family firms (1.08), as well as financial leverage mean values (2.17 for all companies compared with 2.08 for family firms), as proposed by [Acedo-Ramirez et al. \(2017\)](#).

The asset characteristics show a higher difference between the mean value of family firms (CZK 55,838.75) and all/non-family firms (CZK 38,264.05). Family firms seemed to be more profitable in 2017 than the sample of all companies, although the *t*-test did

not show any difference in the mean values. There was a slight decrease in the ROE and ROA average values for family firms between 2017 and 2018. However, the mean value of ROE was still higher than that of the ROA, implicating that the relevant firms were taking advantage of debt financing.

Table 4 shows the financial characteristics of family firms vs. all firms for 2016. Making any conclusions based on a single period might lead to tenuous results, as the *t*-test results from 2016 are in some respects different in comparison with 2017 and 2018, even though the mean value calculations are based on the data from the same groups of companies.

For 2016, it was impossible to confirm the null hypothesis of no difference between the mean value of the total assets, equity, and debt ratio, unlike the observations in 2017 and 2018. Total assets, debt, and equity still had higher average absolute values in family firms. A *t*-test revealed a statistically significant difference between the mean profit values of the two samples in 2018. The average ROE values exceeded the ROA values again. The null hypothesis was not confirmed by either of the two observed profitability indicators. A statistically significant difference between the mean values of both groups was demonstrated at a significance level of $\alpha = 0.05$, meaning that the mean values were different. The family firms outperformed the all/non-family firms in both profitability indicators.

Given the 2016 data, the impact of family ownership on capital structures is again in contrast to the conclusions of [Gottardo and Moisello \(2014\)](#), [Burgstaller and Wagner \(2015\)](#), and [Acedo-Ramirez et al. \(2017\)](#), who have argued that family firms are more leveraged and prefer debt. For 2016, the mean comparison values of the debt ratio, D/E ratio, and financial leverage confirmed that family firms used less debt financing than all companies (including non-family firms). The mean value of debt ratio is significantly lower for family firms (51.19) than the debt ratio of all companies (54.29); the mean D/E ratio is also lower for family firms (1.05) compared with the sample of all companies (1.19), and the financial leverage mean values reveal the same conclusion (2.05 for family firms, 2.19 for all/non-family companies).

For a more detailed analysis of the financial characteristics of family firms compared with all/non-family firms based on individual business sectors, only the year 2018 was chosen. This subsection aims to verify hypothesis H3: “Financing decisions in family businesses are not influenced by the specific business sector in which they operate, indicating independence of financing choices from industry factors.”

A preliminary view of the observations in Table 5 suggests significant differences not just between individual business sectors but also between the family firm and all/non-family firm samples within the relevant business sectors.

In sector A—Agriculture, fishery, and forestry, family firms seem to have fewer total assets, to be significantly more indebted, and to be less profitable than all/non-family companies. The mean profit value is even negative in the family firm sample. The debt ratio of the sample of all/non-family companies suggests that these firms prefer equity funding (debt ratio, 40.07; D/E ratio, 0.67; leverage, 1.67). In contrast, family firms rely more on debt funding (debt ratio, 67.95; DE ratio, 2.12; leverage, 3.12). The observations in sector B—Mining and quarrying, exhibit considerable differences between total asset means. However, no relevant conclusions can be made for this sector, as only one family business was included in the FF sample. Both samples in this sector rely more on their equity and are less indebted, but the debt level is lower for family firms (44.06) than all companies (48.99). Family firm data on profit were not available, so no profitability evaluation was possible in this sector. The observations of financial data from family firms conducting business in the most widespread sector, C—Manufacturing, are not much different from the whole set of all companies—both samples report high profits, a substantial number of total assets, and a preference for equity funding (debt ratios are 47.74 and 48.43, though the lower value belongs to all/non-family firms). For sector D—Electricity, gas, steam, and air conditioning, no data were available for family firms. No relevant conclusions can even be made for sector E—Water supply, sewerage, waste management, and remediation activities, where observations of only two family businesses were available. However, available

