FAMILY MANAGEMENT AND FAMILY GUARDIANSHIP: GOVERNANCE EFFECTS ON FAMILY FIRM INNOVATION STRATEGY

Louise Scholes (Corresponding author)
Director, Institute for Innovation and Entrepreneurship
Loughborough University London

Mathew Hughes
Professor of Entrepreneurship and Innovation
School of Business and Economics
Loughborough University

Mike Wright
Imperial College London Business School

Alfredo De Massis
Professor of Entrepreneurship and Family Business
Free University of Bozen-Bolzano, School of Economics & Management and Centre for Family Business Management
and
Lancaster University Management School (UK)

Josip Kotlar
Associate Professor
School of Management
Politecnico Milan

Accepted for publication in the ***Journal of Family Business Strategy***.

If you need to cite please cite as:
Scholes L., Hughes M., Wright M., De Massis A., Kotlar J. (2020). Family management and family guardianship: Governance effects on family firm innovation strategy. *Journal of Family Business Strategy*, In press.

FAMILY MANAGEMENT AND FAMILY GUARDIANSHIP: GOVERNANCE EFFECTS ON FAMILY FIRM INNOVATION STRATEGY

ABSTRACT

Drawing on agency and stewardship theories, we examine how two dimensions of family governance influence family firm innovation strategy. Specifically, we differentiate between the effects of Family Management (family CEO, family managerial involvement, and next-generation involvement in the business) and Family Guardianship (trustees and family council) and study their effects on explorative and exploitative modes of innovation strategy. Our analysis of unique survey data from 328 UK private family firms shows that specific dimensions of Family Management (next-generation involvement) and Family Guardianship (the existence of a family council) are significantly positively associated with exploration. Exploitation, however, is positively associated with next-generation involvement only. These findings answer calls to theorize and empirically examine the heterogeneity of family firms' innovation modes. These findings further respond to calls to better understand the relationship between governance and behavior, advancing scholarly debate at the intersection of agency and stewardship, family governance, and innovation.

Key Words: family firm, family governance, innovation, next generation, family council, trustees, exploration, exploitation, innovation strategy

INTRODUCTION

Innovation is the lifeblood of family firms, without which pioneering competitors will obsolete their products and services (Calabrò, Vecchiarini, Gast, Campopiano, De Massis, & Kraus, 2018; Hu & Hughes, 2020; Konig, Kammerlander, & Enders, 2013). However, existing literature largely suggests that family firms have lower innovation capabilities (Sciascia, Nordqvist, Mazzola, & De Massis, 2015), are less willing to innovate (Chrisman, Chua, De Massis, Frattini, & Wright, 2015), invest less in innovation (Röd, 2016), typically innovate less than non-family firms (Llach & Nordqvist, 2010; cf. Duran, Kammerlander, Van Essen, & Zellweger, 2016), avoid endangering family wealth (Hu & Hughes, 2020) and rely on innovation that is more incremental (exploitation) than radical (exploration) (De Massis, Frattini, Pizzurno & Cassia, 2015). Still, family firms are ubiquitous (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1999) and display performance comparable to non-family firms (Anderson & Reeb, 2003), suggesting differences in innovation strategy that we know little about. This heterogeneity could be due to two aspects: first, the mode of innovation strategy (i.e., exploration or exploitation), and second, the role of family firm governance.

First, very few studies distinguish between modes of family firms' innovation strategies (Calabrò et al., 2018; De Massis, Di Minin, & Frattini, 2015; Hu & Hughes, 2020), hence this emerges as a prominent direction to deepen current understanding of the relationship between governance and innovation behavior (Madison, Holt, Kellermanns, & Ranft, 2016; Miller, Wright, Le Breton-Miller, & Scholes, 2015). Exploration requires creativity and experimentation to generate new products and services, whereas exploitation hones existing products and services for higher quality and cost efficiencies (Hughes, Filser, Harms, Kraus, Chang, & Cheng, 2018). Second, family governance defines the firm's authority structure, incentives, and accountability norms. Several scholars have argued that family governance dimensions are *behavior-directing* (Carney, 2005; Eisenhardt, 1989; Chrisman, Sharma, Steier,

& Chua, 2013; Madison et al., 2016) and have the potential to play a pivotal role in family firm innovation strategy (Chrisman et al., 2015; De Massis, Kotlar, Frattini, Chrisman & Nordqvist, 2016). However, this relationship is still poorly understood, primarily because existing research has not yet fully tackled the heterogeneity of family firms' governance structures (e.g., Arzubiaga, Kotlar, De Massis, Maseda, & Iturralde, 2018; Sciascia et al., 2015). Different dimensions of family governance have the potential to create disparities in family firm innovation strategy because the explicit and implicit control each can implant direct and regulate behavior (Carney, 2005; Madison et al., 2016; Miller et al., 2015). However, the separate effects of different family governance dimensions on modes of innovation strategy are unknown. Evidence that family firms underutilize external governance sources such as councils and trustees corroborates this view (Scholes & Wilson, 2014; Wright, De Massis, Scholes, Hughes, & Kotlar, 2016), and a spectrum of governance dimensions can attenuate non-traditional agency problems in the family firm with increased stewardship (Madison et al., 2016). Uncovering the effects of multiple dimensions of family firm governance can add much to our understanding of heterogeneity in family firm innovation strategy (Calabrò et al., 2018; Hu & Hughes, 2020; Miller et al., 2015). Accordingly, we address the following research question: *What effects do family governance dimensions have on family firms' exploration and exploitation as modes of innovation strategy?*

Building on agency and stewardship theories, we focus on two main dimensions of family firm governance. First, we draw on agency theory to conceptualize family management as a dimension of family governance related to internal coordination (Madison et al., 2016). Because family management is inward-focused, family firms are more likely to suffer problematic agency costs including nepotism, parental altruism and intrafamily conflict (Schulze, Lubatkin, Dino, & Buchholtz, 2001). While the interests of family members involved in the business are commonly aligned (Chrisman, Chua, & Litz, 2004), conflict can emerge as

opportunistic family members thwart the behavior of peers not perceived to align with those interests (Cruz Gómez-Mejia, & Becerra, 2010). Incentives to innovate may be thus reduced in favor of private benefits (Chrisman & Patel, 2012), which is likely to have a major bearing on innovation strategy. Second, stewardship theory draws attention to governance dimensions that foster pro-organizational behavior (Davis, Schoorman, & Donaldson, 1997) and prioritize new uses for resources (Carney, 2005; Le Breton-Miller and Miller, 2006). We identify family guardianship, consisting of trustees and councils, as an externally oriented dimension of family governance. Aimed at protecting the longer-term viability of the family firm and its assets (Scholes & Wilson, 2014), family guardianship also has a lot of potential to explain and predict family firms' innovation strategy.

We test for these effects in survey data from a sample of UK family firms. We find that specific dimensions of Family Management (next-generation involvement) and Family Guardianship (the existence of a family council) are significantly positively associated with exploration. A family CEO and the proportion of family managers in the TMT do not bear the anticipated negative effects on exploration. Exploitation, however, is positively associated with next-generation involvement only.

We provide two main contributions to the literature. First, the study contributes to research on family firm innovation by revealing which dimensions of family management and family guardianship affect exploration and exploitation as modes of family firm innovation. This directly responds to persistent but hitherto unanswered calls among scholars to theorize and empirically evidence the heterogeneity of family firms' innovative behaviors (Calabrò et al., 2018; Chrisman et al., 2015; Hu & Hughes, 2020; Rondi, De Massis, & Kotlar, 2018). Second, we contribute new insights to the governance view of family firms by clarifying the agentic or stewardly properties of dimensions of family governance in catalyzing exploration or exploitation. This responds to calls for better understanding of the relationship between

governance and firm behavior more broadly (Madison et al., 2016), specifically advancing the scholarly debate at the intersection of agency and stewardship, family governance, and innovation.

THEORETICAL BACKGROUND

Governance and Innovation Strategy in Family Firms

That family firms invest less in innovation does not necessarily mean that they are less innovative (Röd, 2016). A distinction must be drawn on the mode of innovation strategy (Hu & Hughes, 2020). Exploration and exploitation represent two opposite modes of innovation strategy (He & Wong, 2004). Exploration focuses on innovation that emphasizes new products, services, and processes necessary for long-term viability, while exploitation is concerned with innovation that improves what already exists to consolidate short-to-medium term performance (Chang & Hughes, 2012; He & Wong, 2004; March, 1991). Both innovation strategies bear different degrees of risk (Hughes, 2018) and may be more or less appealing to family firms (Ceipek et al., 2020; Hughes et al., 2018). Following established logic in the family firm literature (see Madison et al., 2016), we predict that family firm managers' behavior towards both modes of innovation strategy is a result of the governance structure of the firm. We use agency and stewardship theories to derive expectations about the general behavior of family firms and the consequences of the behavior-directing characteristics of different dimensions of family firm governance for innovation strategy.

