Received 4 August 2020
Revised 16 December 2020
27 April 2021
30 July 2021
Accepted 26 September 2021

Does one size fit all? A configurational approach to board effectiveness in limiting the excess cash

Marina Brogi
Management, Sapienza University of Rome, Rome, Italy
Carmen Gallucci
Management and Innovation Systems, University of Salerno, Fisciano, Italy and IPAG Family Business Institute (IFBI), IPAG Business School, Paris, France, and
Rosalia Santulli
IPAG Family Business Institute (IFBI), IPAG Business School, Paris, France and Department of Economics, University of Genoa, Genova, Italy

Abstract

Purpose – The study, by focusing on a context dominated by firms with a concentrated ownership, in which type-II agency problems (principal-principal conflicts) may occur, aims to depict which board configurations may be effective in protecting minority shareholders by mitigating the risk of controlling shareholders' expropriation via cash holdings.

Design/methodology/approach – The research adopts a configurational approach and empirically conducts a fuzzy set/qualitative comparative analysis on a sample of 268 Italian listed companies.

Findings – The analysis depicts three combinations of board configurations and ownership structures that can be considered effective, namely Active Independent Control, Female Active Control and Double Internal Control.

Originality/value – The study revisits the topic of the risk of expropriation via cash holdings in a type-II agency problem framework and delineates the meaning of board effectiveness in a mature context ruled by family firms, like Italy. Furthermore, by drawing on a configurational approach, it overcomes the causality relationship between each board characteristic and cash holdings policies and reasons from a "bundle" perspective.

Keywords Cash holdings, Board effectiveness, Configurational approach, Minority shareholders' protection, Principal–principal conflicts

Paper type Research paper

Introduction

In light of the recent economic and financial crisis, caused by the unprecedented COVID-19 pandemic, corporate cash holdings are receiving growing attention from both business practitioners and academic researchers (Benkraiem *et al.*, 2020). Management decisions concerning liquidity are actually critical to a company. While in a perfect financial market, there would be no incentive for companies to hold substantial amounts of cash, as they could transfer assets to cash or get funded at a fair cost in the market immediately, in the real market, because transaction costs and asymmetric information exist, companies need to

Management Decision
Vol. 59 No. 13, 2021
pp. 136-163
Emerald Publishing Limited
0025-1747
DOI 10.1108/MD-08-2020-0999

reserve cash (Couderc, 2006). Accordingly, several studies have remarked on the importance of internal cash resources (Chang *et al.*, 2017; Nason and Patel, 2016). At the same time, they have also underlined the need to have effective corporate governance to guarantee the right levels of cash reserves (Deb *et al.*, 2017; Schauten *et al.*, 2013). If on the one hand, cash allows firms to ensure daily operations, is immediately available and may be used as a buffer to prevent high opportunity costs during a cash shortage (Opler *et al.*, 1999; Ozkan and Ozkan, 2004), on the other hand, cash flows should not be used for extracting private benefits (Jensen and Meckling, 1976).

To mitigate this risk and protect the (minority) shareholders through adequate governance mechanisms (Harford *et al.*, 2008), it is then necessary to improve the quality of corporate governance (Dittmar *et al.*, 2003; Pinkowitz and Williamson, 2001; Harford *et al.*, 2008; Brogi and Lagasio, 2019; Lagasio, 2018). A pivotal role to mitigate agency concerns in cash holdings is played by the board of directors (BoD, henceforth) (Lee and Lee, 2009). Broad literature has focused its attention on this governing body, however mainly investigating public companies (for a review, Akhtar *et al.*, 2018), while leaving firms with concentrated ownership, such as family-controlled firms, out of investigation (few exceptions, Boubaker *et al.*, 2015; Kuan *et al.*, 2011). These firms are especially complex because, in addition to common business requirements and opportunities, they suffer from the needs and desires of the family owners (Ward, 1978), who may transform the liquid assets into private benefits at a lower cost than that of other assets (Myers and Rajan, 1998), thus pursuing their personal interests rather than those of the minority shareholders (Yeh *et al.*, 2001). In such a firm, another agency problem, different from the principal–agent conflict (type-I agency problem) which is frequently evident in public companies, often occurs. It is the type-II agency problem, the principal–principal conflict (PP conflict) (Walsh and Seward, 1990; Dharwadkar *et al.*, 2000) emerging between controlling and minority shareholders. This problem may be a source of agency costs and determine the risk of expropriation by controlling shareholders via cash holdings. Although this problem exists and needs to be deepened in firms with a concentrated ownership, existent literature is mainly focused on the type-I agency problem when applying agency theory to decisions relating to cash holding. Studies investigating the effect of conflicts between controlling and minority shareholders (PP conflicts) on cash holdings policy and the role of BoD in mitigating them are comparatively few (Jebran *et al.*, 2019). To fill this gap, the present study, by drawing on the PP conflict perspective, investigates the effectiveness of the BoD in mitigating the risk of expropriation via cash holdings in the Italian context, dominated by family firms (68.8%) (Aidaf, 2018). More in details, it aims to address the following research question: which board configurations may be effective in protecting minority shareholders by mitigating the risk of controlling shareholders' expropriation via cash holding?

