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FAMILY ENTREPRENEURSHIP AND SUSTAINABILITY: EMPIRICAL ANALYSIS FROM HUNGARY

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Abstract

Family firms, accounting for 60% of European private sector jobs, play a critical role in advancing business sector sustainability through their practices and employment characteristics. This study examines family entrepreneurs' attitudes toward sustainability using quantitative methods and the 2023 Global Entrepreneurship Monitor (GEM) Annual Population Survey (APS) dataset from Hungary. Businesses were categorised into non-family, one-person, and family enterprises. After analysing the reliability of sustainability-related questions, two indices measuring attitudes toward environmental, social, and economic sustainability were constructed: a comprehensive index allowing compensation between dimensions and an aggregate evaluation index. Using one-way ANOVA, we compared sustainability indices across the business categories. Results revealed no significant differences in sustainability performance, irrespective of the indicator used. Robustness was confirmed with four control variables (gender, educational attainment, entrepreneurship phase, and number of jobs created), none of which indicated significant differences. No significant correlations emerged between sustainability indices and entrepreneurs' age. These findings align with prior analyses, indicating no marked differences in sustainability attitudes between family and non-family firms. Two factors may explain these results: Hungary's market dominance by microbusinesses due to disrupted business traditions during the socialist era and GEM's focus on entrepreneurship, favouring smaller entities like sole proprietorships.

Implications for Central European audience: This study underscores the need to continuously develop sustainable business attitudes. It also offers a recent literature review, providing valuable insights for Central European researchers, corporate leaders, and family business managers.

Keywords: SDG; family entrepreneurship; GEM; sustainability
JEL Classification: M14, L26

Introduction

This study aims to enhance our understanding of family entrepreneurs' attitudes towards sustainability.

Family firms remain the predominant form of business organisation (Sharma & Sharma, 2011), comprising 60% of jobs in the European private sector (European Parliament, 2015). Family businesses are a substantial part of the economy, contributing approximately 70% of global GDP and employing 60% of the world's workforce (PwC, 2024). According to the World Economic Forum (2024), family businesses significantly impact global economic activities, contributing to about 70% of the global economy.

„Family businesses, especially multi-generational family businesses, are uniquely positioned as stewards of wealth and well-being, prioritising succession, value, and legacy with embedded purpose; family business leaders naturally take a longer-term outlook. Family businesses must embrace long-term thinking, support ESG practices, and make impact investments to enact positive changes in business morality within the market economy" (World Economic Forum, 2024).

According to the NextGen Survey, members of the next generation of business-owning families (NextGen) who are actively engaged in AI are more forward-looking in their approach to the business and more likely to be engaged in sustainability investment. The next generation of family business leaders marks not only a change in leadership but a strategic shift towards harnessing a fundamentally new technology within family-run and -owned businesses. The next generation of family business leaders holds the key to this transformation (PwC, 2024).

In 1983, the United Nations created the World Commission on Environment and Development (WCED) to study the connection between ecological health, economic development, and social equity. The commission published a report in 1987 entitled "Our Common Future", which has become the standard in defining sustainable development. That report describes sustainable development as "meeting the needs of the present without compromising the ability of future generations to meet their own needs" (WCED, 1987).

The Sustainable Development Goals (SDGs) were adopted by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030, all people enjoy peace and prosperity (United Nations, 2016).

Although many studies have focused on multiple aspects surrounding the topic of sustainability, little is known about sustainability in family businesses. This constitutes a relevant research gap as most firms in different societies are family firms (Clauß et al., 2022). Addressing this gap, a relevant research area is provided that will be relevant to further contribute to understanding sustainability in family business: family entrepreneurs' attitudes towards sustainability.

The objective of this research is to seek to answer the research question of whether the family nature of businesses affects their sustainability behaviour in the Central and Eastern Europe (CEE) context.

The paper is structured as follows: The first section reviews the relevant literature, identifies the research gap, and presents the paper's hypothesis. The methodology section describes the sample used and the analytical methods employed. The results section outlines the paper's findings. In the discussion, the key insights are explored, highlighting their policy and theoretical implications, while the conclusion addresses the limitations of the findings and suggests directions for future research.

1 Literature review

The triple bottom line (TBL) concept provides a framework for evaluating and balancing the three core dimensions of sustainable development and emphasises the simultaneous focus on economic, social, and environmental objectives (Elkington, 2018). The widely accepted definition of sustainable development by the World Commission on Environment and Development (WCED) emphasises development that meets present needs without compromising future generations' ability to meet theirs (WCED, 1987). To advance sustainable development, the United Nations General Assembly signed the Agenda 2030, comprising 17 Sustainable Development Goals (SDGs) and 169 related targets aimed at social inclusion, environmental sustainability, and economic development by 2030, stressing the importance of corporate environmental practices (United Nations, 2015). Furthermore, Agenda 2030 – acknowledging their role in productivity, inclusive growth, and job creation – explicitly calls businesses to apply their creativity and innovation towards sustainable development. The increasing focus on SDGs highlights their role in fostering economic development, employment, and environmental preservation (Dorninger et al., 2021).

Several theoretical frameworks describing family businesses suggest that these firms may be more attuned to sustainability issues. According to stewardship theory, family businesses prioritise long-term value preservation over short-term profit maximisation (Neubaum et al., 2012). Similarly, the socioemotional wealth (SEW) perspective posits that family firms emphasise sustainability more to preserve their socioemotional capital (Berrone et al., 2012). From the resource-based view (RBV), implementing sustainable practices can become a competitive advantage for family businesses, aligning with their core values and principles (Chrisman et al., 2003).