"Agency and stewardship theories describe the manager's actual behavior *as the result of* the governance structure of the firm" (Madison et al., 2016, p.84, emphasis added). Governance dimensions are behavior-directing. Both theories address the same phenomenon:

how governance mechanisms steer managers' behaviors to predict organizational outcomes.[1] Agency theory (Jensen & Meckling, 1976) and behavioral agency theory more recently (Hernández-Linares & López-Fernández, 2018; Wiseman & Gómez-Mejía, 1998) specify that governance mechanisms monitor the behavior of family agents to ensure consistency with the family's goals. Deviance is curbed or enabled by the presence or absence of governance dimensions. While family firms were first thought to be free of agency costs, this is not so as dysfunction, conflict, nepotism, and asymmetric altruism can occur as family agents pursue competing goals (Madison et al., 2016; Schulze et al., 2001). For example, granting decision-making power to family owners, managers, and next-generation members (the family management governance dimension) allows for opportunistic and parsimonious behavior (Carney, 2005). Parsimonious behavior is a function of family owners and managers actions involving the family's personal wealth. This may reduce opportunism (Jensen & Meckling, 1976) but affects risk-taking (Alchian & Demsetz, 1972), making it difficult to direct resources to new innovation (i.e., exploration) (Anderson & Reeb, 2003). The result is a preference for resource conservation and efficiency, underpinning an emphasis on exploitation over exploration (Carney, 2005). Nonetheless, next-generation members can challenge the conservatism of incumbents by leveraging their power to monitor and steer the behavior of family incumbents. Next-generation members may have different attitudes about risk, desired returns, and investment horizons (e.g., Mazzelli, Kotlar & De Massis, 2018; Thomsen & Pedersen, 2000; Zellweger, 2007), which are likely to heighten the tension toward innovation. Therefore, family management emerges as a dimension of family governance that can alter the behavior of family managers toward modes of innovation strategy, ensuring scrutiny of managers' behavior versus family goals and mitigating harmful family agency costs.

[1] The genesis of agency theory is precisely about how governance is needed to incentivize (direct) certain behaviors in listed companies while curbing opportunistic behaviors (Eisenhardt, 1989; Jensen & Meckling, 1979). Stewardship theory also addresses the relationship between two parties from a behavioral and a governance perspective (Madison et al., 2016).

From a stewardship theory perspective (Davis et al., 1997), family owners and managers may see themselves as custodians of the business, overcoming their self-interest to act for the benefit of the family and its future generations (Miller & Le Breton-Miller, 2006). Stewardship is "based on a steward whose behavior is ordered such that pro-organizational, collectivistic behaviors have higher utility than individualistic, self-serving behaviors" (Davis et al., 1997, p.24). Stewardship occurs as specific family governance mechanisms encourage cooperation and involvement to facilitate the natural alignment of interests (Corbetta & Salvato, 2004; Davis et al., 1997). Stewardship behavior incited by family governance may therefore encourage far-sighted investments (i.e., exploration) (De Massis, Audretsch, Uhlaner & Kammerlander, 2018; Miller & Le Breton-Miller, 2006), but could conceivably incite caution against risking family wealth (i.e., exploitation) (Anderson & Reeb, 2003), creating tension through executive entrenchment (Madison et al., 2016) and behaviors that prevent the loss of noneconomic wealth (Miller et al., 2015). However, family guardianship may introduce a viewpoint external to the family firm itself through trustees (often lawyers) and family councils (often including extended family members not involved in the business). Councils can reintroduce longer-term goals to redirect the behavior of family owners and managers. However, trustees might also influence risk-taking through the priority they place on protecting assets for the next generation (Scholes & Wilson, 2014).

In sum, agency and stewardship theories provide complementary perspectives which help differentiate the dimensions of family governance, thus jointly explaining how each shapes different innovation choices. Based on these premises, we now move to develop specific hypotheses for how dimensions of the family management and family guardianship may associate with exploration and exploitation.

HYPOTHESES

Family Management and Innovation Strategy

Family management as a dimension of family governance serves two general functions (Suess, 2014). The first is to monitor initiatives made by the CEO (Baysinger & Hoskisson, 1990), and the second is supporting the business (Bammens, Voordeckers, & Van Gils, 2011). We expect that family management will direct behavior toward resource conservation and wealth preservation (i.e., exploitation), made worse by a lack of family and business skills necessary for future health (i.e., exploration).

The first dimension of family management that we consider concerns who is the CEO. When a family member sits in the controlling position of CEO, their behavior will concentrate on the interests of the family first and foremost. From an agency perspective, the discretion afforded by their position allows them to personalize business activity. For example, owing to the family CEO's high level of control over the firm under such conditions, a general tendency for wealth concentration and preservation (Duran et al., 2016; Röd, 2016), we expect less R&D investments (Sciascia et al., 2015). The desire to protect financial and non-financial wealth inhibits innovation (Filser, De Massis, Gast, Kraus & Niemand, 2018; Miller et al., 2015) unless survival is at risk (Patel & Chrisman, 2014). An innovation strategy oriented around exploration is then less likely (Hu & Hughes, 2016). But the relative safety afforded by incremental improvements to products, quality and cost structures (Wright et al., 2016) would not place wealth at risk, favoring an exploitation innovation strategy (Hughes et al., 2018) when the CEO is a family member. Coupled with the agency condition by which family CEOs see their wealth, the firm's wealth, and the family's wealth as fundamentally tied together, we expect that family CEO as a dimension of family management governance will negatively affect exploration but positively affect exploitation.

H1. The presence of a family CEO is (a) negatively associated with exploration and (b) positively associated with exploitation.

In addition to the CEO, much family business research has emphasized the importance of family involvement in top management positions within the family business. Agency theory suggests that high proportions of family members in the Top Management Team (TMT) will consolidate family power over the interests of others, leading to an internal focus that limits access to external information and new perspectives (De Massis, Kotlar, Campopiano & Cassia, 2015; see also Herrero & Hughes, 2019) and reduces information search breadth (Classen, van Gils, Bammens, & Carree, 2012). It also suggests the likelihood of asymmetric altruism and executive entrenchment, causing agency costs to rise (Madison et al., 2016; Miller, Le Breton-Miller, Lester & Cannella, 2007). These agency costs overrule any advantages from stewardship. For example, under such conditions, family firms can suffer personal rivalries and self-control problems that cause dysfunction (De Massis, Kotlar, Mazzola, Minola, & Sciascia, 2018; Schulze et al., 2001). The consequences of these disagreements on innovation strategy may range from antipathy to hostility. When family members dominate the TMT, it may be easier to get agreement on less risky strategies (i.e., exploitation) due to a desire to not jeopardize present (and historical) success. There may also be little or no challenge to family-centered non-economic goals, which may not be in the best interest of the long-term survival of the firm (Zellweger, Nason, Nordqvist, & Brush, 2013). Exploration as mode of innovation strategy will be less likely and exploitation will be more likely when a greater proportion of family members sit in the TMT.

H2. A greater proportion of family members in the TMT of a family firm is (a) negatively associated with exploration and (b) positively associated with exploitation.

Finally, another prominent dimension of family management concerns the involvement of next-generation family members. Next-generation involvement is likely to be beneficial to innovation in general (Hauck & Prügl, 2015). Next-generation involvement may benefit exploration by offsetting the tendency of family managers to see the firm solely as 'their business' (Carney, 2005). Next-generation members can also disrupt the concentration of power in the hands of family managers. Next generations of family members willing to work in the family firm sometimes acquire experience either through working elsewhere or through formal education before joining the business. They can also be brought into the family firm as apprentices before being given roles of greater responsibility. They often end up as part of the management teams and a new dimension of family management governance to the family firm. Moreover, the additional resources provided by the next generation can enhance exploration. Next-generation members are beneficial because they possess new interests, new ideas, and new objectives compared to other members (e.g., Young, Peng, Ahlstrom, Bruton, & Jiang, 2008) but their familial character ensures they act as stewards of the business nonetheless. Adding next-generation members can disrupt the status quo and positively influence an exploration mode of innovation strategy. (Carney, 2005). The ability of next-generation members to bring in fresh impetus and ideas should not diminish the potential for an exploitation mode of innovation strategy either. While we expect that next-generation involvement is beneficial to both modes of innovation strategy, the effect is likely to be stronger on exploration.

H3. Next-generation involvement in innovation initiatives is (a) positively associated with exploration and (b) positively associated with exploitation.

Family Guardianship and Innovation Strategy

The ability of family members to innovate may change when family guardianship dimensions of family governance are introduced. Family guardians are not always directly involved in the business and will not necessarily share a unified position on the priorities for the family firm, which in turn can create powerful pressures on innovation strategy. Trustees and family councils acting as the two dimensions of family guardianship may influence behavior towards exploration and exploitation.