figures indicate low levels of indebtedness in both samples. The debt ratio was 30.04 for family firms and 37.43 for all companies, which indicates the lower indebtedness of family firms in this business sector. Family firms in business sector F—Construction, seem to be more profitable and less indebted than the sample of all companies, which is confirmed by the financial leverage ratio. In terms of observation frequency, the most statistically widespread sector in the sample of all companies was G—Wholesale and retail trade; repair of motor vehicles and motorcycles, which provided relatively unambiguous evidence for family firms—higher profitability; higher numbers of total assets; and, on the other hand, the substantial use of debt funding, which exceeds the indebtedness of all companies in the sector. Table 5 shows that family firms operating in sector H—Transportation and storage have by far the highest debt ratio (81.25) and, at the same time, the highest return on equity (26%) of all the monitored sectors, regardless of the sample type. The indicator of financial leverage climbed up to 5.33, which is also the highest value for all surveyed sectors and samples.

In contrast, all firms in this sector prefer equity financing. Family firms in sector I—Accommodation and food service activities, feature a negative profit value, which was recorded only for this sector and for sector A. On the other hand, they had higher total assets and did not use much debt financing (the debt ratio was only 11.51, which is the lowest value for all business sectors and both samples). Observations of the sample of all companies from this sector show, in contrast, a relatively high debt ratio (74.57). In sector J—Information and communication, family firms are more indebted and less profitable than the sample of all companies. Nevertheless, the industry as a whole prefers debt financing to equity. The exact opposite conclusion applies to family firms from business sector L—Real estate activities, where family firms are more profitable and less indebted. However, the rates of ROE and ROA are very low in both groups. A comparison between samples of family firms and all companies in sector M—Professional, scientific, and technical activities, favours the sample of all companies, which in turn implies higher profitability ratios and less leverage than family firms. However, the differences are not very large, and both samples prefer debt financing. In business sector N—Administrative and support service activities, it is possible to find a predominance of debt capital, i.e., higher leverage. Both the ROE and the ROA values turned out to be higher for family firms. The whole business sector uses more debt than equity.

A closer examination of the average results of financial characteristics segmented by business sectors confirmed the differences between the family firms and all companies depending on the industry. Still, unambiguous conclusions on financing decisions and profitability cannot be drawn. Thirteen business sectors were examined, of which all financial data were available only for twelve sectors. Of this, the higher debt ratio of family firms compared with all companies (measured by debt ratio and D/E ratio) appeared in the family business samples from seven sectors, which means that family firms were less indebted than all companies in five business sectors. In general, debt was preferred by family firms in six sectors; equity was also preferred in six sectors. As for the sample of all/non-family companies, debt dominated eight sectors, and equity financing dominated five sectors.

In terms of profitability, based on the ROE and ROA indicators, it was not possible to designate a sample of more profitable companies. Higher profit indicators for family businesses were in five to six business sectors, corresponding to the quotient of sectors with higher ROE and ROA values from the sample of all companies.

Table 5. Financial characteristics of family firms vs. all firms based on business sectors for the year 2018.

