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PREDICTING THE VALUE OF CZECH FAMILY BUSINESSES: WHAT FACTORS INFLUENCE VALUE CREATION?

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Abstract: Our research is concerned with the valuation of family businesses, for which reason we investigated whether standard valuation procedures can be used for family businesses or whether their modification is necessary. To determine the value of a business, it is necessary to identify the factors that affect its ability to create value; one of these is the cost of equity. Estimating the cost of equity for unquoted companies is still an issue that has yet to be satisfactorily resolved. The combination of these issues leads to a gap in the research that we are seeking to fill with our research. The cost of equity was estimated using the modified CAPM approach, with the accounting beta as an approximation of market beta. The accounting beta was estimated on data on 34,602 SMEs operating in the Czech Republic from 2012 to 2020. We measured the ability of family businesses to create value as the difference between the ROE and the cost of equity (i.e. the value spread). The analysis of value spread was conducted on a sample of 7,955 family and non-family SMEs. A linear mixed-effect model was employed for the analysis, adopting an autoregressive (AR(1)) specification of the repeated covariance type. This model makes it possible to control for temporal dynamics. We investigated the impact of sub-factors on value creation, including business age, size, leverage and family ownership. The results show that the value spread is significantly affected primarily by family ownership and the age of the business. This implies that the valuation model for family businesses needs to be modified.

Keywords: family business, value creation, cost of equity, accounting beta, linear mixed-effect model

JEL Classification: G32

INTRODUCTION

There is a prevailing consensus in the literature regarding opinions about doing business, in which the most theoretically sound goal of doing business is maximizing the business value (see Damodaran, 2006; Brigham, Ehrhardt, 2010; McKinsey et al., 2005). A better understanding of factors driving the value of business helps in the adoption of policies that could increase the value of the business, which is the underlining idea behind value-based management (e.g. Frigo, 2002; Pohl, 2017). These arguments motivate research behind value-creation (VC) topics, for which research is being conducted in two directions. From the financial perspective of the VC concept, value creation refers to a situation in which a company generates shareholder return (in terms of ROE) exceeding the required return on equity (cost of equity). Although a number of papers have been published on this topic, there is relatively limited research on value creation related to family businesses (e.g. Martínez-Romero et al., 2020). The gap is especially obvious when it comes to the SME segment, which takes in the majority of family businesses (Civelek & Krajčík, 2022; Civelek et al., 2021; Tomášková & Kaňovská, 2022). There are a few potential reasons for this.

First, there is currently no generally accepted definition of a family business, as noted by Sharma (2004), whereas a unified definition would enable identification of the economic contribution and advantages of family businesses over non-family businesses (see Diaz-Moriana et al., 2019). An overview of existing definitions can be found in Diaz-Moriana et al. (2019). Second, a potential reason for why the majority of the research on the topic of family businesses (e.g. Lozano et al., 2016; Barontini & Caprio, 2006) has focused on public companies lies is in the possibility of employing market data, which enables the application of several utilizable approaches to measure a company's ability to create value, such as Tobin's Q and profitability ratios (e.g. Bobillo, 2014; Lozano et al., 2016; Pukthuanthong, 2013). Third, the focus on listed companies simplifies the estimation of value creation, as the cost of equity can be estimated fairly easily by using data on the past development of stock prices, and enables the application of the capital assets pricing model (CAPM).

Analysis of the issue of financial value creation from the perspective of family SMEs is, for this reason, a rather complicated issue, but also an extremely important one. This springs from the very nature of SMEs, which are considered the backbone of the global economy, as an engine for sustainable growth and stable employment, innovation and, hopefully, an importance route to recovery in the aftermath of the global COVID crisis. First and foremost, family businesses are seen as more long-term oriented than non-family businesses (Block, 2009; Domańska & Zajkowski, 2022). Family businesses are further considered a specific type of business due to the emotional attachment of the family to the business (Cruz et al., 2014) and, therefore, the family's refusal to give up control of the business (Binz et al., 2017).

When analysing the situation regarding SMEs, it should be kept in mind that SMEs represent a rather specific segment of business. Studies suggest that SMEs are more vulnerable to changes in economic conditions and their financing; they face more obstacles than larger and older businesses (Virglerova et al., 2021). According to Ullah (2020), the most significant obstacle that SMEs have to contend with during the course of their growth is represented by financial constraints. Including such phenomena in the research may shed more light on factors driving the growth of family SMEs and, thereby, their value creation. A better understanding of the factors that limit the growth of family SMEs could help in the adoption of a more effective policy and, thereby, support the recovery of the economy as a whole (see Karas & Režňáková, 2021).