Keeping sustainability in mind is crucial yet often overlooked by businesses. Despite its importance, many companies need to invest in sustainable practices. Delmas and Gergaud (2014) observed that family ties and transgenerational control intentions in family businesses are strongly associated with adopting sustainable practices. The significance of sustainability in family businesses stems from their inherent focus on transgenerational control intentions, making it a vital issue for stakeholders. Family businesses exhibit unique, sustainable behaviours influenced by many factors, including their intrinsic long-term orientation, deep-rooted commitment to future generations and stakeholder welfare, which are less prevalent in non-family businesses (Mahto & Khanin, 2015). However, family firms might be reluctant to adopt such practices if they necessitate significant capital investment, compliance with

regulations, reliance on external resources, and potential threats to socioemotional wealth by reducing family control (Berrone et al., 2012; König et al., 2013). Nevertheless, a long-term orientation that emphasises future generations can mitigate these adverse effects by fostering a willingness to engage in sustainability practices with a forward-looking perspective (Chrisman et al., 2003; Memili et al., 2018).

However, scholarly attention to this topic in the context of family businesses was minimal until 2010. Since then, interest has surged, with nearly 80% of relevant articles published between 2015 and 2019 (Ferreira et al., 2021). Sustainability has become a pertinent and well-established topic within family business literature (Bernhard et al., 2020; Breton-Miller & Miller, 2016; Rovelli et al., 2022). Curado and Mota (2021) identified three aspects of sustainability in family firms corresponding to the triple-bottom-line approach: social inclusion, economic development, and environmental protection. Despite the burgeoning interest, research on Sustainable Development Goals (SDGs) in family businesses still needs to be developed, with limited investigations into how these firms contribute to economic development, social inclusion, or environmental sustainability through specific organisational practices (Ernst et al., 2022).

Long-term *economic development* is imperative for family businesses. A comprehensive study suggests a positive association between family ownership and sustainable business practices, particularly in regions with lower regulatory pressures (Agostino & Ruberto, 2021). Sustainability concerns in these firms often revolve around continuity, perseverance, monitoring, and control to ensure business prosperity (Lumpkin & Brigham, 2011; Memili et al., 2018). Family firms often emphasise transgenerational control and continuity, making sustainability an integral part of their strategy (Lumpkin & Brigham, 2011). Governance also plays a crucial role in the sustainability practices of family businesses. Ahn et al. (2021) highlight the importance of corporate governance in sustainable development, indicating that family involvement in top management can influence these practices. However, Bauweraerts et al. (2022) find that while green innovation positively impacts performance in family firms, high family involvement in top management teams can weaken this relationship, whereas generational involvement tends to strengthen it. Kavadis and Thomsen (2023) point out that long-term ownership may enhance sustainability. Religiosity, reputation, and image also significantly drive sustainable practices in family firms. According to Curado and Mota (2021), these factors and the CEO's and their successors' choices are crucial for adopting sustainability measures. Furthermore, sustainability practices help family businesses develop a positive community reputation and establish strong stakeholder relationships, aiding in the continuity across generations (Gómez-Mejía et al., 2007; Le Breton–Miller & Miller, 2006).

Social inclusion and social objectives include employee and stakeholder relationships, CSR activities, and local community engagement. Spanish family firms tend to serve as stable employers, potentially enhancing long-term macroeconomic stability and social welfare (Rivo-López et al., 2020). Conversely, an analysis of Belgian family firms indicates that employment within such entities may offer lower compensation and less employee training (Neckebrouck et al., 2018). López-Pérez et al. (2018) suggest that integrating the challenges posed by the Sustainable Development Goals (SDGs) into the business strategy can provide new opportunities and enhance stakeholder relationships. Some researchers focus on sustainability practices, encompassing business transparency, integrating company values in decision-making, environmental commitment, strong relationships with customers and

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suppliers, and community engagement actions aiming to bolster the firm's viability (Schmidt et al., 2018). Adomako et al. (2019) note that CSR reputation and brand value relationships are more robust in family businesses, highlighting the potential for these firms to leverage sustainability for economic benefits. Family businesses derive greater economic performance from Corporate Social Responsibility (CSR) actions than non-family businesses. Specifically, CSR positively influences economic performance, with family firms experiencing a more significant impact than non-family firms. This greater effect in family firms underscores their additional incentive to engage in CSR (Ferreira et al., 2021; Mariani et al., 2021). Niehm et al. (2008) argue that family businesses' deep-rooted ties to their communities foster a unique perspective on socially responsible behaviour, potentially leading to more robust CSR initiatives than non-family firms. These ties are linked to the overall family capital, encompassing human, social, and financial resources, significantly contributing to both short-term achievements and long-term sustainability (Danes et al., 2009). Stock et al. (2024) highlight that while research is underway regarding the impact of family businesses' CSR activities on the firm itself, relatively little is known about the effects of these activities on the family.

Environmental sustainability orientation is another critical factor, with studies showing mixed results regarding its impact on family versus non-family firms. Adomako et al. (2019) found that environmental sustainability orientation influences firm performance, but at the same time, noted that this impact is more pronounced in non-family firms and older firms. In family businesses, the long-term orientation moderates the relationship between family ownership and the adoption of sustainability practices, suggesting that family owners with a high long-term orientation are more inclined to adopt sustainable practices (López-Pérez et al., 2018). Nemes and Konczos-Szombathelyi (2023) presented the capacity expansion process and decision-making of ten Hungarian food industry family businesses for sustainable development. They concluded that all food chain participants realised that making recyclable packaging materials is essential for sustainable development.

Despite their apparent importance, more research is still needed to fully understand the determinants of sustainability practices in family firms (Adomako et al., 2019). Table 1 summarises the most relevant literature review articles on family business sustainability.