As the concept of board effectiveness regarding cash holdings is multidimensional and contingent to the context of analysis, a first effort of our research is providing an interpretation valid for mature contexts, dominated by firms with a concentrated ownership. Briefly, in such contexts, an effective BoD is one that reduces agency costs and aligns the interests between majority and minority shareholders (Young *et al.*, 2008), through its disciplinary and monitoring role (Boubaker *et al.*, 2015), and is able to provide firm financial resources with advantageous costs. Put differently, we consider a BoD as effective when it keeps the level of cash low.

To find an answer to the research question, we offer a configurational interpretation (Misangyi *et al.*, 2017) to the board effectiveness regarding cash holding policies, so overcoming the previous studies that considered separately and in a causality relationship the effect of the single characteristic of BoD (board leadership, structure, diversity, functioning) on cash holding policies (e.g. Ullah and Kamal, 2017; Lee and Lee, 2009; Kuan *et al.*, 2012; Harford *et al.*, 2008; Cambrea *et al.*, 2021). The configurational approach, the use of

which is still rare in the corporate governance field (Filatotchev and Wright, 2017), reasons instead in terms of the interdependence of "bundles" of corporate governance (Rediker and Seth, 1995) and in terms of equifinality (Aguilera *et al.*, 2011). Its application allows us to find evidence that there are multiple board configurations that can be considered effective in mitigating the risk of expropriation by controlling shareholders via cash holdings. Accordingly, we warn of the perils of a "one-size-fits-all" governance solution and invite practitioners to consider the board configuration most suitable to their characteristics and expectations.

Empirically, we conduct a fuzzy set/qualitative comparative analysis (fs/QCA) methodology (e.g. Bell *et al.*, 2014) on a sample of 268 Italian listed companies. Considering the years 2017 (for board characteristics) and 2018 (for measuring excess cash), we depict three effective combinations of board configurations equally able to mitigate the risk of controlling shareholders' expropriation via cash holdings, by keeping the levels of liquidity low: an *Independent Active Control* (IAC) configuration, that combines, in firms with a family ownership dispersion, a higher percentage of independent directors on the board and on the nomination committee with a high number of audit committee meetings, but short in duration. Second, a *Female Active Control* (FAC) configuration that considers a higher percentage of independent women directors, combined with a high frequency of board and audit committee meetings, as a condition sufficient for limit excess cash. Third, a *Double Internal Control* (DIC) configuration that associates the family ownership concentration with a large board size and the absence of CEO duality. In such a case, the ownership is concentrated in the hands of one family member; thus, the absence of CEO duality and a large board size become essential to avoid the risk of expropriation by the controlling shareholder via cash holdings.

Our research extends a growing body of research related to the BoD's effectiveness in cash holding decisions and thus contributes to the corporate finance and governance literatures. First, we contribute to the field of studies on the risk of expropriation by controlling shareholders via cash holdings, by depicting BoD configurations able to effectively mitigate such a risk. Differently from previous studies focusing on public companies (Akhtar *et al.*, 2018), we consider a context dominated by firms with a concentrated ownership and, in doing so, we revisit the topic in a type-II agency problem framework. Second, we also contribute to the corporate governance literature, by delineating the meaning of the multidimensional concept of board effectiveness in a mature context ruled by family firms, like Italy; furthermore, by drawing on a configurational approach, the work overcomes the causality issue highlighted in many previous studies focused on board characteristic and cash holdings policies. It depicts different possible board configurations suitable for mitigating the risk of expropriation by controlling shareholders via cash holdings, by looking at the association between specific features of the board and avoiding the endogeneity problem, which is typically identified in corporate governance studies. Thus, this work is intended to extend previous literature on this topic and provide future research avenues for scholars. Furthermore, to practitioners, the research could suggest which configurations of corporate governance are more effective in limiting excess cash and the risk of expropriation by the controlling shareholder via cash holdings. In detail, we identify three different configurations of the BoD that can overcome a type-II agency problem and inspire companies to choose directors with the most appropriate combination of characteristics: (1) Independent Active Control; (2) Female Active Control and (3) Double Internal Control.