Our research aims to analyse factors affecting value creation in family SMEs in the Czech Republic and to propose adjustments of partial parameters that will reflect the character of these enterprises. The first part of the research is dedicated to estimating the cost of equity using the CAPM model with an accounting beta factor. The second part analyses the role of factors such as business age, size, leverage, family ownership, profit margin and sales growth on the value creation factor.

1. RESEARCH SAMPLE AND METHODOLOGY

1.1 Research sample

There are a large number of definitions as to how to identify a family enterprise, as has been mentioned by Sharma (2004) and Diaz-Moriana et al. (2019). We have employed the recent definition adopted by the Chamber of Commerce of the Czech Republic, in which an enterprise is recognized as a family business if the majority of the company's partners are members of a single family or the majority of voting rights are in the hands of members of a single family and at least one family member is a member of the statutory body of the company.

There is currently no public or commercial database from which data on family businesses can be drawn. Regarding the definition of SMEs, we have applied the definition given in EU recommendation 2003/361, in which a business with less than 250 employees and with a turnover lower than or equal to 50 million EUR or with total assets of a value lower than or equal to 43 million EUR is considered an SME.

The main issue regarding the collection of data lies in the very identification of a family business, as the databases do not contain this information (due to the non-existence of a unified definition of a family business). Hnilica & Machek (2015) built a database of 520 family businesses for which the identification of a family

business was performed by matching surnames. In our research, we chose a different way of identifying family businesses. In order to collect the data, we addressed around 79,000 SMEs and asked them the simple question whether or not they meet the (attached) definition of family enterprises. We received around 10,000 responses. By matching identification numbers from these responses with the Bisnode database we were able to supplement this information about whether the company was a family business (yes or no) with data on financial statements. We were able to collect data on 7,955 enterprises operating from 2016 to 2018. This data is referred to below as data sample 1.

As mentioned above, the estimation of VC requires data on the cost of equity, for which the CAPM model is commonly used by practitioners and researchers. Application of the CAPM model requires data on market returns, though such information in unavailable for SMEs as in most cases they do not meet the requirements to enter a public capital market (see Filipe et al., 2016). This obstacle can be overcome by adopting an accounting beta that used the accounting measure of return as a proxy of market return. Data sample 1 does not, however, cover all lines of business with a sufficient number of observations that would make it possible to estimate the accounting beta specifically for each branch of industry separately. The branch of industry was analysed in two ways – first according to NACE 2 digits specification. This differentiation seemed to be too smooth for modelling purposes, however, for which reason the NACE rev. 2 main section codes were used instead. This made it necessary to obtain a larger dataset. A dataset of 34,602 SMEs operating in the Czech Republic from 2012 to 2020 was analysed (referred to below as data set 2) for the purpose of estimating the accounting beta.

1.2 Methodology adopted

We adopt a measure of value creation (VC) that also includes the cost of equity capital, while we analyse the annual value of VC, which is:

$$VC_{i,t} = ROE_{i,t} - r_{e(l,t)} \quad (1)$$

Where: *VC – value creation factor, ROE – return on equity (EAT/equity), re-cost of equity, I – a given enterprise, t – a given year*. This approach is based on the model of Economic Value Added for owners (EVA(e)) calculated as (Koller et al., 2010):

$$EVA(e)_{i,t} = (ROE_{i,t} - r_{(eit)}) \cdot E_{i,t-1} \quad (2)$$

Where: *EVA – economic value added, E – equity.*

ROE represents the most appropriate indicator of profitability when research is based on equity (Sciascia et al., 2014). The crucial problem behind estimation of the VC factor lies in estimating the cost of equity (re). There are several options for estimating the cost of equity, such as the Capital Assets Pricing Model (CAPM), the build-up approach and the use of industry betas obtained from analysing large listed businesses. Application of the build-up model, which would consistently reflect the situation of a business, requires detailed mapping of the risk related to a given business (see, for example, Bora & Vaněk, 2017). Application of the build-up approach on a panel of data from this perspective would be extremely complicated or rather ineffective. There is also the option of adopting a simplified version of the build-up model which approximates the risk using several financial ratios, although the link between industry and business development is only indirect. Professionals often use the CAPM model to estimate the cost of equity (Intrisano et al., 2017). This was originally developed by Sharpe (1963). The main idea behind the CAPM model is to model the relationship between risk and return. The CAPM model takes following form (St-Pierre & Bahri, 2006):