Table 1 | Summary table of the most relevant literature reviews on family business sustainability

Author(s) (year)	Source title	Type of review	Dataset	Main findings
Broccardo et al. (2019).	Corporate social responsibility and environmental management	Systematic literature review	21 articles published between 2006 and 2017	Internal corporate sustainability drivers in family firms do not have a homogeneous impact on sustainability initiatives due to the distinctiveness of these types of firms.
De Las Heras-Rosas & Herrera (2020).	Sustainability	Bibliometric (SCIMAT)	286 articles published between 2003 and 2019	Structures the SFB literature regarding three lines: factors that drive sustainability, methods or practices that favour sustainability, and factors that endanger survival

Author(s) (year)	Source title	Type of review	Dataset	Main findings
Ahn et al. (2021).	Sustainability	Bibliometric (Network analysis)	947 articles published between 1981 and 2019	Three knowledge networks of the family governance literature: keywords networks, citations networks, and authors networks
Ferreira et al. (2021).	Technological Forecasting & Social Change	Bibliometric	161 articles published between 2003 and 2019	Four thematic clusters: family business capital, family business strategy, family business social responsibility, and family business succession
Aparicio & Iturralde (2023).	European Journal of Family Businesses	Systematic literature review	180 Web of Science-indexed articles published until December 2022	Consideration of emergent sub-fields such as environmental studies and environmental sciences
Stock et al. (2024).	Journal of Business Ethics	Systematic literature review	122 peer-reviewed articles published in highly ranked journals	The results clearly show a lack of research regarding CSR outcomes in family firms. Although considered increasingly crucial in family firm research, a study investigating family outcomes (e.g., family community status, family emotional well-being) instead of firm outcomes is missing.
Domańska et al. (2023)	International Entrepreneurship Review	Systematic literature review	30 articles from the Web of Science and Scopus that address the subject of sustainability in Central-Eastern European family firms	Results reported in CEE countries are only partly consistent with the findings presented in Western literature or referenced in other economically well-developed regions.

Source: own compilation based on (Aparicio & Iturralde, 2023, p. 38)

In summary, family businesses are influenced by a complex interplay of factors that drive their sustainable behaviour, including family capital, corporate governance, environmental sustainability orientation, long-term orientation, religiosity, reputation, and strategic integration of SDGs. These elements collectively contribute to their unique approach to sustainability, distinguishing them from non-family firms and emphasising the importance of further research in this area.

The body of knowledge regarding the role of businesses in achieving sustainability is steadily expanding. However, research findings specifically addressing micro- and small enterprises remain relatively scarce despite *Agenda 2030's* explicit call for businesses of all sizes, including micro-enterprises and multinational corporations, to contribute to sustainable development (Bauweraerts et al., 2022; Herrera & De Las Heras-Rosas, 2020; United

Nations, 2016). The significant role of small and medium-sized enterprises (SMEs) in achieving sustainability goals is justified by their large numbers and crucial contribution to employment (Pomare, 2018). Furthermore, Schaltegger et al. (2018) emphasise that entrepreneurship is pivotal in driving sustainability, as transitioning to a sustainable future requires the creative destruction of unsustainable production, consumption, and living patterns.

Family businesses comprise the overwhelming majority of micro-, small-, and medium-sized enterprises. Nevertheless, the literature has not agreed on their sustainability approach. Domańska et al. (2023) also emphasise the importance of examining Central-Eastern European (CEE) countries, as their findings reveal that results from this region only partially align with those reported in Western literature or studies conducted in other economically developed regions. They underscore the need to consider the unique cultural context of CEE countries when researching to ensure a more accurate understanding of the region's specific dynamics.

Accordingly, this study explores whether family ownership and management influence the sustainability orientation of micro- and small-scale family and non-family businesses in a CEE country. Based on theories and literature describing family businesses, we believe that in the case of micro and small family firms, the values they represent and their desire for the long-term operation of the business are reflected in their approach to sustainability issues.

Thus, the following hypothesis was formed:

Firms with significant family involvement in their management and/or ownership consider sustainability issues more critical in future business decisions.

2 Methodology

The analysis is based on the Global Entrepreneurship Monitor (GEM) Adult Population Survey (APS) for 2023. The APS dataset contains at least 2,000 responses in each country and is representative of the working-age (18–64 years) population. Ensuring the countries' data harmonisation, the Global GEM team coordinates, supervises, and checks the data collection. Furthermore, the resulting data are repeatedly checked before publication, so all variables and measures reflect the standard GEM methodology (for example GEM, 2023; Reynolds et al., 2005). Although the dataset allows us to compare entrepreneurs' and non-entrepreneurs' attitudes, perceptions, and other attributes, neither of these subsamples can be considered representative. However, the most crucial benefit of using GEM data is that it collects data directly from the source: the entrepreneurs (GEM, 2024).

The GEM consortium constantly investigates special topics (e.g., female entrepreneurship, intrapreneurs, the impact of the COVID-19 pandemic, etc.). The Global Entrepreneurship Monitor Family Business Report by Kelley et al. (2020) was published as a part of this series. This special report comprised global data on the share and significance of family businesses; however, family business-related questions remained an option for national teams for the following years. In line with the university's family business research programme, the Hungarian GEM national team augmented the Hungarian APS questionnaire with the questions proposed by Kelley et al. (2020). However, as these questions are optional, there

is no comparable data from other GEM countries in 2023, so the analysis focuses exclusively on Hungary.

The three questions imply six groups (Csákné Filep et al., 2023a). When there is only one owner, it can be (1) wholly owned and managed by the respondent or (2) wholly owned by the respondent but family co-managed. Where there are multiple owners, it can be (3) co-owned or even (4) co-owned and co-managed by the family, but in some cases, (5) an independently owned enterprise is family co-managed. The sixth option is the non-family firm, when there are multiple owners and no family influence on either ownership or management. However, as item numbers in some groups were low, the six categories were merged into three (Table).

Table 2 | Number and share of enterprises in the sample by their family involvement

Description	Number (n)	%
Non-family business (no significant family ownership and/or family influence on the management)	40	11.63
Wholly owned by the respondent but not co-managed	198	57.33
Family business (co-managed and/or co-owned by the family)	107	31.04
Total	346	100.00

Source: own elaboration based on the GEM Hungary APS dataset 2023

Using seven questions, the GEM methodology investigates the entrepreneurs' attitudes and the steps taken towards sustainability (Table 3). The first three questions are about the stated attitudes of entrepreneurs towards social (*SDG_soc*), environmental (*SDG_env*), and economic (*SDG_PRI*) dimensions of sustainability. The following two questions are whether concrete actions were taken to minimise environmental impact (*SDG_steps1*) and to maximise social impact (*SDG_steps2*) over the last year. The last part of the question block concerns the Sustainable Development Goals (*SDGs*). First, the entrepreneurs are asked whether they are aware of SDGs (*SDG_aware1*), and if the answer is yes, their incorporation into the business is also asked. Three of the seven questions are measured on a five-point Likert scale, while all others are dummy variables.