Theoretical background

The theoretical framework: the agency theory and the principal–principal conflict

To understand corporate cash holdings policies, three theoretical models are alternatively used. First, the trade-off model posits that firms identify their optimal level of cash holdings

by weighting the marginal benefits and costs of holding cash (Miller and Orr, 1966; Kim *et al.*, 1998; Opler *et al.*, 1999). While the benefits are various, such as the lower likelihood of financial distress or the greater financial flexibility and capacity to catch investment opportunities, the main cost is the opportunity cost of the capital invested in liquid assets.

Second, the pecking order theory postulates that firms rank retained earnings, riskless debt, risky debt and equity as the preferred financing channels in order to minimize the costs arising from the presence of information asymmetry (Myers and Majluf, 1984). Accordingly, cash holdings mainly originate from transaction costs and precautionary motives (Keynes, 1936; Du and Beuselinck, 2017). Put differently, while other external financing resources are more expensive and involve problems related to asymmetric information, cash holdings are without apparent costs (Myers and Majluf, 1984), and this might also allow investments in times of financial difficulties (Bates *et al.*, 2009; Han and Qiu, 2007; Opler *et al.*, 1999), by maintaining the operation independently of the external interference. Firms can, therefore, retain part of their earnings as cash reserves to fund their investment activities and take advantage of all available profitable growth opportunities, through financial flexibility and without the disciplinary constraints exerted by capital markets.

Third, the agency theory of cash flows (Jensen, 1986) suggests that keeping cash in excess of that needed for the firm's operating cycle may be conducive to the risk of misappropriation of these funds by controlling shareholders (shareholder power hypothesis) or may represent an incentive for entrenched managers to hold the cash rather than distributing it to shareholders (flexibility hypothesis) and to pursue strategies that are not aligned with the shareholders' value maximization, but that benefit them the most (spending hypothesis) (Harford *et al.*, 2008). In other words, free cash flows are liable to be squandered on projects with negative net present value, to artificially inflate the size of the firm without correspondingly increasing the wealth of its shareholders, leading to free cash flow agency problems (Dittmar *et al.*, 2003). Such agency problems may be connected to the type-I agency problem between principal and agent or to the type-II agency problem between majority and minority shareholders. In this study, as we focus on a context dominated by firms with a concentrated ownership, we specifically rely on the type-II and revisit the topic of cash holdings in a PP conflict framework. The PP conflict framework suggests that principals can be the key source of inefficiencies in organizations and the cause of governance problems (the type-II agency problem) (Dalziel *et al.*, 2011) because of their heterogeneous interests (Connelly *et al.*, 2010). PP conflicts are characterized by concentrated ownership and control, poor institutional protection of minority shareholders and indicators of weak governance, such as (in many cases) expropriation of minority shareholders (Faccio *et al.*, 2001). Expropriation by majority shareholders is not simply a matter of redistribution among shareholders. Indeed, as Faccio and colleagues noted in 2001, majority shareholders can choose to invest in projects with low or negative returns because they create opportunities for expropriation. Such a situation may happen in an entrepreneurial context, like Italy, dominated by firms with a concentrated ownership, where majority shareholders might pursue their personal interests and behave opportunistically by transforming liquid assets into private benefits, to the detriment of minority shareholders. We, then, reason about "the tunnelling in the Private Benefit of Control matrix" proposed by Ehrhardt and Nowak (2003). Seen in this light, excess cash holdings can provide controlling shareholders with more opportunities to engage in opportunistic activities to obtain private benefits and increase personal wealth.

