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Sustainability Practices in Australian Firms: The Effect of Family Control and the Generational Stage

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Abstract: This paper examines the effects of family control on a firm's adoption of sustainability practices, with special attention given to the heterogeneity of the family business derived from the generational stage of the company. Using a panel of 166 Australian companies listed between 2011 and 2018, we found that family businesses have lower sustainability scores compared to non-family businesses, according to the predictions of the socioemotional wealth (SEW) approach. For a subsample of family businesses, we found that multi-generational family businesses score better on sustainability than firms managed by the founders (first-generation). The SEW perspective could explain the effects of family control based on the pursuit of non-economic goals and the higher risk-aversion of family businesses. The decline in non-economic goals resulting from the ageing of the company stimulates the adoption of better sustainability practices. The generational stage of a family business could be a moderator of the relationship between family control and the adoption of sustainability practices and is a central element in explaining the disparity in the sustainability policies within family businesses.

Keywords: family control; socioemotional wealth; generational stage; sustainability



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1. Introduction

Sustainability was one of the main topics discussed during the 2020 World Economic Forum (WEF) held in Davos. The WEF has defined the guidelines of “stakeholder capitalism” as an economic system where companies respond to their shareholders as well as to society in general. Under this new paradigm, companies suffer the pressure of increasing public scrutiny and face the growing complexity derived from the diverse and often conflicting demands of the stakeholders. In this new scenario, it is critical that we understand how a company assumes its responsibility in relation to sustainability, defined as value creation for all stakeholders (i.e., customers, employees, suppliers, the environment and society).

Sustainability indicators allow companies to identify and assess the benefits of being sustainable. They also facilitate communication of their sustainability achievements to investors and to the financial markets. Most metrics focus on the performance achieved by firms in three different aspects: environmental, social and governance (ESG). Although there are mixed results, the review by [1], indicates that 78% of papers show a positive relationship between sustainability scores and performance. Additionally, investors are placing growing importance on the integration of ESG criteria in the investment process. There are a growing variety of ethical funds which only invest in those companies with high ESG indicators. Other major players such as sovereign and pension funds have also included ESG criteria for the selection of their portfolio (for example, the Government Pension Fund Global of Norway, currently the largest investment fund in the world with approximately USD 1 trillion in assets, prioritizes non-financial variables such as environmental, social and corporate governance variables in its investment philosophy).

Public authorities and regulators have been responsive to the growing relevance of sustainability practices. In Australia, the third edition of the ASX Corporate Governance

Council Principles and Recommendations, in effect since 1 July 2014, includes recommendation 7.4 stating that a listed company should disclose whether it has any material exposure to economic, environmental and social sustainability risks and, if it does, how it manages or intends to manage those risks. A well-structured corporate governance system should align the interests of all the firm's stakeholders, including the community not directly involved in the firms' economic activities but affected by them, even if it is in a loose way.

One of the major determinants of the quality of corporate governance is ownership structure. The governance of a firm is heavily dependent on who owns and manages the business. The distribution of power between the managers and the owners and among the owners themselves determines the intensity of agency conflicts that can hamper a smooth business management. Among the different forms of business ownership, family business is the most common type of economic organization [2,3]. Family firms present peculiarities that make them to behave differently to non-family businesses [4]. The existence of family bonds between the owners of the firms and/or the managers adds to the regular financial goals present in non-family firms a set of non-financial goals linked to family membership [5].

The socioemotional wealth (SEW) approach predicts that family owners take decisions that preserve SEW, seeking the best interest of the family group [6]. Moreover, [7] propose that the primary reference point for family firms is the loss of SEW derived either from the firm's failure or the loss of family control over the firm. There is a common view of family firms as conservative and stable, based on their willingness to maintain tradition and aversion towards taking risks which might jeopardize family control [8]. The focus of family owners on family goals and their reluctance to change might affect the propensity of family firms to adopt sustainability practices that attend to external stakeholders' (non-family) goals.

As family control and the possibility of the business survival consolidates, the family views on the business as a legacy to be passed on from generation to generation strengthens. The long-term orientation of a family business as it evolves over the generations requires that the business management be sustainable in a long-time horizon. Therefore, the generational stage of the family business might be a moderator of the relationship between family control and the adoption of sustainability practices.

According to the preceding arguments, it is established that the incentives of the family in control regulate the relationship of the firm with all its stakeholders, and therefore, they might have an effect over the firm's propensity to maintain high standards of sustainability. Academic literature investigating family businesses and sustainability practices is still scarce [9–11]. We aim to address this topic by analyzing if and how family control influences the adoption of environmental, social and corporate governance sustainability practices. In this analysis, we pay special attention to the role of the generational stage of the business. Our study is conducted for a sample of Australian listed firms in the period 2011–2018.

Our study makes valuable contributions to the literature on family business and sustainability. First, we specifically add to the literature on family business by considering the heterogeneity among family firms derived from the generation in control [12–16]. Over time, family groups evolve through the emergence of family branches, some of which keep ownership interests in the firms but do not work directly for the family business. As a result, these family members' identification with the whole group declines and they behave more like external investors [17]. This transition might have an influence on family decisions, including the adoption of sustainability practices.