Table 1 | Definitions of variables concerning sustainability in the GEM questionnaire

Variable name	Question	Scale of measurement
SDG_SOC	When making decisions about the future of your business, you always consider social implications such as access to education, health, safety, inclusive work, housing, transportation, and quality of life at work.	Likert (1–5)
SDG_ENV	When making decisions about the future of your business, you always consider environmental implications such as preservation of green areas, reduction of the emission of pollutants and toxic gases, selective garbage collection, conscious consumption of water, electricity, and fuels, etc.	Likert (1–5)
SDG_PRI	You prioritize the social and/or environmental impact of your business above profitability or growth.	Likert (1–5)
SDG_STEPS1	Have you taken any steps to minimize the environmental impact of your business over the past year?	yes/no
SDG_STEPS2	Have you taken any steps to maximize the social impact of your business over the past year?	yes/no

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Variable name	Question	Scale of measurement
SDG_AWARE1	Are you aware of the 17 United Nations Sustainable Development Goals – the 2030 agenda for sustainable development – published in 2015?	yes/no
SDG_AWARE2	Have you identified any of the goals that are a priority for your business and defined a set of clear objectives, actions, and Key Performance Indicators?	yes/no

Source: GEM methodology

Then, two complex indices were created to measure the attitudes of entrepreneurs towards sustainability using (1) all seven and (2) only the first three variables. The relationships among the variables used were tested using two methods. First, Pearson's correlations were conducted between variable pairs, showing significant correlations ($p<0.05$) in most cases. The exceptions, where no significant Pearson's correlation was found, are the two environmental (*SDG_env* and *SDG_steps1*) and the two SDG-related (*SDG_aware1* and *SDG_aware2*) variables. Then, Cronbach's alpha coefficient was calculated to determine the reliability of the questions comprising the complex indices. The coefficient value was 0.247 when all variables were used, while 0.652 when only the three variables concerning attitudes towards dimensions of sustainability were considered. Accordingly, the indicator using all seven variables should not be computed due to the lack of reliability. In the latter case, however, Cronbach's alpha is above the validity threshold (0.6). Therefore, variables concerning awareness of SDGs and steps taken to minimise environmental impact/maximise social impact were excluded from the analysis.

The three considered variables (*SDG_env*, *SDG_soc*, *SDG_pri*) were z-scored in the following step. Finally, two sustainability measures were calculated: (1) the sum of the z-scored variables showing the absolute sustainability index and (2) their arithmetic average representing the comprehensive index. The equations of the measures are as follows:

$$absolute\ sustainability\ index = zscored(SDG\_env) + zscored(SDG\_soc) + zscored(SDG\_pri) \quad (1)$$

$$comprehensive\ sustainability\ index = (zscored(SDG\_env) + zscored(SDG\_soc) + zscored(SDG\_pri)\ ) / 3 \quad (2)$$

To gain a more nuanced insight into the attitudes towards sustainability of entrepreneurs with various family-related backgrounds, the dataset was split using two demographic variables (gender, education) and two variables related to entrepreneurship (entrepreneurship phase, job numbers). The distribution of the firms by control variables and their family status is shown in Table 4. The entrepreneurs' gender and the entrepreneurship phase are dummy variables. While the first one is the biological sex of the respondent (male or female), the latter reflects the GEM methodology, namely the Total early-phase Entrepreneurial Activity (TEA) means an operating business paying wages, salaries, or any other payments to the owners for less than 42 months, while the established businesses (EB) do that for more than 42 months. In the case of educational attainment and jobs created, however, categories had to be merged to avoid conducting an analysis using insufficient item numbers. While education was recoded into three categories as follows: (1) primary or secondary education without maturity; (2) secondary education with maturity; (3) at least some tertiary education, the number of recent jobs was dummied, as almost half (48.63%) of the valid answers show 1–4 jobs, and

37.65% are solopreneurs. Thus, differentiation was made only by solopreneurs and those providing at least one job. Additionally, bivariate correlation analysis was conducted between the entrepreneurs' age and the sustainability indices, both measured continuously.

Table 4 | Share of the firms in the sample with various family involvement by control variables

Variable	Description	Non-family business	Wholly owned by the respondent but not co-managed	Family business
Gender	Male	12.67%	58.82%	28.51%
	Female	9.60%	54.40%	36.00%
	Total	11.56%	57.23%	31.21%
Education	Less than maturity	15.25%	54.24%	30.51%
	Maturity	10.48%	62.10%	27.42%
	Tertiary education	11.04%	55.21%	33.74%
	Total	11.56%	57.51%	30.92%
Entrepreneurship phase	TEA	16.84%	54.21%	28.95%
	EB	6.04%	60.40%	33.56%
	Total	12.09%	56.93%	30.97%
Number of jobs	Solopreneur	2.08%*	72.92%	25.00%
	At least one job	9.43%	57.86%	32.70%
	Total	6.67%	63.53%	29.80%

* The item number is less than five (5).

Source: GEM methodology

Using one-way analysis of variance (ANOVA), the sustainability measure of the three groups of enterprises was compared based on these two indices. All analyses were conducted in SPSS 29.

3 Results

The descriptive statistics show that one-person businesses have the lowest figures in the absolute and comprehensive sustainability index (Table 5). As the original variables were z-scored with a mean of zero, these entrepreneurs consider the three dimensions of sustainability less important than the average. Non-family businesses appear, however, to be the most concerned about sustainability issues, while family businesses have low but positive values.