In support of this view, recent related literature documents the importance of corporate governance quality on firm cash holdings. According to Faulkender and Wang (2006), the firm value decreases with cash holdings levels and is sensitive to corporate governance practices (Pinkowitz and Williamson, 2001; Kalcheva and Lins, 2007; Dittmar and Mahrt-Smith, 2007; Schauten *et al.*, 2013). In support of this view, literature related to the interest-alignment

hypothesis documents the importance of corporate governance quality on firm cash holdings, as weak corporate governance further encourages excess cash holdings (Harford *et al.*, 2008; Dittmar *et al.*, 2003; Kalcheva and Lins, 2007; Dittmar and Mahrt-Smith, 2007; Nikolov and Whited, 2009). After all, already in 1983, Fama and Jensen (1983) highlighted the importance of internal disciplinary mechanisms, particularly the BoD, in increasing the shareholder value through strong monitoring. Since the BoD have direct access to a wealth of information concerning the firm's strategic decisions, it can adequately monitor operations and avoid controlling shareholders turning excess corporate cash into personal benefits, which is less costly than transferring other assets to private benefits (Myers and Rajan, 1998; Papaioannou *et al.*, 1992). Additionally, an effective board may ensure a certain quality of the disclosed information and reduce information asymmetry, thus increasing a firm's capability of raising funds externally, which implies a negative relationship between board effectiveness and cash holdings (Ozkan and Ozkan, 2004). Moreover, an effective BoD must be able to thwart the opportunistic behavior of any controlling shareholder with substantial discretionary power and protect the rights of minority shareholders. Finally, an effective board provides firm financial resources with advantageous costs.

Effectiveness of the BoD and corporate cash holdings

The effectiveness of a BoD is a multidimensional concept and its interpretation with regard to cash holdings depends on the context of analysis because the value of cash holdings is contingent to the (internal and external context) of the firms (La Rocca and Cambrea, 2019). For example, firms need to hold large amounts of cash when they work in dynamic contexts with high growth opportunities (Opler *et al.*, 1999). In those cases, a board is effective if it is able to keep cash within the firm and prevent it from being subtracted and not used for investment opportunities. This research focuses instead on a mature context, dominated by firms with a concentrated ownership. A mature context offers fewer growth opportunities, thus requiring the detention of less liquidity. Furthermore, firms with a concentrated ownership, like family firms, may suffer from PP conflicts (Walsh and Seward, 1990; Dharwadkar *et al.*, 2000) and may need a BoD able to mitigate the risk of expropriation by controlling shareholders and reduce the associated agency costs (Anderson and Reeb, 2004). On this point, Jebran *et al.* (2019) demonstrate that controlling shareholders expropriate minority shareholders by holding larger cash reserves and that PP conflicts are positively associated with cash holdings. In the same vein, numerous empirical studies, based on the free cash flow hypothesis, document a positive association between corporate cash holdings and the magnitude of agency costs (Dittmar *et al.*, 2003; Harford *et al.*, 2008). In these cases, an effective BoD is one that reduces agency costs and aligns the interests of majority and minority shareholders, by means of its disciplinary and monitoring role (Fama and Jensen, 1983). Similarly, Boubaker *et al.* (2015) underline the relevance of the disciplinary role of BoDs in contexts dominated by firms with a concentrated ownership. They must ensure that shareholders do not use cash resources to satisfy private benefits. Furthermore, a board is effective when it is able to provide firm financial resources with advantageous costs. In this circumstance, a firm does not need to retain too much cash to support investment decisions. According to Corbetta and Salvato (2004), in a family-controlled firm, this ability, likewise in other firms, depends on the board size, board composition and board activities (Pfeffer, 1972; Hillman *et al.*, 2000; Forbes and Milliken, 1999; Sonnenfeld, 2002) but is also heightened by family business experience. On the basis of these arguments, as this research focuses on a mature context dominated by family firms, we consider a BoD as working effectively when it limits the excess cash.

To sum up, the present research, drawing on the PP conflict under the umbrella of agency theory, aims to verify which board configurations may be considered effective in mitigating

the risk of expropriation by controlling shareholders via cash holdings. To depict effective board configuration, this study considers board leadership, structure, diversity and functioning simultaneously.