Business Sector		Number of Firms	Total Assets (in Thousands)	Equity (in Thousands)	Debt (in Thousands)	Profit (in Thousands)	Debt Ratio	D/E Ratio	ROE	ROA	Financial Leverage
A	All Firms	3524	47,750	28,615	19,135	1405	40.07	0.67	0.05	0.03	1.67
	Fam. Firms	9	13,191	4228	8963	−136	67.95	2.12	−0.03	−0.01	3.12
B	All Firms	137	778,728	397,251	381,477	35,677	48.99	0.96	0.09	0.05	1.96
	Fam. Firms	1	6516	3645	2871	x	44.06	0.79	x	x	1.79
C	All Firms	15,610	102,541	53,592	48,949	5093	47.74	0.91	0.10	0.05	1.91
	Fam. Firms	87	89,756	46,284	43,472	6325	48.43	0.94	0.14	0.07	1.94
D	All Firms	1122	334,719	162,434	172,285	17,230	51.47	1.06	0.11	0.05	2.06
	Fam. Firms	0	x	x	x	x	x	x	x	x	x
E	All Firms	1077	79,749	49,899	29,850	3236	37.43	0.60	0.06	0.04	1.60
	Fam. Firms	2	63,811	44,641	19,170	744	30.04	0.43	0.02	0.01	1.43
F	All Firms	11,435	23,089	9840	13,249	1293	57.38	1.35	0.13	0.06	2.35
	Fam. Firms	23	56,375	31,904	24,471	3534	43.41	0.77	0.11	0.06	1.77
G	All Firms	27,411	24,858	10,288	14,570	1371	58.61	1.42	0.13	0.06	2.42
	Fam. Firms	60	60,362	20,727	39,635	3880	65.66	1.91	0.19	0.06	2.91
H	All Firms	3648	48,169	25,449	22,720	1893	47.17	0.89	0.07	0.04	1.89
	Fam. Firms	9	23,791	4462	19,329	1174	81.25	4.33	0.26	0.05	5.33
I	All Firms	5463	8457	2151	6306	81	74.57	2.93	0.04	0.01	3.93
	Fam. Firms	15	24,514	21,692	2822	−136	11.51	0.13	−0.01	−0.01	1.13
J	All Firms	4820	19,482	9674	9808	1464	50.35	1.01	0.15	0.08	2.01
	Fam. Firms	8	36,518	13,642	22,876	1804	62.64	1.68	0.13	0.05	2.68
L	All Firms	13,237	51,197	17,356	33,841	480	66.10	1.95	0.03	0.01	2.95
	Fam. Firms	9	102,386	54,431	47,955	3184	46.84	0.88	0.06	0.03	1.88
M	All Firms	15,386	15,065	7000	8065	638	53.53	1.15	0.09	0.04	2.15
	Fam. Firms	20	6325	2847	3478	14	54.99	1.22	0.00	0.00	2.22
N	All Firms	3611	22,829	10,605	12,224	1393	53.55	1.15	0.13	0.06	2.15
	Fam. Firms	12	11,970	4355	7615	924	63.62	1.75	0.21	0.08	2.75

Notes: A—Agriculture, fishery, and forestry; B—Mining and quarrying; C—Manufacturing; D—Electricity, gas, steam, and air conditioning; E—Water supply; sewerage, waste management, and remediation activities; F—Construction; G—Wholesale and retail trade; repair of motor vehicles and motorcycles; H—Transportation and storage; I—Accommodation and food service activities; J—Information and communication; L—Real estate activities; M—Professional, scientific, and technical activities; N—Administrative and support service activities.

5. Conclusions

This study contributes to the literature on family firms by complementing empirical evidence on the capital structure decisions and business performance of family firms in comparison with all/non-family businesses. In contrast with previous research, this analysis not only focuses on perceived differences between family and non-family firms (based on survey questions) but also provides empirical evidence based on financial data from 13 business sectors in the Czech Republic, offering a more comprehensive and objective perspective. By offering fresh insights and empirical evidence, this research adds to the understanding of the unique financial characteristics and decision-making processes of

family firms in a Czech context, filling the literature research gap in the field of family ownership impacts.

Following the different literature conclusions concerning the issue of the capital structure of companies, business performance, and other financial issues, it is impossible to draw a clear conclusion about companies in the Czech Republic, either for family businesses or all companies in general. The literature offers too many determinants; for example, family businesses are burdened by the issues of family ties, succession process, risk attitude, etc. According to [Koropp et al. \(2012\)](#), the choices of family firms, especially in finance, are mainly affected by family norms, attitudes, perceived behavioural control, and behavioural intentions. Hence, family firm financial characteristics and logic differ from non-family companies.

For this empirical analysis, a large sample of Czech firms throughout 2016–2018 was used. This sample included 106,481 firms and financial data from 255 family firms. In general, concerning the structure of the datasets, our findings are relevant to the formulation of conclusions regarding limited liability companies operating in the manufacturing sector; wholesale and retail trade, including repair of motor vehicles and motorcycles; and professional, scientific, and technical activities.

The existing literature presents conflicting views on the relationship between family ownership and capital structure. Some studies suggest that family businesses have higher leverage than non-family firms, while others find the opposite. Similarly, the impact of family ownership on business performance is not clear-cut, although recent empirical evidence leans towards a positive effect. The influence of the business sector on corporate finances is well established in the literature, but this study also examines how family ownership interacts with sector-specific factors. Drawing on the literature and empirical findings, the following hypotheses were formulated:

H1: Family involvement does not significantly influence a firm's capital structure, indicating that family-owned businesses do not display a distinct preference for either equity or debt financing.