The topic of the generation in control is of the most importance for the Australian economy since according to the KPMG 2009 survey, 81% of family firms' owners expect to be succeeded by the next generation over the next ten years, which indicates that a large proportion of family firms are either expecting or in the early stages of succession. Additionally, this study is important from the general perspective of the society that is directly or indirectly affected by entrepreneurial activities. More than ever, it becomes

relevant that citizens are aware of the sustainability practices adopted by firms so that this information can be incorporated in their investment and consumption decisions.

Our results indicate that family firms are reticent to the adoption of sustainability practices, but this reluctance remits with the evolution of the generations in control. Family firms' resistance to adopting sustainability policies is consistent with the postulates of the SEW approach and suggests that families take decisions in accordance with the maintenance of SEW linked to the firm's status quo. The role played by the generation in control also suggests that family firms behave more like non-family businesses as family control scatters through different family branches.

The rest of the paper is structured as follows. Section 2 summarizes prior literature and develops our research hypothesis. We discuss our sample and empirical framework in Section 3, while Section 4 describes our main results and robustness tests. Finally, Section 5 provides the conclusions.

2. Theoretical Framework and Hypothesis Development

Sustainability can be understood as the achievement of prosperity in a company within the context of its surrounding environment [18]. In recent years, academic discussions have emphasized the need for companies to be actively involved in sustainability practices [19]. Besides, society is demanding that companies develop business models that emphasize a sustainable development that implements the best practices of social responsibility.

From a global perspective, the prevalence of family businesses is well established [7,20–22]. In this regard, sustainability has particular importance for family businesses seeking to ensure their survival and succession [23,24]. Sustainability policies are crucial for family businesses as they are directly related to business continuity and stakeholder relations. However, not all family businesses want to adopt sustainability practices [25].

Sustainability practices constitute a commitment to the future of the business. The core of the sustainability concept is the long-term growth of the firm without the generation of imbalance in the financing and investment strategies or in the relationship with the firm's stakeholders. Focusing our attention on this last aspect of sustainability (i.e., stakeholders' relations), companies are sustainable when their culture and strategy are aligned with the protection of the environment and the well-being of their shareholders and other stakeholders of the company. In the particular case of family businesses, sustainability strategies are essential because they are closely linked to the continuity of the company, to succession and to relations with its stakeholders [25]. López-Pérez, Melero-Polo, Vázquez-Carrasco and Cambra-Fierro (2018) highlight that for a sample of 209 Spanish medium-sized enterprises SMEs, sustainability practices influence corporate reputation, brand image and company value, and these relationships are more intense for family than for non-family businesses. This result reflects the greater concern for the image and reputation of the former.

There has been extensive discussion of the potential for family businesses to take on sustainable business practices—that is, their tendency to conduct themselves in an economically, socially and environmentally responsible manner, benefiting all stakeholders and the community as a whole. Different theoretical approaches can be used to highlight the positive and negative points of family businesses in this regard. Our study builds on the SEW approach to explain how family control influences the adoption of sustainability practices, since family business behavior can be conditioned by the family's desire to protect socioemotional values [7,13].

Family businesses tend to preserve SEW, as its loss can impede the achievement of family expectations. The goal of value maximization may not be a priority, and their efforts would be directed at achieving family-centered goals such as family unity, continuity and employment of family members [7]. The choice between economic and non-economic goals makes strategic decision making in family businesses more complex, as is the case with sustainability policies [26].

2.1. The Impact of Family Ownership on the Adoption of Sustainability Practices

Researchers have dedicated great efforts to determine whether family businesses differ from non-family businesses in relation to their behavior, resource allocation and performance [27].

Although there is some evidence of the positive aspects of sustainability practices for family firms [28], not all family businesses choose to implement sustainability strategies. Kallmuenzer, Nikolakis, Peters and Zanon (2018) find that family ownership has a negative effect on the adoption of sustainability practices and that the long-term orientation of companies moderates this relationship, as family businesses with a greater long-term orientation are more likely to adopt sustainability practices compared to those without long-term orientation.

To explore this issue, we rely on the SEW approach in order to develop a theoretical framework for explaining the possible adverse (and positive) implications of family control on the implementation of sustainability practices within a corporation. The SEW approach highlights the importance of non-financial goals and emotional results for family firms, such as the survival of the company over generations, the firm's integration within society and keeping family control [29].

Sustainability policies require capital investment, compliance with rules and regulations, dependence both on resources and experts outside the family and might compromise the family's social-emotional wealth. Although family control has the legitimacy and authority to implement sustainability practices, it may forego such decisions if there is a risk to the family's social-emotional wealth by weakening family control [30,31].

Family businesses can present specific characteristics that may go against the implementation of sustainable policies [11]. The negative impact of family ownership on the adoption of sustainability practices is driven primarily by two factors: (a) the risk-averse status of family businesses and (b) and the presence of family-centered non-economic goals [25]. The low diversification of the family portfolio makes family businesses risk-averse, as is evidenced by the fact that they show lower R&D investments than non-family businesses [8]. Family values can cause distortions if they introduce non-monetary goals that are incompatible with what would be optimal decisions. Independence, tradition and continuity are some of the non-monetary motivations present in family businesses that influence business sustainability [32].