The size of the BoD

The number of directors sitting on the board is deemed to shape the quality of board monitoring activities, as they depend on communication and cooperation in the boardroom, which in turn depend on the number of directors (Boubaker *et al.*, 2015). As research in organization teaches, large groups should perform less well because of the efforts in coordinating multiple individuals, controlling potential free riders and managing the decision-making process (Steiner, 1972). Although larger boards probably offer a broader pool of knowledge and skills, their organizational inefficiencies seem to be considerably more, thus implying potentially important agency costs (Eisenberg *et al.*, 1998; Mak and Kusnadi, 2005; Lee and Lee, 2009). Cambrea *et al.* (2021) find that in steady-state period many directors make the board inefficient in controlling and supervising the management. On the opposite end of the scale, small boards are conducive to high-quality monitoring tasks as an outcome of more efficient coordination between fewer directors (Lipton and Lorsch, 1992; Yermack, 1996). Therefore, in companies with larger boards, the bureaucracy reduces the tight hold on controlling shareholders and provides them with the opportunity of holding excessive cash, while companies with small boards should limit the tendency to accumulate excessive cash (Gill and Shah, 2012; Kusnadi, 2005).

The composition of the BoD

An important aspect of reducing potential agency conflicts and having an effective board on cash holding decisions concerns the board composition (Hermalin and Weisbach, 2001; Ozkan and Ozkan, 2004; Weir *et al.*, 2002). If, on the one hand, the presence of directors with executive duties is useful in supporting the CEO and not concentrating executive power solely in his/her hands; on the other hand, outside (non-executive) directors are appointed to act in the (minority) shareholders' interests (Rosenstein and Wyatt, 1997; Mayers *et al.*, 1997) and are incentivized to show that they actually act in such a way so as to maintain a good reputation (Fama and Jensen, 1983). Nonexecutive directors perform a significant monitoring and disciplining function over executive directors, thus, boards with greater outside director representation are likely to experience a reduction in the agency costs of external finance (Kaplan and Reishus, 1990; Ozkan and Ozkan, 2004). Accordingly, outside-dominated boards will lead to more effective decisions relating to cash holdings, i.e. holding lower amounts of cash, than boards dominated by inside (executive) directors (Belghitar and Khan, 2013).

The independence of the BoD

The independence of directors is a key factor in the quality of monitoring provided by the BoD. Independent directors, unlike other kinds of board members, sit on boards with the main purpose to control and protecting the interests of stakeholders. They are not financially involved in the firm and need to protect their reputation and compensation (Yermack, 2004) and then they are presumed to have completely objective oversight (Rosenstein and Wyatt, 1990; Adams *et al.*, 2010). Governance literature shows that the independent directors play a pivotal role in firms with a concentrated ownership, like family firms, because of the presence of family owners prone to exploit the benefit related to their involvement in the firm (Faccio *et al.*, 2001). Scholars maintain that effective board monitoring in firms with family ownership requires a balance between family and nonfamily independent directors, to protect minority shareholders from opportunistic behavior on the part of the family (Anderson and Reeb,

2004). The appointment of independent directors is particularly important when the divergence between family and nonfamily owners becomes large and costly, to avoid the potential for moral hazard behaviors at the expense of outside shareholders.

In relation to cash policies, as large cash holdings are associated with increasing expropriation risks, higher agency costs, information asymmetries and misappropriation by controlling shareholders (Harford, 1999), firms with a greater presence of independent directors are expected to have lower cash levels (Ozkan and Ozkan, 2004; Cambrea *et al.*, 2021).

The diversity of the BoD

Another aspect of board directors influencing cash holdings policies is the presence of women, as they tend to monitor finances more stringently when in governance (Adams and Ferreira, 2009). The most recent paper investigating the impact of gender diversity on corporate cash holdings shows that the presence of women in monitoring functions, ruled by independent directors and female chairs, led to a decrease in cash reserves (Cambrea *et al.*, 2020). The suggested rationale is that independent female directors, who are appointed to monitor management, wish to reduce agency costs arising from free cash flow and, therefore, diminish the availability of cash; instead, female directors fulfilling executive positions may be more willing to store increased cash reserves, due to their greater aversion to risk (Faccio *et al.*, 2016; Martín-Ugedo *et al.*, 2018), in order to preserve the firm's financial flexibility.

The activity of the BoD

Another important aspect to take in account is the functioning of the board, a less explored determinant of board effectiveness (Gabrielsson and Winlund, 2000; Johnson *et al.*, 1996). Here, we consider it in terms of number of board meetings in one year (frequency) and in terms of average time spent in each meeting (duration). Board functioning plays a pivotal role in ensuring the protection of the interests of minority shareholders (Catuogno *et al.*, 2018). Empirical research has shown that the frequency and duration of board meetings, which are measures of the time that directors devote to their board functions, influence the ability of the board to fulfill its monitoring task (Zona and Zattoni, 2007). In turn, board monitoring has a positive impact on firm value by preventing potential misappropriations (Bammens *et al.*, 2011). Accordingly, we maintain that a well-functioning BoD is able to mitigate the risk of expropriation by controlling shareholders via cash holdings. Specifically, short monthly meetings may foster the monitoring function of a board although they are costly in terms of time and resources (Eluyela *et al.*, 2018; Hanh *et al.*, 2018).