First, in some jurisdictions such as the UK, trustees may be employed by family business owners to allow assets (and shares) to be transferred to the trustees who are usually family owners and trusted legal advisers (Scholes & Wilson, 2014). Trustees are an important dimension of family governance because, as significant shareholders, they have a duty to ensure that the assets of the business are managed in a way that provides maximum benefits to the family as beneficiaries (Wright et al., 2016). Trustees in some of the larger family firms can also be regarded as 'quasi-directors' as they meet with directors regularly and therefore may have significant influence over the running of the business (Scholes & Wilson, 2014). Trustees are employed by family firms to ensure the secure transfer of assets, prioritizing the preservation of those assets (Scholes & Wilson, 2014). Trustees are therefore likely to act consistent with a stewardship logic that diminishes scope for agentic opportunism and, as a result, renders the family firm more cautious in its behavior, by distracting importance away from exploration and towards exploitation as modes of innovation strategy. By way of monitoring and exercising their own decision and control rights, trustees prevent family managers and owners from acting opportunistically. Their attitude towards wealth management and wealth preservation for their beneficiaries, which is ultimately the main role of trustees, will likely make them behave (and therefore advise) in a more risk-averse way (Zellweger &

Kammerlander, 2015). The trustees' focus on wealth management, therefore, prioritizes an exploitation innovation strategy. An exploration mode will be less likely.

H4. The presence of trustees is (a) negatively associated with exploration and (b) positively associated with exploitation.

Family councils are a second dimension of family guardianship, one that particularly helps diversify the range of family members who are involved in scrutinizing the family business (Gersick, Davis, McCollom Hampton, & Lansberg, 1997). Councils involve not only family members actively involved in the business but also members from the broader family unit that have no active part in the business. This includes family members who are more distant, both geographically and relationally, such as in-laws. Unlike an agentic model, the interests of the family council naturally align with the general interest of family owners and managers (Madison et al., 2016) but with one crucial difference. Because the purpose of family councils is to contribute to the *future* health of the family business, this form of governance should channel behavior towards longer-term investments and innovation strategy (i.e., exploration). Family councils behave as stewards and direct the business towards longer-term wealth maximization (Davis et al., 1997; Wright et al., 2016). As such, they may suggest new ways of growth hitherto unexplored by family CEOs and managers (Neubauer & Lank, 1998; Melin & Nordqvist, 2007). Through family councils, new information enters the family firm's decision-making. Acting as stewards, members of the family councils can introduce and prioritize a wider range of objectives and activities and can propose new and radical directions for the firm. We expect family councils to steer owner managers to make longer-term investments for the greater wealth of the family, emphasizing an exploration mode of innovation strategy while deemphasizing an exploitation mode.

H5. The presence of a family council is (a) positively associated with exploration and (b) negatively associated with exploitation.

METHOD AND DATA

Population and Sample

The lack of a consistent definition of a family firm causes great difficulty in identifying family firms for analysis (De Massis, Sharma, Chua, & Chrisman, 2012). Arosa, Iturralde, & Maseda (2010) suggested that such limitations can be overcome by relying on detailed analysis of the information in databases or through surveys. We chose to rely on information generated from a survey. Currently, and to the best of the authors' knowledge, there is no official or dedicated database of family firms in the UK. The UK was chosen as a suitable setting to address our research question because of the high level of development of corporate governance in general (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1999) and because a significant minority of UK family firms have trustees and family councils, two of our independent variables.

We identified family firms in the FAME database (Bureau van Dijk) that were a private company with a minimum of 20 employees. The filtering of family firms was a complicated and time-consuming task and proceeded as follows. A sample of firms was extracted from FAME that contained firms' details including shareholders where one main shareholder (usually a person but sometimes a company) had more than 50% of the equity (7,379 companies). This list was then manually checked to reduce it to firms that had at least two shareholders with the same surname with more that 50% of the equity associated where one of these shareholders was also a director. Added to this were a further 230 family firm details provided by the Institute for Family Business (their members). After checking and removing duplicates the sample contained 2,855 family firms. A postal questionnaire was sent to these

firms across the UK between February and June 2015, and 348 usable questionnaires were returned representing a response rate of 12.2% which is respectable for this type of survey (Newby, Watson, & Woodliffe, 2003). Holding companies and investment companies were removed leaving 328 companies for the data analysis. The people who completed the questionnaires are either CEO/MD/Chairman (80%), director (15.6%), or other (4.4%).

The sample was representative of the population of 2,855 firms with respect to industry sector and number of employees. For example, 24.9% of the sample was in wholesale and retail trade compared to 24.1% of the population; 9.2% of the sample was in construction compared to 11.1% of the population. In terms of the number of employees 60.6% and 21.5% of firms in the sample were medium and large respectively compared to 62.4% and 17.2% in the population (testing population versus sample distributions using the Kolmogorov-Smirnov test indicated no significant difference between the two). The Companies House (the United Kingdom's register of companies) definition of medium size (50-249 employees), and large size (250 or more employees) was used.

Dependent Variables

We operationalized innovation strategy based on items developed by He & Wong (2004). We asked respondents about the importance attached to a particular innovation strategy in their family firm. The statements developed by He & Wong (2004) divide innovation strategy into exploration and exploitation measured on a 7-point Likert-type scale (1 = not important; 7 = very important). The four exploration statements are: 1 'to introduce new generations of products', 2 'to extend product range', 3 'to open up new markets' and 4 'to enter new technology fields'. The four exploitation statements are: 5 'to improve existing product quality', 6 'to improve production flexibility', 7 'to reduce production cost' and 8 'to improve yield or reduce material consumption'. These eight items were examined using exploratory

factor analysis using SPSS (principal components analysis combined with direct Oblimin rotation). Two separate factors emerged mapping directly to the expected items: the first containing items 1-3 (exploration; Cronbach Alpha = 0.780) and the second containing items 5-8 (exploitation; Cronbach Alpha = 0.876). Item 4, 'to enter new technology fields', loaded almost equally on both factors so was excluded from the analysis. New variables were created for these new factors (*Exploration* and *Exploitation*) by taking the mean value of the items in each factor.

Independent variables

We group our independent variables into two categories of family governance dimensions: family management and family guardianship. The CEO, family managers, and next generation are directly involved in managing the family firm, whereas family councils and trustees are not. The latter are more distant and perform a guardianship role. For example, trusts are set up "to protect the shares in the event of family members divorcing, becoming bankrupt, wanting to take "time out" of the business, or even behaving irresponsibly" (Scholes & Wilson, 2014, pp. 1287). Likewise, councils do not directly manage the company on a day-to-day basis but are primarily concerned with succession planning, the longer-term goals, and conflict resolution (Wright et al., 2016).

For family management, we include a dichotomous variable to note whether CEO is a family member *FamCEO*. This variable takes the value 1 if the answer is yes and 0 otherwise. We also include the percentage of the TMT that are family members *FamManagers* (where these are the top managers who report directly to the CEO) and finally we include the involvement in innovation of the next generation *NextGenInvolve* on a 7-point Likert-type scale (1 = not involved; 7 fully involved) based on the question 'To what extent are the next generation family members actively involved in innovation?'. While next generation family

members are not always in management roles, the ones who are involved in innovation are more likely to be so. For family guardianship we used two dummy variables that indicate whether there are trustees (*Trustees*) and whether the family firm has a family council (*Family Council*). These variables take the value 1 if the answer is yes and 0 otherwise.

Control variables

We waited to the 2015 financial year end (April 2016) to collect data to control for the following firm-level variables. Family firm size can act as a proxy indicator for family firm resource endowments and profitability (Lee, 2006). We measured firm size as the *Turnover* of the family firm from the FAME database closest available to the date of the survey data collection. A measure of age was included to test for the dependency of either mode of innovation strategy on the age of the firm (De Massis, Chirico, Kotlar & Naldi, 2014). *Age* is a continuous variable representing years from the date of incorporation to April 2016. The past profitability of a firm may influence its innovative behavior in a future period. We controlled for this by including the return on assets (ROA) in the year 2014 from the FAME database, *ROA(2014)*, one year prior to our dependent variable. We created the variable *IndManuf* to control for whether the family firm was classified as a manufacturing firm by NACE rev.2 (1 = yes) or not (0 = no) (codes 10-33 are allocated to manufacturing firms). Whether the firm was a technology firm or not according to the NACE rev.2 and the Eurostat categorizations was also tested but there was no significance.

We also control for the following family-level variables. Family firm characteristics can vary over generations and these variations can influence family firms' financial performance (Chrisman, Chua, Pearson, & Barnett, 2012; Miller et al., 2007). To determine whether family firm behaviors vary depending on the generation currently managing them, we created the dummy variable *FirstGen.* The variable takes the value 1 if the family firm is

managed by the first generation and 0 otherwise. The equity stake held by the family (%) may have a bearing on performance and is represented by the variable *FamOwnership* (where families own 50% or more of the equity in our sample firms). *FemBoard* as the proportion of females on the board (%) is also included since their presence has been associated with family firm survival (Wilson, Wright, & Scholes, 2013). Finally, whether the Chair (chairman/woman of the board of directors) is a family member *FamChair* taking the value 1 if the answer is yes and 0 otherwise.