Family control can hamper sustainability practices due to "particularistic" behavior [33]. Such behavior includes, for example, considering the company as "our business" [34], the desire to perpetuate the family dynasty [35] and the need to be altruistic with respect to other family members [36]. Parsons (1968) distinguishes between particularist and universalist values. The prevalence of the first category favors internal cohesion and makes cooperation with those outside of the group more difficult. Universalist values debilitate the strength of the group membership but enable individuals to collaborate with those outside the group. Therefore, particularism promotes solidarity between group members and the segregation of those who are not. In a family business, the feeling of belonging to the family is often linked primarily to particularist values, while the need for cooperation with the wider environment requires universalist values.

On the basis of particularism, policies and decisions that differ from the strategies adopted in the past can be perceived as a transgression of the family's tradition and history and tend to face resistance from the family's owner-managers. Consequently, family owners are risk-averse and prefer proven strategies to new targets [37]. In this sense, family businesses tend to be less innovative [38]. The implementation of sustainability practices often requires a certain restructuration of the company and the acquisition of new resources [39]. Emotional ties to traditional resources allocated by the family (material and human) limit the capacity of family businesses to incorporate new technologies and human resources that are indispensable for expanding the scope of their sustainability initiatives [31].

In sum, companies where universalist values predominate are more likely to favor sustainability processes. On the contrary, if particularistic values predominate, as is the case of family businesses, it is very likely that they will have greater difficulties and reluctance to engage in sustainability practices.

Therefore, from the SEW perspective, we predict the following.

Hypothesis 1. *The adoption of sustainability practices is lower in family businesses compared to non-family businesses.*

2.2. The Differential Effect of the Generation in Control

Family businesses' features, such as the generation in control and the composition of the board of directors, may affect the firm's sustainability practices. From the SEW perspective, the goals of family members may vary among family businesses, resulting in a different emphasis on financial goals versus social-emotional goals [40]. As the generational stages evolve and the number of relatives and branches increases, family members might become less emotionally attached to the company, as the different branches may follow their respective agendas, even competing for control of the company. As a result, the weight of non-financial targets for family members decreases over the generations, while financial targets increase as family ties weaken and divergences emerge between new family branches [7,12,16,41,42]. The replacement of family common interests by financial objectives in multi-generational firms may have consequences for the implementation of sustainability practices. Since there is evidence of a positive link between sustainability practices and financial performance, it is foreseeable that multi-generational companies will make greater efforts in sustainability than firms in their first generation.

Companies that have a long-term orientation have a clear commitment to continuity, searching for and strengthening the ties with all the stakeholders and taking care of the corporate image and reputation by making decisions that promote a general positive opinion about the company. The intention to pass the business on to the next generation is an indicator of the long-term orientation of a business. The survival of the business for future generations relies on the establishment of beneficial and lasting relationships with all stakeholders, which requires building the company's reputation and incorporating the company into the community through good corporate practices [43].

The long-term orientation of a family business becomes a moderating factor of the negative effect of family control on the adoption of sustainability practices. Multi-generation family businesses are more likely to adopt sustainability practices compared to first-generation family businesses [25].

All in all, the higher relevance of financial goals in comparison to non-financial goals and the long-term orientation of multi-generational family companies suggest that these firms will make a greater effort and commitment to sustainability than first-generation family businesses. In this sense, we propose the following hypothesis.

Hypothesis 2. *The adoption of sustainability practices is higher in multi-generational family businesses compared to first-generation family businesses.*

3. Data and Sample Selection

3.1. Family Business Classification

As a first step to investigate the effect of family control on the adoption of sustainability practices, we proceeded to identify family firms within the population of ASX-listed firms. In our classification strategy, we followed the criteria adopted in prior studies such as [21,44–46]. Particularly, we defined a company as a family business in which the founding family or a member of the family group by either blood or marriage or a private individual owns at least 20% of the company's shares (minimum control) and at least one family member is an executive or board director (governance).

It is often the case that the ownership structure of the companies does not present a single majority shareholder. A firm's ownership structure is often composed of a chain of direct and indirect holdings, with shares in the hands of other firms, holding companies, family funds, etc. For this reason, when shareholders were such entities as other companies or institutional investors, we examined ownership chains to trace the ultimate individual owner. Consequently, our classification of ASX-listed firms as family or non-family firms involved many man-hours of hand collection and in-depth reviews of both ownership and board structures of all sample firms.

From the analysis of the ownership data reported in the Osiris database, we classified a firm as family-controlled if the largest shareholder was "one person or a group of family-related people" with a shareholding above 20%. When the ownership was shared by a group of individuals who accumulated a combined majority share of at least 20%, we analyzed the relationship between the individuals in order to determine whether there was any family bond between them. The usual practice to determine a family relationship is to match their surnames. We excluded companies that do not provide enough information to classify them either as family or non-family businesses, such as missing information on the board of directors or ownership and management structures. We also excluded companies where ownership is evenly split between a man and a woman without information about their marital status and firms belonging to several family groups.

3.2. Sample and Databases

Our initial sample consisted of 1445 firm-year observations on 257 non-financial and non-utility ASX-listed firms between 2011 and 2018 for which we have ESG scores. We eliminated 220 observations corresponding to 61 companies for which the data of their ownership and board structures were not complete or did not allow the classification of the firm into the category of either family or non-family business. Finally, we eliminated firms for which we did not have financial data or market values, leaving us with a final sample of 1141 firm-year observations corresponding to 166 companies.