The board committees

Finally, another important aspect concerning board composition and functioning is the presence of internal committees. We refer to nomination, compensation and audit committees that support the overall board activities. The composition and the functioning of these committees may also influence the quality of monitoring activities and in turn the cash holdings policies. For example, director independence is considered crucial for the determination of the executive's compensations (Clifford and Evans, 1997; Cotter and Silvester, 2003) beyond the reduction of agency problems (Christensen *et al.*, 2010). Executive directors may, instead, influence corporate remuneration policies to their advantage and, in the nomination committee, the nomination of board members may be based on their recommendation. Finally, regarding the audit committee, having executive directors as members hinders monitoring capabilities (Menon and Deahl Williams, 1994). Instead, more frequent, short meetings are deemed to be more positive (Hoque *et al.*, 2013) because the audit

committee oversees a company's activities and ensures the protection of the minority shareholder's interests by guaranteeing good governance practices (Kunitake, 1983), such as financial reporting (Lagasio and Brogi, 2021), internal controls and risk management (DeZoort *et al.*, 2002; Eichenseher and Shields, 1985).

CEO duality

The quality of monitoring by the BoD also depends on its leadership structure (Brickley *et al.*, 1997; Krause, 2017). The chairman of the board plays a crucial role in ensuring effective governance as he/she supervises the CEOs and top managers' behavior (Palvia *et al.*, 2014), settles potential contradictory relationships between management and shareholders and among shareholders and operates effectively to protect the interest of both majority and minority shareholders. In this light, although the CEO duality, that occurs when the positions of the CEO and the chairman are held by the same person (Rechner and Dalton, 1991), creates a strong leadership, it reduces the effectiveness of the monitoring activities of board members (Fama and Jensen, 1983; Jensen, 1993; Finkelstein and D'Aveni, 1994). CEOs are in a position in which they are easily able to acquire knowledge and information relating to the firm (Daily and Dalton, 1997) which they could decide to withhold, thus limiting the disclosure (Gul and Leung, 2004) and negatively impacting, in turn, the board's effectiveness in terms of the monitoring function (Lipton and Lorsch, 1992; Goyal and Park, 2002). It then follows that boards chaired by a CEO should be less effective in limiting discretion over corporate resources, especially regarding the use of cash. However, the results in the literature are conflicting. While certain scholars maintain that cash holding is positively affected by CEO duality (Gill and Shah, 2012; Drobetz *et al.*, 2010; Cambrea *et al.*, 2021), maybe because the CEO/chairman does not act in the best interests of shareholders, others embrace the concept that ineffective monitoring of the board is one of the reasons for poor governance and suggest that when the CEO is also the chairman, firms holds less cash, as directors spend cash quickly (Harford, 1999).

Ownership structure

Beyond the BoD, it is also opportune to consider the impact of ownership structure on cash holdings (Ozkan and Ozkan, 2004). Our context of analysis is dominated by firms with a concentrated ownership, mostly family firms (68.8%; Aidaf, 2018). Although the literature has, on many occasions, considered this type of ownership structure as homogeneous, we consider ourselves more in agreement with the authors who claim that different family ownership constellations may exist (e.g. Arregle *et al.*, 2012; Calabrò and Mussolino, 2013; Sciascia *et al.*, 2012). To capture this aspect, we refer to the Herfindahl index that allows us to evaluate the level of ownership concentration/dispersion within the majority family shareholders' group. In doing so, we may distinguish those family firms in which a huge concentration of ownership is in the hands of one family shareholder from those in which family ownership is equally distributed among a large number of family members, as well as the continuum between these two extremes. While in the first case, the risk of misappropriation by a single family shareholder is higher in relation to minority shareholders (Faccio *et al.*, 2001), in turn increasing agency costs and potential PP conflicts, in the case of ownership equally distributed among family shareholders, even family PP conflict may occur (Calabrò *et al.*, 2017; Santulli *et al.*, 2019). The family shareholder group is indeed composed of nonhomogenous members who might have different goals, strategic views and identities (Hautz *et al.*, 2013; Basco and Calabrò, 2017). This example is a possible source of further inefficiencies and agency problems among different "family" principals who may have greater opportunities to reap the private benefits of control (Singla *et al.*, 2014).