$$R_j = R_f + \beta_j(R_m - R_f) \quad (3)$$

where: *Rj – expected rate of return on assets, β_j – the risk coefficient (amount of risk taken by the investor), Rm – market return.* The definition of the beta coefficient is as follows:

$$\beta_{it} = \frac{Cov(R_j, R_m)}{Var(R_m)} \quad (4)$$

Khadjavi (2003) pointed out that the assumptions made by CAPM are only partly realistic when it comes to the application of the model in a private (unlisted) business. According to St-Pierre & Bahri (2006), this does not make it impossible to apply the model to SMEs, but some adjustments to the model's components need to be made (Vos, 1992). The main concern about such adjustments relates to the risk coefficient beta (βj). This is easy to do in the case of a publicly traded company, though the situation is very different in the case of a private company (McMahon et al., 1993). There are two main approaches to this issue. The first is to find a publicly quoted company similar to the SME being analysed and to derive the risk coefficient, with a possible correction for debt levels, from this. However, it may be difficult to find a company sufficiently similar to the SME analysed. A second possible solution is the use of accounting beta. The advantage of this approach is that it directly considers information on the given firm (Pierre & Bahri, 2006). The work of Beaver et al. (1970) and Beaver & Manegold (1975) confirms that there is a positive relationship between accounting and market beta. The idea behind accounting beta can be summarized in the following way – a firm-based measure of accounting return is regressed on the changes in the market-wide excess return to arrive at an estimate of systematic risk (Beaver et al., 1970; Sarmiento-Sabogal & Sadeghi, 2014).
There are multiple options for defining accounting beta. Vos (1992) and St-Pierre & Bahri (2006), for example, used the definition:

$$accounting\ beta = \Delta ROE_i / \Delta ROE_m \quad (5)$$

Where: *ΔROE_i – variation in the return on the stockholders' capital of the enterprise based on two successive periods; ΔROE_m – variation in the return on the stockholders' capital of the market-based portfolio based on the same two successive periods.*

A more complex definition of accounting beta can be found in Campbell & Mei (1993) and Sarmiento-Sabogal & Sadeghi (2014). In this definition, the accounting beta (BACC) takes the following form:

$$BACC_{it} = \frac{Cov(dRA_{it}, dRA_m)}{Var(dRA_m)} \quad (6)$$

Where: *RA – accounting return, d – lagged variation of the logarithmically transformed accounting ratio of firm i at period t*, which is:

$$dRA_{it} = ln(1 + RA_{it}) - ln(1 + RA_{it-1}) \quad (7)$$

Sarmiento-Sabogal & Sadeghi (2014) tested eight different specifications of RA (e.g. ROE, ROA, operating cash flow to assets) and concluded that systematic risk, with the use of BACC, may be overvalued, while the best results were obtained using the ratio of EBIT to equity. In line with this, we have used EBIT/equity as a specification of accounting return when adopting the BACC approach. In line with Intrisano et al. (2017), the betas estimated for each company were transformed into unlevered betas in order to eliminate distortion produced by financial risk. The relationship between levered and unlevered beta is given by Hamada's equation (1972), which combines the Modigliani–Miller theorem with the capital asset pricing model. In this approach, the unlevered beta is given by:

$$\beta_u = \frac{\beta_l}{1 + \frac{D}{E} \cdot (1 - T)} \tag{8}$$

Where: *β_u – unlevered beta, β_l – levered beta, D – debt, E – equity, T – tax rate.*

The levered beta for each of the analysed enterprises was estimated using formula (6) using data set 2, and was then transformed into unlevered beta (using formula 8). The specific tax rate adopted is the tax rate on income tax on private companies according to Czech law, with the specific value being 19 percent. Afterwards, the average unlevered betas for each of the analysed industries specified in Table 2 were calculated. The resulting average unlevered betas were later used on data set 1 in order to estimate the cost of equity.