The ESG scores were obtained from the consulting firm Sustainalytics. All data relating to the firm's board structure are from the Connect4 Boardroom database. The ownership structures of the sample firms were consulted in the Osiris database provided by Bureau Van Djick. The data on the companies' age were consulted from the Morning Star and Osiris databases. Finally, the financial and market data which were used to determine the size of the company, its profitability, leverage, investment and growth opportunities came from Capital IQ.

3.3. Measurement of Variables

Our paper analyzes the relevance of family control on firms' sustainability performance, with specific attention to the social, corporate governance and the environmental components of the firms' sustainability practices.

The dependent variable is the natural logarithm of the firm's weighted ESG score, provided by the consulting firm Sustainalytics. We have considered the total score (TOTAL_ESG), the environment score (ENVIRONMENT), the corporate governance score (GOVERNANCE) and the social score (SOCIAL). The ESG scores range from 0 to 100, with low (high) values indicating poor (strong) sustainability performance.

We analyzed the effects of family control (see Section 3.1 for a description of the criteria followed for the classification of family firms), with specific consideration of the effect from the generation in control. Family control of the firms was captured by a binary variable that takes the value of one if the firm is family-controlled and zero otherwise (FAMILY). The generation in control (first generation vs. second generation and beyond) is proxied by a binary variable that takes the value of one if the firm is in its second generation or beyond (firm's age is above 30 years) and zero otherwise (MULT-GEN). If SEW declines in second and subsequent generations of control, we expect this variable to relate positively to sustainability performance.

We included a set of eight control variables for board structure and other firm characteristics considered to influence sustainability practices. Particularly, we controlled three elements of the board structure: board size (BD SIZE), the proportion of non-executive directors (BD NON EXEC) and CEO duality (EXEC-CHAIR). BD SIZE is the natural logarithm of the number of board directors, while BD NON EXEC is the number of non-executive directors scaled by board size, and EXEC-CHAIR is a binary variable that takes the value of one if the CEO is also the chair of the board of directors and zero otherwise. Five other firm-specific controls included firm size (SIZE = natural logarithm of total annual revenue), profitability (ROA = the ratio of earnings before interest payments and income taxes to total assets), leverage (LEVERAGE = total liabilities over total assets ratio), investment (CAPEX = the ratio of annual capital expenditure to the book value of total assets) and growth opportunities (MKTBOOK = equity market to book ratio). Table 1 presents the definitions of all variables used in this study.

Table 1. Definition of variables.

TOTAL_ESG	Firm's historical weighted ESG score.
GOVERNANCE	Corporate governance component of the firm's historical weighted ESG score.
SOCIAL	Social component of the firm's historical weighted ESG score.
ENVIRONMENT	Environmental component of the firm's historical weighted ESG score.
FAMILY	A binary variable which equals one if the firm is classified as family-controlled and zero otherwise.
MULT-GEN	Binary variable that takes the value one if the firm is in second generation or beyond (firm's age is above 30 years) and zero otherwise.
BD-SIZE	Napierian logarithm of the number of board members.
BD NON EXEC	Proportion of board non- executive directors.
EXEC-CHAIR	Binary variable that takes the value one if the Board is chaired by an executive director and zero otherwise.
CAPEX	Ratio of annual capital expenditure to the book value of total assets.
MKTBOOK	Ratio of market capitalization to book value of equity.
SIZE	Napierian logarithm of the firm's book value of total revenue.
ROA	The ratio of Earnings Before interests and taxes EBIT to total assets.
LEVERAGE	The ratio of book value of total liabilities to total assets.

3.4. Descriptive Statistics and Correlations

Table 2 shows the descriptive statistics of the variables in the study and the differences in means of the dependent variables between the subsamples defined by our variables of interest (i.e., family versus non-family firms and first versus multi-generational family firms). Table 3 displays the Pearson coefficients of pairwise correlations.

Table 2. Descriptive statistics (scores are not log-transformed).

Descriptive Statistics						
Variable	Obs	Mean	Median	Std. Dev.	Min	Max
TOTAL ESG	1141	57.23112	55.8325	8.869265	36	86.654
GOVERNANCE	1141	65.34236	65.8	9.612679	40	92.74667
SOCIAL	1141	56.96904	55.75	10.34206	28	91
ENVIRONMENT	1141	51.82766	50	11.85059	30	94.33333
FAMILY	1141	0.2979842	0	0.4575731	0	1
MULT-GEN	1141	0.6213848	1	0.4852547	0	1
BD-SIZE	1141	2.091881	2.079442	0.2840051	1.386294	2.833213
EXEC CHAIR	1141	0.1086	0	0.3113	0	1
BD NON EXEC	1141	0.7657	0.8	0.1181	0.3333	1
CAPEX	1141	−0.0785183	−0.045607	0.0992521	−0.6851692	0
MKTBOOK	1141	3.155315	1.412008	14.63775	−1.417922	302.983
SIZE	1141	7.312531	7.355129	1.56044	−0.2648644	10.30225

Table 2. Cont.