Descriptive Analysis

Tables 1a and 1b provide an overview of the descriptive statistics regarding our sample of 328 family firms. In all these firms, the *'family'* is the ultimate shareholder, with ownership ranging from 50-100% (the mean was 96% and three-quarters of the firms were 100% owned by the family). The large proportion of family equity ownership is not unexpected for family firms. Turnover ranges from £740,000 to £3.3 billion. The minority of firms are first generation (38.8%) and are manufacturing (26.2%). In terms of the board, 80% have a family CEO and 89% have a family member as Chair. In terms of board size, most firms have between 2 and 8 people (94.8%) with only six firms (1.9%) without a board (i.e. they responded saying one board member). These boards are not passive, as 87% are fully involved in 'Making decisions on long-term strategies and main goals' and 75.6% are 'Actively initiating strategy proposals' (based on firms scoring 6 or 7 on the 7-point Likert scale). In terms of firm management almost half of the firms have no family members in the team at all, but of those who do they usually have between 1 and 4 family members. The average response for the next generation involvement in innovation is 3.3 which is just below the average (3.5), indicating less involvement rather than more. When looking at the family guardianship, 8% of firms have trustees, and 15% have a family council.

INSERT TABLES 1a AND 1b ABOUT HERE

RESULTS

The relationships between family firm innovation and the independent variables are examined using exploratory factor analysis combined with hierarchical linear regression. Table 2 reports the correlations among our study variables where the innovation variables are the composite variables relating to the different modes of innovation strategy. The correlations among the study variables are generally low, the highest being 0.397. We also tested for multicollinearity and common method variance. The maximum VIF value between the independent variables is 1.71 and the maximum condition index is 47.2. This condition index is higher than the recommended value of 30 but is associated with only one variable with a variance proportion greater than 90% (where an association with two or more variables would indicate a problem). These two results indicate, therefore, that multicollinearity is not a major problem in this sample (Hair, Tatham, Anderson, & Black, 1998). The Harman's single-factor test for common method variance among the variables in the factor analysis indicates that the first factor accounts for just over half of the variance (50.8%). While marginally above the recommended threshold, this result cannot be interpreted unequivocally as indicative of common method bias (Meade, Watson, & Kroustalis, 2007) nor does it imply an upwards bias in correlations among variables (Doty & Glick, 1998). In addition, we have few items in our test such that ours is not vulnerable to the limitation of the single-factor test to variance suppression as the number of latent factors increases (Malhotra, Kim, & Patil, 2006). Moreover, any test for common method variance is blind because it extracts covariance but without the reason for the covariance (Podsakoff & Organ, 1986). Where there are valid functional relationships, a borderline single factor may simply be a matter of valid functional relationships present in the data. Any

exclusion would cause true functional interrelationships to then be overlooked. For more information on this test, see Podsakoff & Organ (1986).

Hausman tests for endogeneity were run for all eight independent variables using the additional 'instrumental' variables in the sample and indicated that endogeneity was not a major problem (Davidson & MacKinnon, 1993). We tested eighteen instrumental variables (from our questionnaire) including the total number of top managers, whether the CEO was male, the presence of an operations board, the presence of a family office, questions related to the ability and willingness of the family, and finally the family goals. We found no omitted variable bias. Partial confirmatory factor analysis (PCFA) confirms that the two-factor model is supported: The incremental close-fit indices were all a good fit (0.95 or higher) with the comparative fit index 0.998, normed fit index 0.998, and Tucker-Lewis Index 0.995; the absolute close-fit index RMSEA of 0.089 was just outside the acceptable range of 'approximating 0.08 to 0.06 or less' but is arguably good enough as it is very close to the acceptable range and, in any case, RMSEA is much less important than the incremental close-fit indices which were a good fit (Gignac, 2007, 2009).

INSERT TABLE 2 ABOUT HERE

Table 3 presents the regressions for the independent and control variables on the two composite dependent variables derived from factor analysis relating to exploration and exploitation. Control variables were entered in the first block of the hierarchical multiple regression. The second block examined the direct effects of the independent variables associated with family management and family guardianship. Models 1 and 2 relate to exploration while models 3 and 4 relate to exploitation. Model 1 (control variables only) is significant ($p<0.01$) with an adjusted R-squared of 0.067. Model 2 is significant ($p<0.01$) with

an adjusted R-squared of 0.124[2]. For our hypotheses pertaining to exploration, no support is found for *FamCEO* (H1a) or for *FamManagers* (H2a). The family management variable *NextGenInvolve* ($p<0.01$) is positively related to exploration giving support for H3a. There is no support for the presence of *Trustees* (H4a) but there is support for the family guardianship variable *Family Council* ($p<0.01$) as it is positively related to exploration (H5a). The control variable *Age* ($p<0.05$) is negatively related to exploration, *IndManuf* ($p<0.01$) and *FemBoard* ($p<0.05$) are positively related to exploration.

INSERT TABLE 3 ABOUT HERE

Examining the two models for exploitation, Model 3 (control variables only) is not significant with an adjusted R-squared of 0.011. Model 4 is only significant at $p<0.1$ (only fractionally exceeding $p<0.05$ at $p=0.051$) with a marginally increased adjusted R-squared. No support was found for *FamCEO* (H1b), or for *FamManagers* (H2b), but *NextGenInvolve* ($p<0.05$) is positively related to exploitation, supporting H3b. There is no support for the presence of *Trustees* (H4b) or *Family Councils* (H5b) and exploitation. Among the control variables only *IndManuf* ($p<0.01$) is positively related to exploitation.

DISCUSSION

To date, why some family firms adopt one mode of innovation strategy over another, and specifically how different dimensions of family governance explain those differences has been largely overlooked. Two urgent scholarly calls prompted our inquiry: that family firms scholars have persistently neglected to distinguish between modes of family firms innovation strategy

[2] It is noted that although this model is highly significant the R-square value is quite low although not unusual in management research (see for example Meuleman, Amess, Wright, & Scholes, 2009).

(Calabrò et al., 2018; De Massis, Di Minin et al., 2015; Hu & Hughes, 2020), and therein to better understand the depth of the relationship between governance and innovation behavior (Madison et al., 2016; Miller et al., 2015). Building on agency and stewardship theories, we examined the effects of two dimensions of family governance—family management and family guardianship—on exploration and exploitation among family firms. For exploration, our results indicate that a family CEO and the proportion of family managers in the TMT, as two common features of family management, do *not* bear the anticipated negative effects on exploration predicted under the agency theory perspective on family firms. Nevertheless, they do not exhibit positive effects on exploitation either. However, the involvement of next-generation members (which refers to the family management dimension of family governance) and the existence of family councils (which refers to the family guardianship dimension) are both positively related to exploration. On the other hand, exploitation is positively associated with next-generation involvement only. Overall, our findings demonstrate the importance of distinguishing between different dimensions of family firm governance, and provide suggestive evidence of the importance of specific aspects, such as next-generation members and councils, in explaining family firms' heterogeneous modes of innovation strategy.

Our first contribution to the literature provides new insights into heterogeneity among family firms in relation to their innovation behavior (see Chrisman et al., 2015; Chrisman & Patel, 2012; Feranita, Kotlar, & De Massis, 2017). We add to this important debate by explaining why family firms engage in different modes of innovation strategy, linking these differences to their diverse governance arrangements. This advances our knowledge in two ways. First, differences in type of family firm innovation exist and motivating these differences appears to rely on certain dimensions of family governance. Specifically, next-generation involvement and family councils bear the necessary behavior-directing properties that encourage an exploration-based innovation strategy. But, neither family CEOs, family

members in the TMT, nor trustees appear to have any bearing on exploration. These forms of governance appear consistent with ideas of conservatism associated with slower-growth family businesses (e.g., Anderson & Reeb, 2003; Le Breton-Miller & Miller, 2018; Madison et al., 2016) likely due to competing agency (e.g., Carney, 2005). Historically, scholars linked family firms' innovation behavior to either agency or stewardship characteristics, in which governance harmed exploration. More recently, scholars suggest that agency and stewardship characteristics can shape different innovation choices consistent with the idea that family governance dimensions are behavior directing (Le Breton-Miller & Miller, 2018; Madison et al., 2016; Neckebrouck, Schulze, & Zellweger, 2018). We provide indicative evidence that only certain dimensions of family governance have an effect (namely next generation involvement). From our findings, the theoretical expectation that the family management dimension of family governance may obstruct exploration is notionally misplaced. However, we do reaffirm that a family CEO and family members in the TMT do not motivate exploration either. For agency and stewardship theories, the involvement of next generation members as agents breaks the indifference to innovation. Family councils, as a feature of family guardianship governance, also support efforts to bolster exploration by requiring family owners and managers to focus on the future longevity of the family business.

Moreover, the literature has assumed that family involvement gives rise to distinctive resources that spur innovation (De Massis, Frattini, & Lichtenthaler, 2012; Habbershon and Williams, 1999). As a counter viewpoint, agency and stewardship perspectives suggest the opposite, warning that, greater family involvement can cause destructive altruism (Madison et al., 2016). From our findings, we can only suggest that involving the next-generation members appears to diversify the pool of interests, knowledge, and resources available to prompt exploration. Also, only next-generation involvement leads to exploitation. The involvement of the next generation can help to pass on the tacit knowledge of the founders and can imbue them

with the ethos of the founders (De Massis, Frattini, Kotlar, Messeni-Petruzzelli & Wright, 2016; Miller & Le Breton-Miller, 2006). Theoretically, this may cause these next-generation agents to merely repeat the preferences of older-generation members, causing a family orientation lock and path dependence. Instead, our results place next-generation members at the forefront of a diverse, and more rounded innovation strategy.