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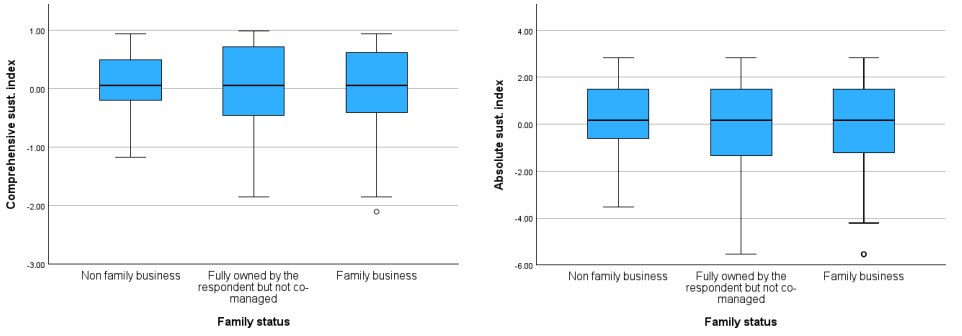
Table 5 | Descriptive statistics of calculated sustainability measures

Measure	Enterprise type	n	mean	std. deviation	95% confidence interval	
					lower bound	upper bound
Absolute sustainability index	Non-family business	40	0.364	1.721	-0.185	0.913
	Wholly owned by the respondent but not co-managed	197	-0.105	2.336	-0.433	0.223
	Family business	107	0.066	2.285	-0.372	0.503
	Total	345	0.003	2.256	-0.236	0.242
Comprehensive sustainability index	Non-family business	40	0.109	0.586	-0.078	0.296
	Wholly owned by the respondent but not co-managed	197	-0.036	0.801	-0.149	0.076
	Family business	107	0.019	0.779	-0.130	0.168
	Total	345	-0.002	0.772	-0.084	0.080

Source: own elaboration based on the GEM Hungary APS dataset 2023

Figure 1 | Boxplot graph of the two variables analysed



Source: own elaboration based on the GEM Hungary APS dataset 2023

Before ANOVA, the homogeneity of variances was tested (Figure 1). Both figures suggest that the central values (medians) and spread of data (IQRs and whiskers) are relatively consistent across groups. The presence of outliers in the "Family business" category may indicate unique characteristics or exceptional cases in this group.

The results show that variances are equal in the case of both variables analysed using a p-level of 0.05, allowing ANOVA tests to be conducted. However, the test shows no significant difference between the means of the absolute (p=0.459) or comprehensive sustainability (p=0.524) indices. Therefore, no post-hoc tests must be conducted to identify groups with significantly different values.

Accordingly, the hypothesis must be rejected; firms with significant family involvement in their management and/or ownership do not consider sustainability issues significantly more critical in their future business decisions.

The similarity of means was tested using four control variables to provide more robust results. First, the entrepreneurs' gender was considered. As in the case of the total sample, the variances are homogenous for both females and males ($p>0.05$), and the ANOVA test also did not reveal a significant difference between firms based on their family status ($p>0.05$). Second, the entrepreneurs' educational attainment was tested. The variances are homogenous ($p>0.05$) in the case of the groups (1) secondary education with maturity and (2) at least partial tertiary education for both sustainability measures, but only for comprehensive sustainability for those with primary education or secondary education without maturity. Thus, the Tamhane test was conducted in this latter case to reveal the differences among firms' sustainability indices based on their family status. However, neither ANOVA nor the Tamhane test identified significant differences between groups ($p>0.05$). Then, the phase of entrepreneurship and the number of jobs were considered. Similarly to former analyses, the variances are homogenous at 5% p-level, and no significant difference exists between groups. Finally, the correlation is also insignificant for comprehensive and absolute sustainability indices (p-values are 0.309 and 0.305, respectively). Therefore, we can conclude that there is no significant difference between the sustainability indices of firms concerning their family status, even if control variables are also considered.

4 Discussion

Contrary to expectations suggested by the literature (Neubaum et al., 2012; Delmas & Gergaud, 2014; Mahto & Khanin, 2015), the results suggest that Hungarian firms consider sustainability issues equally important irrespective of family involvement in their management and/or ownership. Some facts can explain this finding.

First, as their responses to the original questions show, entrepreneurs generally consider sustainability important. This means that 65.8% of entrepreneurs responded that they always consider the social implications (*SDG_soc*) of their business decisions, while 77.1% consider the environmental implications (*SDG_env*). On the other hand, only 21.3% and 15.6% said they do not consider social and environmental topics, respectively. Economic sustainability, namely prioritising social and/or environmental impact above profitability or growth (*SDG_pri*), is a more divisive issue, as 37.8% of entrepreneurs agreed with the statement, while 37.6% of them disagreed. It is important to emphasise that all values can be summed to 100% when, neither agree nor disagree' responses are also considered. Second, enterprises in the sample are relatively small. 42.3% of early-stage entrepreneurs have no employees, and 86.5% have a maximum of 5 employees, while 32.9% and 84.2%, respectively, in the case of established businesses. Although there is a correlation between the firm size proxied by employee number category and family involvement ($p<0.01$), this relationship is relatively weak. This result seemingly contradicts the findings of Hnilica et al. (2020), who found no significant difference in the number of employees in Czech family and non-family businesses. However, the authors claim that it may be a consequence of their sampling procedure, and additionally, their sample consists of typically larger entities. Furthermore, our analyses with control variables show that sustainability indices are similar when exclusively solopreneurs or entrepreneurs employing at least one person are

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considered. In other words, family involvement cannot significantly affect the firm's operation in the case of these small entities. Third, family businesses in CEE countries are, due to historical specificities, typically first generation, with the second generation already involved in the running of the business, but the main decision-maker still typically being the founder. The extant literature suggests that the younger generation is more open to incorporating sustainability considerations into their decision-making processes (Bauweraerts et al., 2022; Adomako et al., 2019). However, given that in CEE countries, the second generation typically does not yet occupy a decision-making position, their commitment to sustainability may not be reflected in the behaviour of their family firm.

This paper's most crucial theoretical implication is that in the case of rather small firms, family involvement in management and/or ownership does not make a difference, even if control variables, like the entrepreneurs' gender or educational attainment, or the entrepreneurship phase or jobs created, are also considered. Csákné Filep et al. (2023b) also concluded that Hungarian SMEs have similar export and innovation activity irrespective of whether they are family businesses. This finding may suggest that (1) using conventional measures is less suitable for smaller entities, and thus, more tailor-made indices should be developed; (2) as a consequence of their less formalised operation, there is no obvious pattern in the case of micro-enterprises, and thus, research should focus on a more sophisticated classification of small- and medium-sized companies. Findings of Rideg et al. (2023) also support this latter view, as larger family businesses have proved more competitive in almost all dimensions of competitiveness. These firms, however, were, on average, medium-sized companies.