Descriptive Statistics						
Variable	Obs	Mean	Median	Std. Dev.	Min	Max
ROA	1141	0.0645502	0.0774838	0.1644496	−1.955937	0.440755
LEVERAGE	1141	0.620978	0.3516566	2.171497	−21.97338	19.48929

Differences in environmental, social and governance (ESG) scores between family and non-family firms and first and second generation family firms

	Family Firms	Non-Family	Diff	t	First Gen Family Firms	Second Gen Family Firms	Diff	t
TOTAL ESG	55.7	57.88	−2.18	(−3.83)	52.93	57.09	−4.16	(−4.28)
GOVERNANCE	65.07	65.45	−0.38	(−0.61)	62.96	66.14	−3.18	(−3.01)
SOCIAL	54.73	57.91	−3.18	(−4.80)	52.52	55.85	−3.33	(−3.02)
ENVIRONMENT	49.93	52.62	−2.69	(−3.53)	46.29	51.78	−5.49	(−4.27)

Table 3. Correlation matrix (variables in the regressions).

	TOTAL_ESG	GOVERNANCE	SOCIAL	ENVIRONMENT	FAMILY	MULT-GEN	BD-SIZE	BD NON EXEC	EXEC CHAIR	CAPEX	MKTBOOK	SIZE	ROA	LEVERAGE
TOTAL ESG	1.00													
GOVERNANCE	0.66***	1.00												
SOCIAL	0.87***	0.43***	1.00											
ENVIRONMENT	0.85***	0.36***	0.59***	1.00										
FAMILY	−0.12***	−0.02	−0.14***	−0.11***	1.00									
MULT-GEN	0.20***	0.24***	0.07*	0.22***	0.05	1.00								
BD-SIZE	0.25***	0.23***	0.09**	0.30***	0.06*	0.24***	1.00							
BD NON EXEC	0.36***	0.39***	0.27***	0.26***	−0.07*	0.17***	0.07*	1.00						
EXEC CHAIR	−0.24***	−0.30***	−0.20***	−0.14***	0.15***	−0.10***	−0.02	−0.31***	1.00					
CAPEX	0.11***	0.29***	0.02	0.04	0.08**	0.16***	0.17***	0.14***	−0.11***	1.00				
MKTBOOK	−0.12***	−0.08**	−0.12***	−0.10***	−0.02	−0.08**	−0.11***	−0.07*	0.05	−0.11***	1.00			
SIZE	0.45***	0.40***	0.29***	0.45***	0.03	0.34***	0.55***	0.28***	−0.18***	0.27***	−0.34***	1.00		
ROA	−0.03	0.08**	−0.06*	−0.06	0.08*	0.09**	0.03	−0.01	−0.03	0.24***	−0.17***	0.19***	1.00	
LEVERAGE	−0.02	0.03	−0.04	−0.03	0.07*	0.08**	0.02	0.00	−0.03	−0.02	−0.07*	0.04	0.03	1.00

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

The average annual total ESG score is 57.23 for the total sample while the average scores for the subsamples of family and of non-family firms are 55.7 and 57.88, respectively. This −2.18 difference is statistically significant. When we go into the details of the ESG components, we observed that the social and environmental elements of the ESG score present statistically higher values for the subsample of non-family firms. The higher values of the ESG score for non-family firms is consistent with the notion that family firms focus on family-specific aims that are at odds with the interests of external stakeholders. The average values of the total ESG scores for first- and multi-generational family firms are 52.93 and 57.09, respectively, with a negative and statistically significant difference of −4.16. We also observed negative and statistically significant differences between first-generation and multi-generational family firms for the corporate governance, the social and the environmental ESG sub-scores. These results suggest that with the passing of generations, family firms become less focused on specific family goals and more attentive to their relations with the external stakeholders.

On average, 29% of our sample firms were family-controlled. This value is higher than the same reported by Saleh, Halili, Zeitun and Salim (2017), which was 22.45% for the 1998–2007 period and 24.54% for the 2008–2010 period. This small difference might be attributable to differences in the sample size—677 ASX firms in their case and 166 in ours. As for the companies' age, 62% of the sample firms were older than 30 years, which, in the case of family firms, we classified as firms in second generation or beyond. The proportion of firms above 30 years old was slightly higher for family firms (66.17%) in comparison to non-family firms (60.42%), although this difference of 5.75% is not statistically significant at conventional levels.

We observe, in Table 3, significant negative correlations between family control on the one side and the total ESG score, the social ESG sub-score and the environmental ESG sub-score on the other side. This result provides support to the negative impact of SEW concerns on the relationship of the family in control with external stakeholders. We also found positive correlations between the binary indicator of multi-generational firms and all ESG scores. These positive correlations suggest an increasing interest of the family in control on the external stakeholders' goals as family ties and common non-financial goals weaken through the evolution of family generations.

4. Empirical Method and Results

4.1. Empirical Methodology

The following regression equation was used to test our hypotheses on the effect of family control and firms' generational stage on the firms' sustainability practices:

$$SUSTAIN_{i,t} = \alpha_j + \beta_1 (FAMILY|MULTI - GEN)_{i,t} + \sum_{i=1}^8 \mu_i (CONTROLS)_{i,t} + \sum_{t=2009}^{2018} \gamma_t (YEAR)_t + \sum_{k=1}^{12} \delta_k (INDUSTRY)_k + \epsilon_{i,t} \quad (1)$$

where subscript i denotes individual firms and subscript t represents the time period ($t = 2009, 2005, \dots, 2018$). The coefficients α , β , μ , γ and δ are the parameters to be estimated, while ϵ is a disturbance term. The dependent variables represented by SUSTAIN are the logarithmic transformation of total ESG score and its social, governance and environmental sub-scores. Our key proxies of family control and generational stage are FAMILY and MULT-GEN, respectively, which are indicators of family control and multi-generational firm. CONTROLS comprises a total of eight variables, as discussed in Section 3.3. In addition, year dummies (YEAR) and two-digit GICS industry dummies (INDUSTRY) are used to control for time fixed-effects and industry fixed-effects, respectively.