1.3 Approximation of CAPM model parameters

The risk-free rate (R_f) parameter of CAPM was approximated as the average annual yield of 10-year government bonds. A specific average value of the *rf* is calculated for each of the analysed years in data set 1 (i.e. 2016, 2017, 2018). Data on the Prague Stock Exchange (PSE), and in particular the PX-GLOB index, served as an approximation of the market return (R_m). The change in the daily value of the PX-GLOB index was annualized, based on the number of days of trading, to obtain the annual rate of market return (R_m). The Rm parameter entered into the CAPM model was approximated as the average value covering the period from the beginning of trading on the PSE (i.e. 1995) to the analysed year, which results in three specific estimates of R_m based on the analysis of three time periods (1995-2016, 1995-2017, 1995-2018). The longest possible period was chosen to avoid the influence of temporal changes in the stock market return.

1.4 Approximation of CAPM model parameters

The value-creation factor (VC) defined as the difference between ROE and the cost of equity (re) was analysed as a dependent variable. At this initial stage of the research, we analysed the influence of *business age* (defined as the natural logarithm of the number of days since the business was established), *size* (categories – micro, small, medium, large) and *leverage* (debt to equity ratios), and there was also a control for *family businesses* (dummy variable, 1 = if the business meets the definition of a family business, 0 = otherwise). A linear mixed-effect model was employed for the analysis, adopting an autoregressive (AR(1)) specification of the repeated covariance type. The model allows us to control for time dynamics. To avoid regression problems caused by outliers, the dependent variable was transformed using a modulus transformation, with λ = 0, under which the transformed variable (VC_{TR}) takes the following form:

$$VC_{TR} = sgn\,(VC)\log(\lceil VC \rceil + 1) \tag{9}$$

The model can be written in the following form:

$$VC_{it} = \gamma + \alpha FB_{it} + \beta X_{it} + b_0 + b_{it}t + u_{it} \tag{10}$$

Where: *γ is the intercept, α – regression coefficient, X – analysed financial and non-financial variables, FB – family business dummy variable (FB = 1 if a business meets the definition of a family business, FB = 0 otherwise), β – regression parameter making it possible to capture the random effect, b_0 – random intercept, b_{it} – making it possible to set the growth rate over time t for individual firm i.*

After initial estimation of the model, it was decided not to add the industry dummy variables as explanatory variables. The reason for this is that the VC_{it} was estimated using betas that were estimated separately for each of the analysed industries and the industry effect is thereby artificially enhanced. Adding the industry dummy variable to the model would bias the significance of the rest of the variables.

1.5 The model's potential variables

The list of analysed variables (represented by the term X in equation 10) is presented in Table 1, while their potential role in analysing value creation is discussed afterwards.

Table 1: List of analysed variables

Variable	Description	Area
D/E	Debt/equity	Leverage
SG	Sales (t)/sales (t-1)	Sales growth
REF	(capital expenditures – cash flow)/capital expenditures	Reliance on external capital
PM	EBITDA/sales	Operating profit margin
age	Log (number of days from the establishment of the business to the end of the analysed period)	Business age
Size	Dummy variable (micro, small, medium)	Business size category
dNWC/TA	(NWC(t) – NWC(t-1))/total assets (t)	Investment in net working capital (NWC) to total assets
dFA/TA	(FA(t) – FA(t-1))/total assets (t)	Investment in fixed assets (FA) to total assets

Source: the authors' own processing

The effect of *leverage (D/E)* on business value has been considered in numerous studies, beginning with Modigliani & Miller (1958), according to whom the capital structure has no impact on business value unless abstracting from taxes, agency costs and information asymmetry. Later studies demonstrated the advantages of issuing debt (Modigliani & Miller, 1963) in relation to the existence of a tax shield. There are also studies showing that increasing levels of debts are related to the restriction of future investments (e.g. Cai & Zhang, 2011) which results in a reduction to the business value in line with the debt overhang theory of Myers (1977). *Sales growth (SG)* is considered an important value driver by many studies, as sales are the main source of revenues and their growth is related to a potential increase in business value (see, for example, Timme & Williams-Timme, 2000 and Ellram & Liu, 2002). It has also been shown that younger firms grow more quickly (Evans, 1987; Dunne et al. 1988), for which reason a control for the age of the business needs to be incorporated into the model. This was performed by adding an *age* variable. A control for business age may also be helpful when analysing businesses with negative VC caused by negative ROE, which might be the case for start-ups. A similar issue applies to business size, with smaller firms tending to face a higher level of financial constraints (see, for example, the studies by Beck et al., 2006, Ullah, 2020 and D'Souza et al., 2017), which significantly limits their growth opportunities. From this perspective, there needs to be a control for the *size of the businesses* in the model.