H2: Family involvement does not significantly impact firm performance.

H3: Financing decisions in family businesses are not influenced by the specific business sector in which they operate, indicating independence of financing choices from industry factors.

A statistical *t*-test was used to compare the means of two groups of observations: selected financial data and the ratios of family firms and all companies. Hypothesis testing determined whether a family firm's approach to debt financing and capital structure, in general, has similar patterns to the general population of companies or whether the two groups are different from one another.

The impact of family ownership on the capital structures evaluated based on 2016–2018 data was more in agreement with the conclusions of [Ampenberger et al. \(2012\)](#), who have claimed that family firms were less indebted than non-family firms. The financial results for family firms in the period of 2016–2018 prove this proposition with the lower mean debt ratio, D/E ratio, and financial leverage values compared with all/non-family firms in all monitored years. H1 cannot be confirmed, as family involvement had a certain impact on firm capital structure. Family firms in the Czech Republic use less debt financing than all/non-family companies and tend to prefer equity. This statement is valid for family firms and all companies in general, but the results may differ in various sectors, as tested by H3.

The impact of family involvement on firm performance was evaluated by statistically testing the financial data on profit, return on equity, and return on assets. Family firms proved to be more profitable than all companies in general, analogously to, e.g., [Gottardo and Moisello \(2014\)](#), who also recorded a higher profitability level for family firms. A statistically significant difference between the mean profit indicator values of family and all/non-family companies was confirmed using *t*-tests for the whole period of 2016–2018. The family firms outperformed the all/non-family firms in both profitability

indicators—ROE and ROA. However, ROE's mean values were higher than those of ROA, indicating that some firms took advantage of debt financing in some cases. H2 also cannot be confirmed, as family firms in the Czech Republic proved to be more profitable than all/non-family companies, with better ROE and ROA indicators.

According to the literature, the business sector is a significant determinant of a firm's capital structure. Companies operating within the same industry tend to face similar external conditions influencing their financing decisions. Therefore, it is also possible to find a correlation between the business sector and the capital structure of companies. Talberg et al. (2008) explained the inter-sectoral differences in capital structure by the different levels of risk within industries. Per the theory of financial distress, companies with higher risk levels should become less indebted. An evaluation of the observations of the family firm and all/non-family company financial characteristics suggests significant differences not just between individual business sectors but also between the family firm and all/non-family firm samples within one business sector. However, evaluating these differences did not lead to any specific conclusions regarding patterns in the financing decisions or profitability typical of family businesses in specific business sectors compared with other companies. H3 (i.e., there are no differences in the financing of family businesses depending on the business sectors) could not be confirmed.

To summarise, the findings of this study indicate that family firms in the Czech Republic exhibit lower levels of leverage compared with both non-family firms and the overall market. Additionally, family firms tend to demonstrate higher profitability on average. However, it is important to note that these results may vary depending on the specific business sector. This indicates that family firms avoid debt and choose higher equity ratios, which might be explained by higher risk aversion. These conclusions validate the view that family firms are specific in many ways. This study presents novel empirical findings that contribute to understanding Czech family firms.

The paper has, of course, its limitations. It focuses only on data from the Czech Republic, which may affect the generalizability of the findings. Second, the sample of family firms consists solely of companies registered with the Registry of Family Firms (operated by the Association of Small and Medium-Sized Enterprises and Crafts of the Czech Republic), into which the company has to register itself; it is not included automatically. It should also be considered that the paper is based on publicly available financial data from financial statements, with limits based on their contents. Specifically, balance sheets do not provide information on the personal collateral that family business owners supply to finance their firms.

Future research in the field of the financial evaluation of family firms holds significant potential for further exploration. This includes interpreting observations and conducting comparative analyses across different periods. Additionally, a more comprehensive assessment of the financial characteristics of family firms, considering the legal ownership structure of the company, could provide valuable insights. Gaining a deeper understanding of decision-making processes within the context of family businesses would contribute to a more comprehensive understanding of their unique traits and dynamics.

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