For our second contribution, we address the calls for more information on the relationship between governance and family firm behavior (Madison et al., 2016). We proposed that variables related to the family management and family guardianship dimensions of family firm governance direct behavior and channel (in)action because of the agentic and stewardship properties they provoke. Originally, agency problems were not expected in family firms because of the unification of ownership and control (Carney, 2005). However, such unification tolerates competing interests among family owners and managers through their ability to make opportunistic investments; but its advantage is tempered by the tendency to associate family wealth and the wealth of the business as one and the same (Carney, 2005). Increasing the number of family decision-makers appears to create conflict that nullifies any mode of innovation strategy rising to prominence. The conflict is neither destructive nor constructive (cf., Kotlar & De Massis, 2013), and, based on our non-findings, are perhaps neutralizing instead. Trustees do not alter this apparent stalemate either which may mean that their role is more focused on ensuring accountability rather than entrepreneurial activities through innovation; but next generation involvement and family councils do. Agency and stewardship theories describe family owners' and managers' actual behavior as the result of the governance structure of the firm. While even family agents can be self-serving in the context of protecting wealth and exercising decision rights, their subsequent tendency for stewardship may exacerbate the extent to which the motivation to innovate is diminished despite an apparent ability to innovate (Chrisman et al., 2015). Under stewardship, goals will more naturally align

(Davis et al., 1997; Jaskiewicz & Klein, 2007) but given the unified agency of owners and managers, behavior is seemingly channeled to the preservation of wealth at the expense of either innovation strategy. Stated differently, the goals of the family firm appear to narrow[3].

Exploration and exploitation are separate modes of innovation strategy and different to each other, and balancing exploration and exploitation (i.e., attaining "ambidexterity" in innovation strategy; Hughes, Martin, Morgan & Robson, 2010; Hughes et al., 2018) can pose significant challenges to the family firm (Moss, Payne, & Moore, 2014), especially due to the existence of multiple short-term and long-term family goals (Kotlar, Fang, De Massis & Frattini, 2014; Patel & Chrisman, 2014). Our findings suggest that the involvement of next-generation family members in prompting both modes of innovation strategy may provide the anchor point for both modes of innovation strategy to emerge in the family firm. The absence of any effects from family CEO, family membership in the TMT, and trustees on either mode of innovation strategy points to the incompleteness of agency and stewardship theories in explaining family firm innovation strategy. We propose that despite their behavior-directing potential, the relationship between (most) family governance dimensions and family firm innovation *strategy* appears to be long-linked, with the antecedents and consequences of family firm innovation strategy not being sufficiently causally adjacent to the innovation strategy construct. This is perhaps indicative in our relatively low R^2 values. Intermediate outcomes between family governance and innovation strategy may explain when and why specific governance dimensions may bear effects (e.g., mechanisms and mediators through which subsequent changes in innovation strategy follow) and precisely what behaviors are directed by specific family governance dimensions.

Insights for Family Owners and Managers

[3] For a debate on organizational goals, please see Kotlar, De Massis, Wright, and Frattini (2018).

For family owners and managers, a key priority for medium-term health and long-term wealth must be the family firm's readiness for innovation. But its priority is often diminished given evidence that family firms exhibit a general unwillingness to innovate (Chrisman et al., 2015). Our study provides directions for which dimensions of family governance can shift emphasis towards innovation and change the mode of innovation strategy. Scrutiny is needed of the governance of the family firm and whether family management and family guardianship as dimensions of family governance create or diminish the conditions for exploration or exploitation modes of innovation strategy to emerge. *Ceteris paribus*, the family firm will normally shape strategies that preserve and protect socioemotional wealth, and thereby diminish the strategic emphasis on innovation despite the importance of exploration and exploitation for high performance (Hughes et al., 2018). To alter this situation, and provide the strategic emphasis for innovation, family owners and managers should adopt family councils and involve next generation members in innovation activities. Both measures will increase the opportunity for an exploration innovation strategy to form and take hold. Next-generation involvement also encourages an exploitation innovation strategy. However, because an exploitation-based innovation strategy is often a 'default mode' for many businesses, it is particularly interesting to note that next-generation involvement is related to both innovation strategies while the effect on exploration is even stronger. Exploitation innovation can be thought of as security-blanket innovation. It is neither risky nor does it change the family firm or its parameters. Exploration, however, is novel, riskier, and uncertain, with a longer return horizon; but it is essential to the longer-term sustainability of the business and its competitiveness. It is vital to capitalize on next-generation members then to invigorate innovation strategy. Involving next-generation members can include integration into activities in pre and post periods of succession, family meetings, and integrating less-active next-generation members in business issues and plans for future ownership and participation in the

business. This endeavor can be supported by family councils. Family councils can be especially helpful in drawing in sibling, cousin, and broader family consortia or stakeholders to support the business and compel new insights and perspectives to enter decision-making.

Limitations and Future Research

Our contributions are tempered by limitations. First, our findings are potentially specific to the U.K. and might not generalize to countries that do not share a similar institutional environment. Second, we cannot rule out some reverse causality. Some family businesses might aspire to certain levels and modes of innovation strategy choose to purposefully structure their governance and leadership to optimize the likelihood of achieving their objectives. In other instances, accumulated innovation capabilities may influence monitoring and control when later-generation family members join (Dieleman, 2019). It would be interesting to conceive of innovation strategy as an antecedent to organizational form and not as an output of it in future research. Third, the measures chosen for innovation are taken from previous literature, but it is possible that they have not captured all possible dimensions of exploration and exploitation, or of manufacturing versus service contexts, or of process versus product innovation. These are themes that future research on family firms could address and consider whether scales unique to family firms are necessary. An advantage of our study is that we investigate private family firms, against a significant portion of the literature that is dedicated to or relies solely on data from publicly listed family firms. Future research should look to compare the governance configurations of both private and public family firms to appreciate subtler effects on innovation strategy. Finally, our R^2 values were rather low and coupled with our non-findings point to an interesting avenue for further investigation: that the relationship between family governance and innovation strategy is long-linked, warranting analysis of causally-adjacent,

intermediate mechanisms and effects to discern the precise behaviors driven by specific family governance dimensions.

New research into the effects of the different governance contexts on successful innovation is warranted. A distinction must be drawn between the effects of specific factors in motivating innovation activity versus its subsequent commercialization (Kyriakopoulos, Hughes, & Hughes, 2016). Even though one governance context may discourage exploration or exploitation, it does not mean that it cannot assist in successful launch or commercialization. Dieleman (2019) finds evidence that family governance attributes support innovation activity during some phases but impede it during others. To what extent the agentic and stewardship tendencies of family firm governance dimensions affect this second phase of an innovation process is a question that needs to be answered to truly appreciate the consequences of the different family governance regimes. Answers to this question can shed further light on the puzzle about why family firms invest less in innovation but can have a higher innovation output than nonfamily firms (Duran et al., 2016).

The role of women in the boardroom is rarely discussed in the family firm literature but our control variable results suggest the need for further research in this area. Female presence on the board can bring additional perspectives that might otherwise be missing (Brammer, Millington, & Pavelin, 2009; Campopiano, De Massis, Rinaldi, & Sciascia, 2017). The effect of women on the board in reducing conflict (Huse, Nielsen, & Hagen, 2009), for example, may create the space for explorative innovative activity as our control variable results suggest. We know too that women influence firm survival (Wilson et al., 2013). Our control variable results observe a positive association with an exploration innovation strategy when women are present as board members. Further research should examine whether female presence on the board is also associated with innovation that is more successful or whether their contribution to

exploratory innovation is one reason for the reduction in bankruptcy risk indicated by Wilson et al. (2013).

Although we find a positive link with innovation, the role of the family council is not well-understood. Family councils are heterogeneous, so future research could focus on understanding how they are constructed and how they affect innovation performance. In addition, since just under a fifth of family firms have family councils, it is important that this governance context is not overlooked. Family firms generally tend towards preservation and careful growth of family wealth but with scope for opportunistic investments as they arise. There is an overlap here with the concept of socioemotional wealth (e.g., Gómez-Mejía, Haynes, Núñez-Nickel, Jacobson, & Moyano-Fuentes, 2007). To further understand how governance contexts affect innovation outcomes, it would be worthwhile to explore the goals of the family firm and their socioemotional wealth considerations in relation to governance, also employing dyadic perspectives to examine the relationships between different categories of family firm members such as principals and agents, or supervisors and supervisees (Campopiano & Rondi, 2019).