Since most entrepreneurs consider the social and environmental implications of their business decisions, two policy implications are pertinent. First, greater emphasis should be placed on the economic aspects of sustainability. As economic success and environmental or social success are not mutually exclusive (Schaltegger & Synnestvedt, 2002), awareness-raising programs should be developed to help entrepreneurs find the most suitable solutions. Workshops, seminars, and lectures organised by commercial chambers could serve as effective platforms, as small group sessions allow for discussing specific and individual topics. Second, as intentions and actions can diverge, targeted incentives should be created for those entrepreneurs who are committed to sustainability-related actions but lack the resources to implement them. This approach could lead to developing more competitive enterprises and identifying best practices, which can be shared as models for other entrepreneurs.

Conclusion

The paper aimed to gain a deeper understanding of entrepreneurs' attitudes towards sustainability, considering the family's involvement in the firm's management and/or ownership. The results are based on the Hungarian GEM dataset 2023, which provides a representative sample of the Hungarian working-age (18–64) population. However, the subsample of entrepreneurs (n=345) is not representative. After analysing the reliability of the responses, only the three questions considering the attitudes toward environmental (*SDG_env*), social (*SDG_soc*), and economic (*SDG_pri*) sustainability were considered in the later analyses. Using the z-scored versions of these three variables, two indices were

calculated, measuring the absolute and the comprehensive sustainability. Although the values of the two indices slightly differ among the firm categories, the differences are not significant ($p<0.01$), so we can conclude that entrepreneurs consider sustainability issues equally important irrespective of family involvement in their management and/or ownership. This finding is supported by the analyses conducted with control variables (gender, educational attainment, entrepreneurship phase, and number of jobs created), as there is no significant difference in sustainability indices of firms with various family influences in the case of either control variable. Furthermore, the entrepreneurs' age and the sustainability indices do not correlate.

The findings, however, have two major limitations. First, as mentioned above, attitudes towards sustainability may change over time. Thus, analysing the results over a longer time can enhance their robustness. Second, smaller entities are overrepresented in the sample due to using the GEM dataset. Nevertheless, there is no significant difference between the sustainability indices of solopreneurs and those of employing at least one person. A larger sample of small- and medium-sized enterprises may further expand the understanding of the topic. This latter limitation, however, calls for further research using a more extensive, preferably also representative dataset. As the paper uses GEM data, the figure's international comparison would fully exploit the opportunity provided by the joint data collection, but using the family business question block has been optional since 2019, while those concerning sustainability have been launched in the 2020 research cycle, so it is not self-evident to find a dataset from another country with both question blocks.

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References

Adomako, S., Amankwah-Amoah, J., Danso, A., Konadu, R., & Owusu-Agyei, S. (2019). Environmental sustainability orientation and performance of family and nonfamily firms. *Business Strategy and the Environment*, *28*(6), 1250–1259. https://doi.org/10.1002/bse.2314.

Agostino, M., & Ruberto, S. (2021). Environment-friendly practices: Family versus non-family firms. *Journal of Cleaner Production*, *329*, 129689. https://doi.org/10.1016/j.jclepro.2021.129689.

Ahn, H. S., Jeong, E., & Cho, H. (2021). Toward an Understanding of Family Business Sustainability: A Network-Based Systematic Review. *Sustainability*, *13*(1), 5. https://doi.org/10.3390/su13010005.

Aparicio, G., & Iturralde, T. (2023). New Research Trends in Sustainability in Family Businesses: A Bibliometric Literature Review. *European Journal of Family Business*, *13*(1), 36–55. https://doi.org/10.24310/ejfbejfb.v13i1.16744.

Bauweraerts, J., Arzubiaga, U., & Diaz-Moriana, V. (2022). Going greener, performing better? The case of private family firms. *Research in International Business and Finance*, *63*, 101784. https://doi.org/10.1016/j.ribaf.2022.101784.

Bernhard, F., Hiepler, M., & Engel, F. X. (2020). Family Business Sustainability: The Intergenerational Transfer of Social Capital and Network Contacts. In A. Saxena Arora, S. Bacouel-Jentjens, M. Sepehri, & A. Arora (Eds.), *Sustainable Innovation: Trends in Marketing and Management* (pp. 101–132). Springer International Publishing. https://doi.org/10.1007/978-3-030-30421-8_9.

Berrone, P., Cruz, C., & Gomez-Mejia, L. R. (2012). Socioemotional Wealth in Family Firms: Theoretical Dimensions, Assessment Approaches, and Agenda for Future Research. *Family Business Review*, *25*(3), 258–279. https://doi.org/10.1177/0894486511435355.

Breton-Miller, I. L., & Miller, D. (2016). Family firms and practices of sustainability: A contingency view. *Journal of Family Business Strategy*, *7*(1), 26–33. https://doi.org/10.1016/j.jfbs.2015.09.001.

Broccardo, L., Truant, E., & Zicari, A. (2019). Internal corporate sustainability drivers: What evidence from family firms? A literature review and research agenda. *Corporate Social Responsibility and Environmental Management*, *26*(1), 1–18. https://doi.org/10.1002/csr.1672.

Chrisman, J. J., Chua, J. H., & Litz, R. (2003). A unified systems perspective of family firm performance: An extension and integration. *Journal of Business Venturing*, *18*(4), 467–472. https://doi.org/10.1016/S0883-9026(03)00055-7.

Clauß, T., Kraus, S., & Jones, P. (2022). Sustainability in family business: Mechanisms, technologies and business models for achieving economic prosperity, environmental quality and social equity. *Technological Forecasting and Social Change*, *176*, 121450. https://doi.org/10.1016/j.techfore.2021.121450.