4.2. Main Results

In this section, we discuss the main results for the analysis of the effects of family control and the generation in control on a firm's sustainability practices in the Australian market.

Table 4 shows the regression results for Equation (1) predicting the firm's ESG score. We obtained negative coefficients for the variable indicating family control across all columns. These coefficients are statistically significant for columns 1 and 5, estimating total ESG score, for columns 3 and 7, estimating social ESG sub-score, and for columns 4 and 8, estimating the environmental ESG sub-score. Given that the dependent value is log-transformed, the exponential of the coefficient informed of the expected increase over the geometric average derived from family control. The coefficient in column 1 indicates that family control is associated to a 1.73% decrease in the value of the total ESG, which accounts for a reduction of 0.98 score points derived from family control. The coefficients in columns 3 and 4 indicate a 3.4% and 1.9% decrease in the social and environmental scores derived from family control, respectively. These percentages decrease over the geometric average, accounting for a reduction of 2.19 and 1.08 points in these scores. These results strongly support our hypothesis H1, indicating that the adoption of sustainability practices is weaker in family firms than in non-family firms.

Table 4. Regression results: the effect of family control on sustainability. Regression results of ESG scores on family control and firms' generational stage. This table presents the pooled-OLS estimates of Equation (1), predicting ESG scores. The dependent variables are the total ESG weighted score (TOTAL ESG), the corporate governance component of the ESG score (GOVERNANCE), the social component of the ESG score (SOCIAL) and the environmental component of the ESG score (ENVIRONMENT). All scores are log-transformed. FAMILY is a binary variable that takes the value one if the firm is family-controlled and zero otherwise. MULT-GEN is a binary variable that takes the value one if the firm is in its second generation or beyond (firm's age is above 30 years) and zero otherwise. BD NON EXEC is the proportion of board non-executive directors. BD SIZE is the Napierian logarithm of the number of board directors. EXEC-CHAIR is a binary variable that takes the value one if the Board is chaired by an executive director and zero otherwise. CAPEX is the ratio of annual capital expenditure to the book value of total assets. MKTBOOK is the ratio of market capitalization to book value of equity. SIZE is the Napierian logarithm of the firm's book value of total revenue. ROA is the ratio of Earnings Before Interests and Taxes EBIT to total assets. LEVERAGE is the ratio of book value of total liabilities to total assets. All models include two-digit Global Industry Classification Standard GICS industry codes and year dummy variables. Levels of significance are indicated by *, ** and *** for 10%, 5% and 1%, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	TOTAL ESG	GOVERNANCE	SOCIAL	ENVIRONMENT	TOTAL ESG	GOVERNANCE	SOCIAL	ENVIRONMENT
FAMILY	−0.0175 ** (−2.24)	0.0011 (0.12)	−0.0345 *** (−3.61)	−0.0196 * (−1.69)	−0.0427 *** (−3.05)	0.0045 (0.29)	−0.0789 *** (−4.60)	−0.0497 ** (−2.39)
MULT-GEN					−0.0016 (−0.16)	0.0220 ** (2.04)	−0.0310 ** (−2.58)	0.0191 (1.31)
FAMILY *MULT-GEN					0.0370 ** (2.13)	−0.0064 (−0.34)	0.0668 *** (3.14)	0.0427 * (1.66)
BD SIZE	0.0457 *** (3.13)	0.0269 * (1.69)	0.0202 (1.13)	0.0913 *** (4.22)	0.0443 *** (3.04)	0.0262 (1.64)	0.0189 (1.06)	0.0889 *** (4.12)
BD NON EXEC	0.2523 *** (7.89)	0.2792 *** (7.99)	0.2070 *** (5.29)	0.2742 *** (5.79)	0.2505 *** (7.80)	0.2706 *** (7.70)	0.2154 *** (5.49)	0.2635 *** (5.54)
EXEC-CHAIR	−0.0385 *** (−3.29)	−0.0858 *** (−6.69)	−0.0431 *** (−3.00)	0.0129 (0.74)	−0.0341 *** (−2.87)	−0.0861 *** (−6.63)	−0.0356 ** (−2.46)	0.0184 (1.05)
CAPEX	−0.0279 (−0.69)	0.1207 *** (2.72)	−0.0725 (−1.46)	−0.0714 (−1.18)	−0.0308 (−0.75)	0.1077 ** (2.41)	−0.0601 (−1.20)	−0.0878 (−1.45)
MKTBOOK	0.0004 (1.56)	0.0009 *** (3.19)	0.0000 (0.15)	0.0005 (1.28)	0.0004 (1.55)	0.0008 *** (2.98)	0.0001 (0.38)	0.0004 (1.14)
SIZE	0.0359 *** (11.20)	0.0317 *** (9.04)	0.0273 *** (6.95)	0.0526 *** (11.07)	0.0361 *** (10.59)	0.0291 *** (7.80)	0.0310 *** (7.44)	0.0503 *** (9.98)
ROA	0.0083 (0.37)	0.0152 (0.62)	0.0358 (1.29)	−0.0239 (−0.71)	0.0054 (0.24)	0.0150 (0.61)	0.0316 (1.14)	−0.0280 (−0.84)
LEVERAGE	−0.0001 (−0.06)	0.0006 (0.36)	−0.0006 (−0.30)	0.0002 (0.08)	0.0000 (0.01)	0.0002 (0.15)	0.0001 (0.05)	−0.0000 (−0.01)
CONSTANT	3.6063 *** (91.29)	3.6917 *** (85.44)	3.7692 *** (77.87)	3.3216 *** (56.71)	3.6076 *** (89.17)	3.7129 *** (83.87)	3.7437 *** (75.69)	3.3438 *** (55.83)
Total obs.	1141	1141	1141	1141	1141	1141	1141	1141
Adjusted R2	0.468	0.363	0.436	0.466	0.470	0.364	0.441	0.470
F-statistics	28.91	19.02	25.51	28.61	27.64	18.20	24.65	27.55
p-value	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