Family councils are positively associated with exploration. We argued that family councils should steer owner managers to make longer-term investments for the greater wealth of the family and, in turn, generate a stronger emphasis on exploration. However, in theory, there may be circumstances in which the opposite may hold true. To make room for longer-term investments, family members may need to sacrifice short-term gains, which might be unattractive for family members whose personal annual income depends heavily upon the dividends paid by the family firm. Such a scenario could lead to strong resistance against longer-term investments and thus exploration. [4]

[4] We thank an anonymous reviewer for this helpful suggestion.

Interestingly, among our control variables, firm age is negatively related to exploration mode only, which points to the importance of disentangling these basic modes of innovation strategy in relation to contextual factors. Understanding the effects of governance on models of innovation strategy at different values of firm age or stages of the firm life-cycle (e.g., Hauck & Prügl, 2015) can help further our understanding of the heterogeneity of family firm innovation behavior. Concurrently, the locus of innovation often lies outside the family firm, through alliances (Bouncken, Hughes, Ratzmann, Cesinger, & Pesch, 2020) or collaboration (Feranita et al., 2018). Firms are increasingly buffeted by social pressures (Gali, Niemand, Shaw, Hughes, Kraus, & Brem, 2020; Rahman, Aziz, & Hughes, 2020), and family firms are especially sensitive to forces acting on their freedom to make strategic choices (Cesinger, Hughes, Mensching, Bouncken, Fredrich, & Kraus, 2016).

Finally, we observe a positive correlation between exploration and exploitation in our data. This is very interesting because it indicates that exploration and exploitation co-exist as a duality and do not compete in tension as a dualism (Hughes, 2018; Turner, Swart, & Maylor, 2013) (otherwise the correlation would have been significant but negative in its direction). This is important for future research because it speaks to the debate between contextual ambidexterity (duality) and structural ambidexterity (dualism). The correlation suggests that family firms (in our sample) provide a context in which the tension between exploration and exploitation does not occur as a paradox; instead, a context is provided that places them as orthogonal and not in contest with each other. Scholars have wrestled with the argument of tension versus co-existence for over 30 years (and even originally as far back as Duncan, 1976), indicating an especially fruitful line of enquiry for future research on organizational ambidexterity. It is possible that family firms benefit from unique circumstances at the micro-foundational level (De Massis & Foss, 2018), and that micro-foundations matter for ambidexterity (Hughes, Hughes, Stokes, Lee, Rodgers, & Degbey, 2020).

CONCLUSION

In this paper, we provide an answer to an important research question in family business strategy research: *What effects do family governance dimensions have on family firms' exploration and exploitation as modes of innovation strategy?* By doing so, we join the conversation on why family firms continue to exhibit a general unwillingness to innovate despite possessing the ability and attributes to do so, providing a new angle that revolves around the diversity and multiple dimensions of family firm governance. We offer theoretical insights and empirical evidence of the behavior-directing properties of family management and family guardianship as two dimensions of family governance, and explicate their respective effects on exploration and exploitation. Given that innovation is a fundamental ingredient of short- and long-term performance, a better understanding of family governance dimensions emerges as a valid direction to explain why some family firms do better than others. We encourage future scholars to continue probing these important issues by furthering our understanding of family firm governance and its nuances, as well as testing their effects on other outcomes pertaining to innovation and strategic behavior more broadly.

Acknowledgements: The authors thank the Institute for Family Business (IFB) in the United Kingdom for generously sponsoring the research study underpinning this paper through its IFB Research Foundation. This project led to a comprehensive report into family business entrepreneurship available on the IFB website: https://www.ifb.org.uk/media/1874/ifbrf-entrepreneurship-report.pdf. We would also like to thank our friend and esteemed colleague Mike Wright, who sadly passed away as the present work was going through the blind review process, and celebrate his life and huge contribution to academia.

REFERENCES

Alchian, A. A. and H. Demsetz. 1972. Production, information costs, and economic organization. *American Economic Review* 62 777–795.

Anderson, R. C. and D. M. Reeb. 2003. Founding family ownership and firm performance: evidence from the S&P 500. *Journal of Finance* 58(3): 1301-1327.

Arosa, B., T. Iturralde, and A. Maseda. 2010. Outsiders on the board of directors and firm performance: Evidence from Spanish non-listed family firms. *Journal of Family Business Strategy* 1(4): 236-245.

Arzubiaga, U., J. Kotlar, A. De Massis, A. Maseda, and T. Iturralde. 2018. Entrepreneurial orientation and innovation in family SMEs: Unveiling the (actual) impact of the board of directors. *Journal of Business Venturing* 33(4): 455-469.

Bammens, Y., W. Voordeckers, and A. Van Gils. 2011. Boards of directors in family businesses: A literature review and research agenda. *International Journal of Management Reviews* 13(2): 134-152.

Baysinger, B. and R. E. Hoskisson. 1990. The composition of boards of directors and strategic control: Effects on corporate strategy. *Academy of Management Review* 15: 72–87.

Bouncken, R. B., M. Hughes, M. Ratzmann, B. Cesinger, and R. Pesch. 2020. Family firms, alliance governance, and mutual knowledge creation. *British Journal of Management*, in press. DOI: 10.1111/1467-8551.12408

Brammer, S., A. Millington, and S. Pavelin. 2009. Corporate reputation and women on the board. *British Journal of Management* 20(1): 17-29.

Calabrò, A., M. Vecchiarini, J. Gast, G. Campopiano, A. De Massis, and S. Kraus. 2018. Innovation in family firms: A systematic literature review and guidance for future research. *International Journal of Management Reviews*. In press. DOI:10.1111/ijmr.12192.

Campopiano, G., A., De Massis, F.R. Rinaldi, and S. Sciascia. 2017. Women's involvement in family firms: Progress and challenges for future research. *Journal of Family Business Strategy* 8(4): 200-212.

Campopiano, G., and E. Rondi. (2019). Hierarchical dyadic congruence in family firms: The interplay of supervisor and supervisee socioemotional wealth importance and familial status. *Entrepreneurship Theory and Practice*, in press. DOI: 1042258718796075.

Carney, M. (2005). Corporate governance and competitive advantage in family-controlled firms. *Entrepreneurship Theory and Practice,* 29(3), 249–265.

Ceipek R., Hautz J., De Massis A., Ardito L., and K. Matzler. 2020. Digital transformation through exploratory and exploitative Internet of Things innovations: The impact of family management and technological diversification. *Journal of Product Innovation Management*, in press. DOI: 10.1111/jpim.12551.

Cesinger, B., M. Hughes, H. Mensching, R. Bouncken, V. Fredrich, and S. Kraus. 2016. A socioemotional wealth perspective on how collaboration intensity, trust, and international market knowledge affect family firms' multinationality. *Journal of World Business*, 51(4), 586-599.

Chang, Y.-Y. and M. Hughes. 2012. Drivers of innovation ambidexterity in small-to medium-sized firms. *European Management Journal* 30(1): 1-17.

Chrisman, J. J., J. H. Chua, A. De Massis, F. Frattini, and M. Wright. 2015. The ability and willingness paradox in family firm innovation. *Journal of Product Innovation Management* 32(3): 310–318.

Chrisman, J. J., Chua, J. H., & Litz, R. A. (2004). Comparing the agency costs of family and non-family firms: Conceptual issues and exploratory evidence. *Entrepreneurship Theory and Practice*, 28(4), 335-354.

Chrisman, J. J., J. H. Chua, A. W. Pearson, and T. Barnett. 2012. Family involvement, family influence, and family-centered non-economic goals in small firms. *Entrepreneurship Theory and Practice* 36(2): 267-293.

Chrisman, J. J. and P. J. Patel. 2012. Variations in R&D investments of family and non-family firms: Behavioral agency and myopic loss aversion perspectives. *Academy of Management Journal* 55(4): 976-997.

Chrisman, J. J., P. Sharma, L. P. Steier, and J. H. Chua. 2013. The influence of family goals, governance, and resources on firm outcomes. *Entrepreneurship Theory and Practice* 37(6): 1249-1261.

Classen, N., A. van Gils, Y. Bammens, and M. Carree. 2012. Accessing resources from innovation partners: The search breadth of family SMEs. *Journal of Small Business Management 50*(2): 191–215.

Corbetta, G. and C. Salvato. 2004. Self-serving or self-actualizing? Models of man and agency costs in different types of family firms: A commentary on "Comparing the agency costs of family and non-family firms: Conceptual issues and exploratory evidence." *Entrepreneurship Theory and Practice* 28: 355-362.

Cruz, C. C., L. R. Gómez-Mejia, and M. Becerra. 2010. Perceptions of benevolence and the design of agency contracts: CEO-TMT relationships in family firms. *Academy of Management Journal* 53(1): 69-89.

Davidson, R. and J. MacKinnon. 1993. *Estimation and inference in econometrics*. New York: Oxford University Press.

Davis, J., F. Schoorman and L. Donaldson. 1997. Toward a stewardship theory of management. *Academy of Management Review* 22(1): 20–47.

De Massis, A. and N. J. Foss. 2018. Advancing family business research: The promise of microfoundations. *Family Business Review*, 31(4): 386-396.

De Massis A., F. Chirico, J. Kotlar, and L. Naldi. 2014. The Temporal Evolution of Proactiveness in Family Firms: The Horizontal S-Curve Hypothesis. *Family Business Review* 27(1): 35-50.