Csákné Filep J., Radácsi L., Szennay Á., & Timár G. (2023a). *Taking initiative and earning a living – Entrepreneurial motivations and opportunity perception in Hungary*. Budapesti Gazdasági Egyetem. https://budapestlab.hu/wp-content/uploads/2023/08/GEM-BGE_beliv_2023_angol_webre.pdf

Csákné Filep, J., Radácsi, L., & Szennay, Á. (2023b). Comparing the Innovation and Export Performance of Hungarian Family and Non-Family Enterprises: Experiences Drawn from Empirical Surveys. *Administrative Sciences*, *13*(6), 146. https://doi.org/10.3390/admsci13060146.

Curado, C., & Mota, A. (2021). A Systematic Literature Review on Sustainability in Family Firms. *Sustainability*, *13*(7), 3824. https://doi.org/10.3390/su13073824.

Danes, S. M., Stafford, K., Haynes, G., & Amarapurkar, S. S. (2009). Family Capital of Family Firms: Bridging Human, Social, and Financial Capital. *Family Business Review*, *22*(3), 199–215. https://doi.org/10.1177/0894486509333424.

De Las Heras-Rosas, C., & Herrera, J. (2020). Family Firms and Sustainability. A Longitudinal Analysis. *Sustainability*, *12*(13), 5477. https://doi.org/10.3390/su12135477.

Delmas, M. A., & Gergaud, O. (2014). Sustainable Certification for Future Generations: The Case of Family Business. *Family Business Review*, *27*(3), 228–243. https://doi.org/10.1177/0894486514538651.

Domańska, A., Gryglicka, A., Martyniuk, O., Więcek-Janka, E., & Zajkowski, R. (2023). The state of the art in sustainability of Central-Eastern European family firms: Systematic literature review. *International Entrepreneurship Review*, *9*(3), 21–45. https://doi.org/10.15678/IER.2023.0903.02.

Dorninger, C., Hornborg, A., Abson, D. J., von Wehrden, H., Schaffartzik, A., Giljum, S., Engler, J. O., Feller, R. L., Hubacek, K., & Wieland, H. (2021). Global patterns of ecologically unequal exchange: Implications for sustainability in the 21st century. *Ecological Economics*, *179*, 106824. https://doi.org/10.1016/j.ecolecon.2020.106824.

Elkington, J. (2018, June 25). 25 Years Ago I Coined the Phrase "Triple Bottom Line." Here's Why It's Time to Rethink It. *Harvard Business Review*. https://hbr.org/2018/06/25-years-ago-i-coined-the-phrase-triple-bottom-line-heres-why-im-giving-up-on-it.

Ernst, R. A., Gerken, M., Hack, A., & Hülsbeck, M. (2022). Family firms as agents of sustainable development: A normative perspective. *Technological Forecasting and Social Change*, *174*, 121135. https://doi.org/10.1016/j.techfore.2021.121135.

European Parliament. (2015). European Parliament resolution of 8 September 2015 on family businesses in Europe (2014/2210(INI)). https://www.europarl.europa.eu/doceo/document/TA-8-2015-0290_EN.html.

Ferreira, J. J., Fernandes, C. I., Schiavone, F., & Mahto, R. V. (2021). Sustainability in family business – A bibliometric study and a research agenda. *Technological Forecasting and Social Change*, *173*, 121077. https://doi.org/10.1016/j.techfore.2021.121077.

GEM (Global Entrepreneurship Monitor). (2023). *Global Entrepreneurship Monitor 2022/2023 Global Report: Adapting to a "New Normal"*. London: GEM. https://gemconsortium.org/file/open?fileId=51147.

GEM (Global Entrepreneurship Monitor). (2024). *Global Entrepreneurship Monitor 2023/2024 Global Report: 25 Years and Growing*. London: GEM. https://www.gemconsortium.org/report/global-entrepreneurship-monitor-gem-20232024-global-report-25-years-and-growing.

Gómez-Mejía, L. R., Haynes, K. T., Núñez-Nickel, M., Jacobson, K. J. L., & Moyano-Fuentes, J. (2007). Socioemotional Wealth and Business Risks in Family-Controlled Firms: Evidence from Spanish Olive Oil Mills. *Administrative Science Quarterly*, *52*(1), 106–137. https://doi.org/10.2189/asqu.52.1.106.

Herrera, J., & De Las Heras-Rosas, C. (2020). Economic, Non-Economic and Critical Factors for the Sustainability of Family Firms. *Journal of Open Innovation: Technology, Market, and Complexity*, *6*(4), 119. https://doi.org/10.3390/joitmc6040119.

Hnilica, J., Uhlaner, L. M., Machek, O., Kubíček, A., Lukeš, M., Jurek, M., & Štamfestová, P. (2020). The Role of Responsible Ownership and Family in Privately Held Firms with Multiple Owners: Preliminary Findings from the Czech Republic. *Central European Business Review*, *8*(5), 1–17. https://doi.org/10.18267/j.cebr.231.

Kavadis, N., & Thomsen, S. (2023). Sustainable corporate governance: A review of research on long-term corporate ownership and sustainability. *Corporate Governance: An International Review*, *31*(1), 198–226. https://doi.org/10.1111/corg.12486.

Kelley, D., Gartner, W. B., & Allen, M. (2020). *Global Entrepreneurship Monitor Family Business Report*. Babson Park: Babson College Press. https://www.gemconsortium.org/report/20192020-global-entrepreneurship-monitor-gem-family-entrepreneurship-report-2.

König, A., Kammerlander, N., & Enders, A. (2013). The Family Innovator's Dilemma: How Family Influence Affects the Adoption of Discontinuous Technologies by Incumbent Firms. *Academy of Management Review*, *38*(3), 418–441. https://doi.org/10.5465/amr.2011.0162.

Le Breton–Miller, I., & Miller, D. (2006). Why Do Some Family Businesses Out–Compete? Governance, Long–Term Orientations, and Sustainable Capability. *Entrepreneurship Theory and Practice*, *30*(6), 731–746. https://doi.org/10.1111/j.1540-6520.2006.00147.x.

López-Pérez, M. E., Melero-Polo, I., Vázquez-Carrasco, R., & Cambra-Fierro, J. (2018). Sustainability and Business Outcomes in the Context of SMEs: Comparing Family Firms vs. Non-Family Firms. *Sustainability*, *10*(11), 4080. https://doi.org/10.3390/su10114080.