As for the effect of the generational stage of the family firms, we obtained positive and statistically significant coefficients for the interaction terms of the binary multi-generational indicator (MULT-GEN) and the dummy variable indicating family control (FAMILY) in columns 5, 7 and 8. The coefficients obtained in column 5 indicate that family firms in the first generation experience a 4.2% lower total ESG score compared to non-family firms of similar ages. The positive 0.037 coefficient of the interaction term (FAMILY*MULT-GEN) indicates that this effect is attenuated for family firms in the second generation. The effect of family control remains negative for multi-generational family firms, but only by a meagre −0.5%. We documented 7.6% and 4.8% decreases in social and environmental scores linked to family control in firms' first generation. The effects for family control in multi-generational firms remain negative, although much attenuated. The size of the coefficients on the family dummy and its interaction with the multi-generational indicator reveal that family control in multi-generational firms is linked to 1.2% and 0.7% decreases in social and environmental scores, respectively. These results provide support to our hypothesis H2, indicating that the adoption of sustainability practices is stronger in multi-generational family firms than in first-generation family firms.

4.3. Robustness Tests

In this section, we present robustness checks using alternative methods and alternative definitions of the variables analyzed. In order to address endogeneity concerns, we have used propensity score matching (PSM). We compared the mean values of the firms' sustainability scores for matched samples after controlling for confounding factors that might systematically affect the adoption of sustainability practices. Panel A of Table 5 displays the covariate balance across family firms (treatment group) and non-family firms (comparison group) before and after matching, and panel B shows the difference in means of sustainability scores between these groups of firms.

Table 5. Results for treatment effect analysis using propensity score matching: Effect of family control (FAMILY). Average differences in ESG scores, between family and non-family firms based on matched samples from propensity score matching analysis (PSM) using nearest neighbor and kernel matching strategies. This table presents the covariate balance across treatment (family firms) and comparison (non-family firms) groups before and after matching and the average differences in the total ESG weighted score (TOTAL ESG), the corporate governance component of the ESG score (GOVERNANCE), the social component of the ESG score (SOCIAL) and the environmental component of the ESG score (ENVIRONMENT) for the original sample and matched samples obtained from PSM analysis. BD NON EXEC is the proportion of board non-executive directors. BD SIZE is the Napierian logarithm of the number of board directors. EXEC-CHAIR is a binary variable that takes the value one if the Board is chaired by an executive director and zero otherwise. CAPEX is the ratio of annual capital expenditure to the book value of total assets. MKTBOOK is the ratio of market capitalization to book value of equity. SIZE is the Napierian logarithm of the firm's book value of total revenue. ROA is the ratio of EBIT to total assets. LEVERAGE is the ratio of book value of total liabilities to total assets. Levels of significance are indicated by *, ** and *** for 10%, 5% and 1%, respectively.

Covariate balance across treatment and comparison groups before and after matching												
Outcome Variables	Original Sample (Mean)				Nearest-Neighbor Matched Sample (Mean)				Kernel-Matched Sample (Mean)			
	Treated	Controls	Difference	t Stat	Treated	Controls	Difference	t Stat	Treated	Controls	Difference	t Stat
BD SIZE	2.1199	2.08	0.0399 **	[2.18]	2.1177	2.1008	0.0169	[0.78]	2.1199	2.1087	0.0112	[0.53]
BD NON EXEC	0.75238	0.77148	-0.0191 **	[-2.5]	0.75349	0.77133	-0.01784 *	[-1.96]	0.75238	0.76708	-0.0147	[-1.63]
EXEC-CHAIR	0.17941	0.07865	0.10076 ***	[5.05]	0.16766	0.11634	0.05132 *	[1.9]	0.17941	0.15294	0.02647	[0.93]
CAPEX	-0.06569	-0.08397	0.01828 ***	[2.85]	-0.06488	-0.06103	-0.00385	[-0.66]	-0.06569	-0.06215	-0.00354	[-0.59]
MKTBOOK	2.6678	3.3623	-0.6945	[-0.73]	2.6872	2.342	0.3452	[0.53]	2.6678	2.4326	0.2352	[0.39]
ROA	7.3764	7.2854	0.091	[0.9]	7.3648	7.4728	-0.108	[-0.99]	7.3764	7.4201	-0.0437	[-0.4]
LEVERAGE	0.85155	0.52311	0.32844 **	[2.34]	0.86789	0.59439	0.2735 *	[1.7]	0.85155	0.66606	0.18549	[1.25]
Average treatment effect on the treated.												
Outcome Variables	Original Sample (Mean)				Nearest Neighbor Matched Sample (Mean)				Kernel Neighbor Matched Sample (Mean)			
	Treated	Controls	Difference	t Stat	Treated	Controls	Difference	t stat	Treated	Controls	Difference	t Stat
TOTAL ESG	4.0083	4.0471	-0.0388 ***	[-3.99]	4.01	4.0517	-0.0417 ***	[-4.13]	4.0083	4.0473	-0.039 ***	[-3.01]
GOVERNANCE	4.1647	4.1701	-0.0054	[-0.55]	4.1665	4.1798	-0.0133	[-1.32]	4.1647	4.1875	-0.0228 *	[-1.77]
SOCIAL	3.987	4.043	-0.056 ***	[-4.85]	3.9884	4.0437	-0.0553 ***	[-4.68]	3.987	4.0338	-0.0468 ***	[-3.05]
ENVIRONMENT	3.8864	3.9381	-0.0517 ***	[-3.59]	3.8882	3.9437	-0.0556 ***	[-3.76]	3.8864	3.9313	-0.0449 **	[-2.3]