De Massis, A., D. Audretsch, L. Uhlaner, and N. Kammerlander. 2018. Innovation with limited resources: Management lessons from the German Mittelstand. *Journal of Product Innovation Management* 35(1): 125-146.

De Massis A., A. Di Minin, and F. Frattini. 2015. Family-driven innovation: Resolving the paradox in family firms. *California Management Review* 58(1): 5-19.

De Massis, A., F. Frattini, and U. Lichtenthaler. 2012. Research on technological innovation in family firms: Present debates and future directions. *Family Business Review* 26: 10-31.

De Massis, A., F. Frattini, J. Kotlar, A. Messeni-Petruzzelli, and M. Wright. 2016. Innovation through tradition: Lessons from innovative family businesses and directions for future research. *Academy of Management Perspectives* 30(1): 93-116.

De Massis, A., F. Frattini, E. Pizzurno and L. Cassia. 2015. Product innovation in family versus nonfamily firms: An exploratory analysis. *Journal of Small Business Management* 53(1): 1-36.

De Massis A., J. Kotlar, G. Campopiano, and L. Cassia. 2015. The impact of family involvement on SMEs' performance: Theory and evidence. *Journal of Small Business Management* 53(4): 924-948.

De Massis, A., J. Kotlar, F. Frattini, J. Chrisman, and M. Nordqvist. 2016. Family governance at work: Organizing for new product development in family SMEs. *Family Business Review* 29(2): 189-213.

De Massis, A., J. Kotlar, P. Mazzola, T. Minola, and S. Sciascia. 2018. Conflicting selves: Family owners' multiple goals and self-control agency problems in private firms. *Entrepreneurship Theory and Practice* 42(4): 362-389.

De Massis A., P. Sharma J.H. Chua, and J.J. Chrisman. 2012. *Family Business Studies: An Annotated Bibliography*. Cheltenham, UK: Edward Elgar.

Dieleman, M. 2019. Reaping what you sow: The family firm innovation trajectory. *Journal of Family Business Strategy* 10(4): 100248.
Doty, D. H. and W. H. Glick. 1998. Common methods bias: Does common methods variance really bias results? *Organizational Research Methods* 1: 374-406.
Duncan, R. B. (1976). The ambidextrous organization: Designing dual structures for innovation. In R. H. Kilmann, L. R. Pondy, & D. Slevin (Eds), *The Management of Organization* (pp. 167–188). New York: North-Holland.
Duran, P., N. Kammerlander, M. Van Essen, & T. Zellweger. 2016. Doing more with less: Innovation input and output in family firms. *Academy of Management Journal* 59(4): 1224-1264.
Eisenhardt, K.M. 1989. Agency theory: An assessment and review. *Academy of Management Review* 14(1): 57-74.
Feranita, F., J. Kotlar, and A. De Massis. 2017. Collaborative innovation in family firms: Past research, current debates and agenda for future research. *Journal of Family Business Strategy* 8(3): 137-156.
Filser, M., A. De Massis, J. Gast, S. Kraus, and T. Niemand. 2018. Tracing the roots of innovativeness in family SMEs: The effect of family functionality and socioemotional wealth. *Journal of Product Innovation Management* 35(4): 609-628.
Gali, N. K., T. Niemand, E. Shaw, M. Hughes, S. Kraus, and A. Brem. 2020. Social entrepreneurship orientation and company success: The mediating role of social performance. *Technological Forecasting & Social Change*, 160(November): 120230.
Gignac, G. E. 2007. Multi-factor modeling in individual differences research: Some recommendations and suggestions. *Personality and Individual Differences* 42(1): 37-48.
Gignac, G. E. 2009. Partial Confirmatory Factor Analysis: Described and Illustrated on the NEO – PI – R. *Journal of Personality Assessment* 91(1): 40-47.
Gersick, K. E., J. Davis, M. McCollom Hampton, and I. Lansberg. 1997. *Generation to Generation: Life Cycles of the Family Business*. Boston, MA: Harvard Business School Press.
Gómez-Mejía, L. R., K. T. Haynes, M. Núñez-Nickel, K. J. L. Jacobson, and J. Moyano-Fuentes. 2007. Socioemotional wealth and business risks in family-controlled firms: Evidence from Spanish olive oil mills. *Administrative Science Quarterly* 52: 106–137.
Hair J.F., R.L. Tatham, R.E. Anderson, and W. Black. 1998. *Multivariate Data Analysis*. 5th ed. New Jersey: Prentice Hall.
Hauck, J. & Prügl, R. 2015. Innovation activities during intra-family leadership succession in family firms: An empirical study from a socioemotional wealth perspective. *Journal of Family Business Strategy* 6(2): 104–118.
He, Z. L. and P. K. Wong. 2004. Exploration vs. exploitation: An empirical test of the ambidexterity hypothesis. *Organization Science* 15(4): 481-494.
Hernández-Linares, R. and M. C. López-Fernández. 2018. Entrepreneurial orientation and the family firm: Mapping the field and tracing a path for future research. *Family Business Review*, *31*(3), pp.318-351.
Herrero, I. and M. Hughes. 2019. When family social capital is too much of a good thing. *Journal of Family Business Strategy* 10(3): 100271.
Hu, Q. and M. Hughes. 2020. Radical innovation in family firms: A systematic analysis and research agenda. *International Journal of Entrepreneurial Behavior & Research*. In press. doi: 10.1108/IJEBR-11-2019-0658
Hughes, M., S.L. Martin, R.E. Morgan, and M. Robson. 2010. Realizing product-market advantage in high-technology international new ventures: The mediating role of ambidextrous innovation. *Journal of International Marketing* 18(4): 1–21.

Hughes, M. 2018. Organisational ambidexterity and firm performance: burning research questions for marketing scholars. *Journal of Marketing Management* 34(1-2): 178-229.
Hughes, M., M. Filser, R. Harms, S. Kraus, M. Chang, and C. Cheng. 2018. Family firm configurations for high performance: The role of entrepreneurship and ambidexterity. *British Journal of Management*, 29(4): 595-612.
Hughes, P., M. Hughes, P. Stokes, H. Lee, P. Rodgers, and W. Degbey. 2020. Micro-foundations of organizational ambidexterity in the context of cross-border mergers and acquisitions. *Technology Forecasting and Social Change*, 153: 119932.
Huse, M., S. Nielsen, and I. M. Hagen. 2009. Women and employee-elected board members, and their contributions to board control tasks. *Journal of Business Ethics* 89(4)*: 581-587.*
Jaskiewicz, P. and S. Klein. 2007. The impact of goal alignment on board composition and board size in family businesses. *Journal of Business Research* 60: 1080-1089.
Jensen, M. C. and W. H. Meckling. 1976. Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics* 3: 305–360.
Konig, A., N. Kammerlander, and A. Enders. 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.
Kotlar, J., and A. De Massis. 2013. Goal setting in family firms: Goal diversity, social interactions, and collective commitment to family-centered goals. *Entrepreneurship Theory and Practice* 37(6): 1263-1288.
Kotlar, J., A. De Massis, M. Wright and F. Frattini. 2018. Organizational goals: antecedents, formation processes and implications for firm behavior and performance. *International Journal of Management Reviews* 20: S3-S18.
Kotlar, J., H.C. Fang, A. De Massis, and F. Frattini. 2014. Profitability goals, control goals, and the R&D investment decisions of family and nonfamily firms. *Journal of Product Innovation Management* 31(6): 1128-1145.
Kyriakopoulos, K., M. Hughes, and P. Hughes. 2016. The Role of Marketing Resources in Radical Innovation Activity: Antecedents and Payoffs. *Journal of Product Innovation Management* 33(4): 398–417.
Le Breton-Miller, I., and D. Miller. (2006). Why do some family businesses out–compete? Governance, long–term orientations, and sustainable capability. *Entrepreneurship Theory and Practice*, *30*(6), 731-746.
La Porta, R., F. Lopez-de-Silanes, A. Shleifer, and R. Vishny. 1999. Corporate ownership around the world. *Journal of Finance* 54(2): 471-517.
Lee, J. 2006. Family firm performance: Further evidence. *Family Business Review* 19(2): 103–114.
Madison, K., D. T Holt, F. W. Kellermanns, and A. L. Ranft. 2016. Viewing family firm behavior and governance through the lens of agency and stewardship theories. *Family Business Review* 29(1): 65-93.
Malhotra, N. K., S. S. Kim, and A. Patil. 2006. Common method variance in IS research: A comparison of alternative approaches and a reanalysis of past research. *Management Science* 52(12): 1865-1883.
March, J. G. 1991. Exploration and exploitation in organizational learning. *Organization Science* 2: 71–87.
Mazzelli, A., J. Kotlar, and A. De Massis. 2018. Blending in while standing out: Selective conformity and new product introduction in family firms. *Entrepreneurship Theory and Practice* 42(2): 206-230.