A firm's *reliance on external capital (REF)* was considered in the model to control for the extent to which a firm's growth depends more on external financing than internal sources. A measure of this kind is often adopted when describing the level of financial constraints that SMEs have to face during their growth (Kroszner et al., 2007; Jin et al., 2018).

Other value drivers are represented by investment in fixed assets and net working capital, which are vitally important for supporting sales and profitability growth at a company. Without such investments it is impossible to remain competitive, while the consequences of omitting such investment would lead to a fall in business efficiency and its ability to make a profit. Changes in net working capital are considered in the presented model by the dNWC/TA variable.

2. RESULTS

The accounting betas were estimated on data sample 2 for each of the analysed industries based on the main section classification, with expectations for the industries: B – mining and quarrying, L – real estate activities and O – public administration and defence; compulsory social security, as for these branches of industry there were limited numbers of observations for SMEs. As the estimates often tend to exhibit outliers, a 5% winsorized mean of the estimated betas was used for further application. The results for the average unlevered beta for the analysed industries are shown below in Table 2.

Table 2: Average unlevered accounting beta per industry

Branch of industry	No.	Unlevered beta	Branch of industry	No.	Unlevered beta
A – Agriculture, forestry and fishing	664	0.334008	J – Information and communication	1,142	0.161386
C – Manufacturing	3,978	0.310751	K – Financial and insurance activities	105	0.056674
D – Electricity, gas, steam and air conditioning supply	234	1.420205	M – Professional, scientific and technical activities	3,639	0.203859
E – Water supply; sewerage; waste management and remediation activities	335	1.143622	P – Education	405	0.178094
F – Construction	2,644	2.062744	Q – Human health and social work activities	1,117	0.108979
G – Wholesale and retail trade; repair of motor vehicles and motorcycles	4,641	2.246086	R – Arts, entertainment and recreation	235	0.111147
H – Transporting and storage	749	0.103747	S – Other service activities	208	0.171595
I – Accommodation and food service activities	587	0.236631			

Source: the authors' own processing based on data from the Orbis database

These betas were assigned to observations from data set 1 and matched by the industry code (according to the NACE main section classification) and transformed into levered betas using the form (8). The application of the CAPM model further required data on market return (Rm) and the risk-free rate (Rf). The market return was estimated by annualizing the daily return of the PX-GLOB index, while the risk-free rate was estimated as the average of the 10-year yield on government bonds. The next step was the calculation of value-creation factors in the form (1). The median values of VC are presented in Table 3; values are presented separately for family businesses (FB) and non-family businesses (NFB).

Table 3: Descriptive statistics of the sample

Statistics	Size	Type	VC	D/E	SG	REF	PM
Median	Medium	FB	0.023	0.506	93.584	0.000	0.058
		NFB	0.066	0.337	89.684	0.000	0.059
	Small	FB	5.077	0.613	83.337	0.000	0.051
		NFB	0.020	0.384	89.167	0.000	0.055
	Micro	FB	5.077	0.831	77.081	0.000	0.051

		NFB	0.066	0.337	89.684	0.000	0.059

Source: the authors' own processing based on data from the Bisnode database

The descriptive statistics show, on one hand, that the value-creation factor differs between family (FB) and non-family (NFB) types of businesses. At the same time, the results show the clearly high volatility of data distribution, which highlights the need for the adopted modulus type of data transformation. Before estimating the LMAR model in form (10), the presence of multicollinearity was verified using the Variance Inflation Factor (VIF) methodology, showing that none of the analysed variables exceeds a VIF of 4 or 10 meaning that the presence of multicollinearity is not significant. The details of the estimated coefficient for the fixed effect of the factors influencing VR are presented in Table 4.