Lumpkin, G. T., & Brigham, K. H. (2011). Long–Term Orientation and Intertemporal Choice in Family Firms. *Entrepreneurship Theory and Practice*, *35*(6), 1149–1169. https://doi.org/10.1111/j.1540-6520.2011.00495.x.

Mahto, R. V., & Khanin, D. (2015). Satisfaction with Past Financial Performance, Risk Taking, and Future Performance Expectations in the Family Business. *Journal of Small Business Management*, *53*(3), 801–818. https://doi.org/10.1111/jsbm.12088.

Mariani, M. M., Al-Sultan, K., & De Massis, A. (2021). Corporate social responsibility in family firms: A systematic literature review. *Journal of Small Business Management*, *61*(3), 1192–1246. https://doi.org/10.1080/00472778.2021.1955122.

Memili, E., Fang, H. "Chevy", Koç, B., Yildirim-Öktem, Ö., & Sonmez, S. (2018). Sustainability practices of family firms: The interplay between family ownership and long-term orientation. *Journal of Sustainable Tourism*, *26*(1), 9–28. https://doi.org/10.1080/09669582.2017.1308371.

Neckebrouck, J., Schulze, W., & Zellweger, T. (2018). Are Family Firms Good Employers? *Academy of Management Journal*, *61*(2), 553–585. https://doi.org/10.5465/amj.2016.0765.

Nemes, K., & Konczos-Szombathelyi, M. (2023). Capacity Expansion for Sustainable Development in Family Businesses Recyclable Packaging Materials in Food Industry. *Chemical Engineering Transactions*, *107*, 181–186. https://doi.org/10.3303/CET23107031.

Neubaum, D. O., Dibrell, C., & Craig, J. B. (2012). Balancing natural environmental concerns of internal and external stakeholders in family and non-family businesses. *Journal of Family Business Strategy*, *3*(1), 28–37. https://doi.org/10.1016/j.jfbs.2012.01.003.

Niehm, L. S., Swinney, J., & Miller, N. J. (2008). Community Social Responsibility and Its Consequences for Family Business Performance. *Journal of Small Business Management*, *46*(3), 331–350. https://doi.org/10.1111/j.1540-627X.2008.00247.x.

Pomare, C. (2018). A Multiple Framework Approach to Sustainable Development Goals (SDGs) and Entrepreneurship. In *Entrepreneurship and the Sustainable Development Goals* (Vol. 8, pp. 11–31). Emerald Publishing Limited. https://doi.org/10.1108/S2040-724620180000008006.

PwC. (2024). *PwC's Global NextGen Survey 2024: Success and succession in an AI world*. PwC. https://www.pwc.com/gx/en/issues/c-suite-insights/nextgen.html.

Reynolds, P., Bosma, N., Autio, E., Hunt, S., De Bono, N., Servais, I., Lopez-Garcia, P., & Chin, N. (2005). Global Entrepreneurship Monitor: Data Collection Design and Implementation 1998–2003. *Small Business Economics*, *24*(3), 205–231. https://doi.org/10.1007/s11187-005-1980-1.

Rideg, A., Sipos, N., Lukovszki, L., & Varga, A. R. (2023). A magyar családi mikro-, kis- és középvállalatok erőforrás- és képességkonfigurációi. *Közgazdasági Szemle*, *70*(12), 1389–1413. https://doi.org/10.18414/KSZ.2023.12.1389.

Rivo-López, E., Villanueva-Villar, M., Vaquero-García, A., & Lago-Peñas, S. (2020). Do family firms contribute to job stability? Evidence from the great recession. *Journal of Family Business Management*, *12*(1), 152–169. https://doi.org/10.1108/JFBM-06-2020-0055.

Rovelli, P., Ferasso, M., De Massis, A., & Kraus, S. (2022). Thirty years of research in family business journals: Status quo and future directions. *Journal of Family Business Strategy*, *13*(3), 100422. https://doi.org/10.1016/j.jfbs.2021.100422.

Schaltegger, S., Beckmann, M., & Hockerts, K. (2018). Collaborative entrepreneurship for sustainability. Creating solutions in light of the UN sustainable development goals. *International Journal of Entrepreneurial Venturing*, *10*(2), 131. https://doi.org/10.1504/IJEV.2018.092709.

Schaltegger, S., & Synnestvedt, T. (2002). The link between 'green' and economic success: Environmental management as the crucial trigger between environmental and economic performance. *Journal of Environmental Management*, *65*(4), 339–346. https://doi.org/10.1006/jema.2002.0555.

Schmidt, F. C., Zanini, R. R., Korzenowski, A. L., Schmidt Junior, R., & Xavier do Nascimento, K. B. (2018). Evaluation of Sustainability Practices in Small and Medium-Sized Manufacturing Enterprises in Southern Brazil. *Sustainability*, *10*(7), 2460. https://doi.org/10.3390/su10072460.

Sharma, P., & Sharma, S. (2011). Drivers of Proactive Environmental Strategy in Family Firms. *Business Ethics Quarterly*, *21*(2), 309–334. https://doi.org/10.5840/beq201121218.

Stock, C., Pütz, L., Schell, S., & Werner, A. (2024). Corporate Social Responsibility in Family Firms: Status and Future Directions of a Research Field. *Journal of Business Ethics*, *190*(1), 199–259. https://doi.org/10.1007/s10551-023-05382-4.

United Nations. (2015). *Transforming our world: The 2030 Agenda for Sustainable Development*. https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E

United Nations. (2016). *The Sustainable Development Goals Report 2016*. https://mdgs.un.org/sdgs/report/2016/The%20Sustainable%20Development%20Goals%20Report%202016.pdf.

WCED. (1987). *Report of the World Commission on Environment and Development: Our Common Future*. https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf.

World Economic Forum. (2024, March 27). *Family business could help today's sustainability challenges*. World Economic Forum. https://www.weforum.org/agenda/2024/03/family-business-sustainability-trust/.

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