We used the nearest neighbor and kernel matching strategies to form the comparison groups. Our results in panel A show that the balancing of the matching is correct, with both strategies generating non-statistically significant differences between family and non-family firms at conventional levels between the covariates that could act as confounding factors. Our PSM nearest neighbor and kernel results show that the average values of the total ESG, social and environment average scores are lower for the group of family firms than those for the comparison group of non-family firms. Additionally, the kernel-matched samples provide some indication of a negative and partially significant difference between the corporate governance score of family and non-family firms. Consequently, the results for family control are in line with those shown in Table 4. Altogether, the difference in means of ESG scores from matched samples provides further support to hypothesis H1 and confirms our results from the regression analysis in Table 4.

We also performed regressions of Table 4 using the matched samples derived from the nearest-neighbor matching strategy. Regressions results are shown on Table 6. Columns

5. Discussion and Conclusions

The adoption of sustainability practices as part of a company's strategy is vital to ensure its long-term survival, strengthen its image and comply with regulatory requirements. However, the implementation of sustainability policies can mean a significant shift in a company's business management model. Family control and the existence of non-economic interests within a family could generate differences in the adoption of sustainability practices between family and non-family businesses. In addition, the heterogeneity of family businesses resulting from the generation in control might shift the balance of power and control in the company and could, therefore, also affect its sustainability strategy. Our study tackles both issues and contributes, on the one hand, to the literature on the heterogeneity of family businesses and, on the other hand, to the literature on business development based on sustainability.

This paper examines the differences between family businesses and non-family businesses in the adoption of sustainable practices for a sample of Australian listed companies. It also explores if multi-generational family businesses score better on sustainability than those managed by the founders (first generation). Our results provide new evidence that family businesses have lower sustainability scores in accordance with the predictions of the SEW approach. The SEW approach points out that non-financial goals such as the survival of a company through the generations, integration of the company into society and the maintenance of family control [29] are of high relevance for family businesses management. Family businesses may not implement sustainable practices if the socioemotional wealth of the family is put at risk by weakening family control [31].

In addition, our results indicate that multi-generational family businesses are more sustainable than first-generation businesses, suggesting that the long-term orientation of the former has a positive impact on the implementation of sustainability policies. The relevance of non-financial goals that influence family decisions changes with the age of the company [16]. Our findings show that as family firms evolve over multiple generations, family businesses act more like non-family firms in the adoption of more sustainable practices. In short, we note that the gradual professionalization linked to the ageing of family businesses leads to a weakening of the socioemotional objectives that differentiate the management of family businesses from non-family businesses. These results point to the fact that family businesses cannot be conceived as a homogeneous category and that the specific factors that differentiate family control from other types of control evolve over time.

Our study contributes to the literature on family businesses in two ways. First, our results contribute to a better understanding of family control in the adoption of sustainability practices. By considering the heterogeneity of family businesses resulting from their generational stage, we can explain, within the framework of the SEW approach's perspective, the different influence of family control on the adoption of sustainability practices. We also consider the age of the family business to be a moderating factor for the effects of family control. Secondly, our results provide additional support for the SEW approach. The SEW perspective, by examining the development of non-financial and financial goals pursued by family members, provides a valid explanation of the dynamics observed in the sustainability policies of family businesses.

We recognize several limitations in the study that moderate the scope of the results obtained and, at the same time, suggest possible lines of future research. The intrinsic difficulty of building a database of family businesses from several countries under a single set of classification criteria made us focus our attention on a single country. We chose Australia because this market has shown a period of economic growth and stability despite periods of recession resulting from the global financial crisis experienced in most developed countries. Therefore, our results are relatively unaffected by this external shock, but at the same time, this situation could make it difficult to extrapolate them to other markets with different regulations and business culture.

A second limitation lies in the fact that we only used quantitative data in our analysis. A qualitative approach could provide an interesting insight into family dynamics and the importance of non-financial objectives pursued by family members in the management of a company. Consideration of these qualitative aspects could lead to a deeper understanding of the heterogeneity among family businesses and their influence on the adoption of sustainable practices. These two limitations open up possible future lines of research to advance our knowledge of the theory and practice of family businesses.

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