Table 4: Estimated fixed-effect coefficient of the LMAR model

						95% Confidence Interval	
Parameter	**Estimate**	**Std. Error**	**df**	**t-stat.**	**p-val.**	**Lower Bound**	**Upper Bound**
Intercept**	6.684	0.523	32,018.627	12.775	0.000	5.658	7.709
[size=medium]	0.044	0.043	12,555.274	1.031	0.302	-0.040	0.129
[size=micro]*	0.050	0.020	14,783.161	2.527	0.012	0.011	0.089
[size=small]	0[a]	0					
[FB=non-family]*	-0.036	0.017	48,081.870	-2.075	0.038	-0.070	-0.002
[FB=family]	0[a]	0					
DE_TR**	-0.437	0.016	2,401.385	-26.576	0.000	-0.470	-0.405
SG_TR**	-0.052	0.007	1,590.340	-7.783	0.000	-0.064	-0.039
REF_TR	-0.009	0.008	411.702	-1.047	0.296	-0.025	0.007
PM_TR**	0.243	0.031	1,053.064	7.871	0.000	0.182	0.304
age_TR**	-7.079	0.591	31,470.854	-11.986	0.000	-8.237	-5.921
dNWCTA_TR**	0.152	0.023	1,669.989	6.631	0.000	0.107	0.198
dFATA_TR	-0.035	0.038	1,027.694	-0.938	0.349	-0.109	0.039

*Source: the authors' own processing based on data from the Bisnode database. Note: a. This parameter is set to zero because it is redundant. * Significant at the 5% level, ** significant at the 1% level*

According to the results, the VC factor differs significantly in family and non-family businesses and this effect is significant at the 5% level. The VC is lower for non-family businesses (about 3 pp) than for family businesses, even when controlling for the effect caused by different leverage, age, size, sales growth, profitability and investments.

Regarding other significant factors, the sales growth and leverage play an extremely important role in business value creation, which is in line with expectations. However, an increase in both of these factors causes a decrease in value creation as the estimate sign is negative. A very similar can be applied to the variable age, with the results showing that the older the business, the lower the ability of value creation.

The results for the role of investments in VC are rather surprising, showing that investments in NWC have a significant and positive effect (dNWC/TA) on VC, while the role of investments in fixed assets (dFA/TA) does not prove to be significant. There is no doubt that investment activity is related to business value, though the positive effect might be exhibited with a longer frequency. As we do not address the factors that affect business value through free cash flow, the effect might not be obvious on a yearly basis.

3. DISCUSSION

The analysis of value creation in Czech SMEs produced some results that contradict previous studies.

According to our results, the value-creation factor is higher in family businesses than it is in non-family businesses, with the specific difference amounting to 3 pp. This contrasts with the results obtained by other researchers such as Sindhuja (2009, in Basco, 2013), according to whom non-family-managed firms create shareholder value superior to that of family-managed firms. A potential reason for this is the fact that there is no generally accepted definition of family businesses. In addition, the issue is further complicated by the fact that the majority of the research conducted in this field has been performed on a sample of publicly-listed companies, while the majority of observations analysed in our research relate to micro-businesses (2/3 of the analysed sample). We did not take into consideration the small capitalization risk premium when calculating the cost of equity, as such a premium is usually estimated subjectively, for which reason we rely exclusively on explicitly measurable features. We are convinced of the superiority of the application of the accounting beta approach in application on samples of SMEs as, in contrast to the market beta, the accounting beta can be estimated directly on data on SMEs. The presented research shows the results of the initial phase of the research. At this stage, the industry classifications were adopted in their widest definition (based on the main sections classification). This presents the risk that significantly different betas could result from a sub-divided industry classification, although they share a common industry classification main section code. For further research, the industry specific will be addressed in more detailed form and, most importantly, the concept of total beta will be adopted, as the majority of owners of SMES may be represented by undiversified investors. The estimated cost of equity is also affected by the way in which the market return is estimated. In this research, the market return was estimated on the basis of the average daily changes of the PX-GLOB index multiplied by the number of trading days in the given year. Market return estimated in this way provides higher estimated values than those obtained by addressing the annual market return as the change of the closing value of the PX-GLOB index at the end of the year over the closing value at the end of the previous year.

CONCLUSION

The contemporary approach to measuring business performance often adopts measures based on business value, as this measure provides a comprehensive reflection of all relevant aspects of the business situation. Although this topic has been intensively investigated in recent years, there are still some gaps in the research to be addressed. One of these gaps is the context of value creation in the environment of unlisted family businesses. Family businesses represent a specific business segment that is known for its stability and its focus on non-financial goals. The existence of such specifics necessitates the adoption of a different perspective to their analysis.

The contribution made by the presented research lies, first and foremost, in its focus on family SMEs, while estimating the cost of equity exclusively by using data on the analysed business segment. By employing a linear mixed-effect model for the analysis, it was found that the value-creation factor is higher in the case of family businesses. This holds true even when controlling for indebtedness levels, business age, industry effects, profit margin and sales growth.

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