Meade, A. W., A. M. Watson, and C. M. Kroustalis. 2007. *Assessing Common Methods Bias in Organizational Research*. Paper presented at the 22nd Annual Meeting of the Society for Industrial and Organizational Psychology, New York.
Melin, L., and M. Nordqvist. 2007. The reflexive dynamics of institutionalization: The case of the family business. *Strategic Organization 5*(3): 321-333.
Meuleman, M., K. Amess, M. Wright, & L. Scholes. 2009. Agency, Strategic Entrepreneurship, and the Performance of Private Equity-Backed Buyouts. *Entrepreneurship Theory and Practice* 33(1), 213–239.
Miller, D., and I. Le Breton-Miller. 2006. Family governance and firm performance: Agency, stewardship, and capabilities. *Family Business Review* 19(1): 73–87.
Miller, D., I. Le Breton-Miller, R.H. Lester, and A.C. Cannella. 2007. Are family firms really superior performers? *Journal of Corporate Finance* 13(5): 829–858.
Miller, D., M. Wright, I. Le Breton-Miller, and L. Scholes. 2015. Resources and innovation in family businesses: The Janus-face of socioemotional preferences. *California Management Review* 58(1): 20–41.
Moss, T.W., G.T. Payne, and C.B. Moore. 2014. Strategic consistency of exploration and exploitation in family businesses. *Family Business Review* 27(1): 51–71.
Neckebrouck, J., W. Schulze and T. Zellweger. 2018. Are family firms good employers? *Academy of Management Journal*. In press. doi:10.5465/amj.2016.0765
Neubauer, F. and A. Lank. 1998. *The Family Business: Its Governance for Sustainability*. London: Macmillan Business.
Newby, R., J. Watson, and D. Woodliff. 2003. SME survey methodology: Response rates, data quality, and cost effectiveness. *Entrepreneurship Theory and Practice* 28(2): 163–172.
Patel P. C. and J. J. Chrisman. 2014. Risk abatement as a strategy for R&D investments in family firms. *Strategic Management Journal* 35: 617–627.
Podsakoff, P.M. and D.W. Organ. 1986. Self-reports in organizational research: Problems and perspectives. *Journal of Management* 12: 531–544.
Rahman, M., S. Aziz, and M. Hughes. 2020. The product-market performance benefits of environmental policy: Why customer awareness and firm innovativeness matter. *Business Strategy and the Environment*, 29(5): 2001-2018.
Röd, I. 2016. Disentangling the family firm's innovation process: A systematic review. *Journal of Family Business Strategy* 7(3): 185-201.
Rondi, E., A. De Massis, and J. Kotlar. 2018. Unlocking innovation potential: A typology of family business innovation postures and the critical role of the family system. *Journal of Family Business Strategy*. In press. DOI: https://doi.org/10.1016/j.jfbs.2017.12.001.
Scholes, L. and N. Wilson. 2014. The Importance of Family Firm Trustees in Family Firm Governance. *Entrepreneurship Theory and Practice* 38(6): 1285–1293.
Schulze, W. S., M. H. Lubatkin, R. N. Dino, and A. K. Buchholtz. 2001. Agency relationships in family firms: Theory and evidence. *Organization Science* 12(2): 99–116.
Sciascia, S., M. Nordqvist, P. Mazzola, and A. De Massis. 2015. Family ownership and R&D intensity in small and medium-sized firms. *Journal of Product Innovation Management* 32(3): 349–360.
Suess, J. 2014. Family governance–Literature review and the development of a conceptual model. *Journal of Family Business Strategy* 5(2): 138-155.
Thomsen, S. and T. Pedersen, T. 2000. Ownership structure and economic performance in the largest European companies. *Strategic Management Journal* 21(6): 689-705.
Turner, N., J. Swart, and H. Maylor. 2013. Mechanisms for Managing Ambidexterity: A Review and Research Agenda. *International Journal of Management Reviews* 15: 317-332.

Wilson, N., M. Wright, and L. Scholes. 2013. Family business survival and the role of boards. *Entrepreneurship Theory and Practice* 37(6): 1369–1389.

Wiseman, R.M. and L.R. Gomez-Mejia. 1998. A behavioral agency model of managerial risk taking. *Academy of Management Review*, *23*(1), pp.133-153.

Wright, M., A. De Massis, L. Scholes, M. Hughes, and J. Kotlar. 2016. Family Business Entrepreneurship. *Report commissioned by the Institute for Family Business Research Foundation. IFB, London.* Accessible here: https://www.ifb.org.uk/media/1874/ifbrf-entrepreneurship-report.pdf.

Young, M. N., M. W. Peng, D. Ahlstrom, G. D. Bruton, and Y. Jiang. 2008. Corporate governance in emerging economies: A review of the principal–principal perspective. *Journal of Management Studies* 45(1): 196–220.

Zellweger, T. and N. Kammerlander. 2015. Family, wealth, and governance: An agency account. *Entrepreneurship Theory and Practice* 39(6): 1281–1303.

Zellweger, T. 2007. Time horizon, costs of equity capital, and generic investment strategies of firms. *Family Business Review* 20: 1–15.

Zellweger, T. M., R. S. Nason, M. Nordqvist, and C. Brush 2013. Why do family firms strive for nonfinancial goals? An organizational identity perspective. *Entrepreneurship Theory and Practice* 37(2): 229–248.

Table 1a: Descriptive Statistics of Continuous and Categorical Variables

	N	Min	Max	Mean	Std. Dev
Variables					
Turnover/£1000	317	740.0	3265412.0	77040.6	287747.0
Age/Years	328	3.8	117.0	37.0	25.7
ROA(2014)/%	313	-26.4	40.3	7.2	7.8
FamOwnership/%	325	50	100	95.9	9.4
FemBoard/%	309	0	100	23.1	21.3
FamManagers/%	318	0	100	20.2	26.7
NextGenInvolve	314	1	7	3.3	2.4
Exploration (3 item composite)	310	1.0	7.0	5.1	1.6
Exploitation (4 item composite)	310	1.0	7.0	5.0	1.6

Table 1b: Frequencies of Dichotomous Variables

	Yes number (%)	No number (%)	Total number (%)
Variables			
IndManuf	88 (26.2)	242 (73.8)	328 (100)
FirstGen	125 (38.8)	197 (61.2)	322 (100)
FamChair	287 (89.4)	34 (10.6)	321 (100)
FamCEO	261 (79.8)	66 (20.2)	327 (100)
Trustees	26 (8.2)	293 (91.8)	319 (100)
Family Council	49 (15.2)	274 (84.8)	323 (100)

Table 2: Pearson Correlations Between all Variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Turnover	1														
2. Age	.104	1													
3. IndManuf	-.029	.103	1												
4. FirstGen	.031	-.265**	-.120*	1											
5. ROA(2014)	.009	-.022	.103	.056	1										
6. FamOwnership	.040	-.007	-.146**	-.112*	.055	1									
7. FemBoard	-.097	-.154**	-.038	.022	.105	.153**	1								
8. FamChair	-.041	-.037	-.002	.030	.142*	.175**	.147*	1							
9. FamCEO	-.126*	-.127*	-.032	.022	.036	.196**	.096	.230**	1						
10. FamManagers	.072	.094	-.051	-.077	.020	.070	.120*	.064	.147**	1					
11. NextGenInvolve	.047	-.060	.042	-.148**	.017	.046	.114	.137*	.165**	.321**	1				
12. Trustees	.119*	.052	.061	-.016	-.029	.017	-.091	.025	-.080	.056	-.033	1			
13. Family Council	.136*	.184**	.084	-.150**	.033	.109	-.115*	-.029	-.071	.177**	.028	.069	1		
14. Exploration	-.017	-.152**	.183**	.041	.034	.044	.164**	.099	-.002	.022	.237**	.017	.116*	1	
15. Exploitation	.000	-.020	.167**	-.039	.038	.061	.034	.041	.055	.069	.180**	.064	.101	.397**	1

* Correlation is significant at the 0.05 level (2-tailed); ** Correlation is significant at the 0.01 level (2-tailed)

Table 3: Effects of Family Management (CEO, managers, and next generation) and Family Guardianship (Trustees, Councils) on Exploration and Exploitation

	Exploration β		**Exploitation β**	
Control Variables	Model 1	Model 2	Model 3	Model 4
Turnover	.018	-.023	.010	-.017
Age	-.145*	-.142*	-.040	-.033
IndManuf	.216**	.191**	.180**	.163**
FirstGen	.029	.083	-.022	.016
ROA(2014)	-.020	-.023	.010	.010
FamOwnership	.046	.041	.076	.061
FemBoard	.136*	.140*	.020	.017
FamChair	.069	.058	.023	-.003
Independent Variables				
Family Management				
FamCEO		-.069		.024
FamManagers		-.064		.002
NextGenInvolve		.237**		.164*
Family Guardianship				
Trustees		.022		.061
Family Council		.154**		.086
R Square	0.093	0.163	0.038	0.075
Adjusted R Square	0.067	0.124	0.011	0.032
Overall Model Significance	0.000	0.000	0.192	0.051

* $p < .05$; ** $p < .01$ Regression coefficients (β) are standardized