Table 1 summarizes previous literature on the effects of each board characteristic on cash holdings.

Board characteristics	Meaning	Effects on cash holdings
Board size	Number of directors that sit on the board	Positive
Board composition	Percentage of non-executive board members	Negative
Board independence	Percentage of independent directors on the total number of directors that sit on the board	Negative
Board diversity	Percentage of independent women directors on the total number of board members	Negative
Board activity	Number of meetings in 1 year and the average duration of each meeting	Negative (frequency) Positive (duration)
Audit/compensation/nomination committee composition	Percentage of non-executive board members	Negative
Audit/compensation/nomination committee independence	Percentage of independent board members on the committee	Negative
Audit/remuneration/nomination committee activity	Number of meetings in 1 year, and the average duration of each meeting	Negative (frequency) Positive (duration)
CEO duality	Overlap between CEO and chairman	Positive/Negative

Table 1.
The effects of Board characteristics on cash holdings

It highlights both positive and negative effects as well as inconsistent effects. However, previous literature focused on the causal relationship, while the present study aims to depict the configurations, i.e. the combination of different board characteristics, which make the board effective in mitigating the risk of expropriation by controlling shareholders via cash holdings.

The following section describes how the configurational approach, applied to data through an fs/QCA, may help identify the different configurations for an effective BoD.

Method

Configurational approach and fs/QCA

The study draws upon a configurational approach, the use of which is still rare in the corporate governance field (Filatotchev and Wright, 2017). It reasons in terms of the interdependence of "bundles" of corporate governance (Rediker and Seth, 1995). The concept of "bundle" refers to a combination of board characteristics that interact and, consequently, complement or replace one other (Yoshikawa *et al.*, 2014; Aguilera *et al.*, 2011). From this perspective, the board effectiveness regarding cash holdings policies depends on the simultaneous presence of different characteristics rather than on the effectiveness of one single aspect (Rediker and Seth, 1995). This also means that each company must find its own bundle on the basis of a compromise between costs and benefits to efficiently and effectively mitigate the risk of expropriation on the part of the controlling shareholders.

Schematically, the concept of "bundle" can be summarized in four "insights" (Schnyder, 2012): "configurational claim", "equifinality claim", "contingency claim" and "degrees of implementation claim". The first considers that the effect of board effectiveness on cash holding decisions is achievable if the board characteristics are studied in combination with others rather than employed individually (Ragin, 2008). Furthermore, different bundles can lead to the same result (equifinality) which, in the context of this research, means that different board configurations can be equally effective (Aguilera *et al.*, 2011). The third insight, related to the theory of contingency, suggests that board effectiveness in mitigating the risk of expropriation by controlling shareholders via cash holdings is contingent in relation to the context, both at corporate level (Ward *et al.*, 2009) and at environmental level (Dedman and Filatotchev, 2008). For this reason, we focus on a unique context, dominated by

firms with a concentrated ownership. Moreover, this supports the idea that no organization is more efficient or better than another, but each firm is unique and influenced by its own path dependence (Bebchuk and Roe, 1999). Finally, the fourth intuition of the bundle approach refers to the degree of implementation of governance activities. For example, a governance practice is not entirely present or absent in a firm, as its characteristics and the context in which it operates could make the application very different: for example, even if two firms own the same number of independent directors, the definition and intensity of independence can vary considerably between them.

To empirically apply the configurational approach and bundle perspective, we use an fs/QCA, a theoretically and methodologically promising research strategy (Woodside, 2013; Roig-Tierno *et al.*, 2016; Kan *et al.*, 2016; Kraus *et al.*, 2018). This is currently widely used by scholars for testing theories in the social sciences (Bell *et al.*, 2014). An fs/QCA is particularly appropriate when researchers argue that a combination or bundle of factors is cause for an outcome (Filatotchev and Wright, 2017; Fiss, 2007). Indeed, an fs/QCA does not only analyze the isolated effect of two or more variables in relation to interest but also explores all the possible interactions between these variables, as they occur in reality (Misangyi and Acharya, 2014; Pinto and Picoto, 2016). Therefore, an fs/QCA is particularly appropriate in terms of exploring and mapping the various existing configurations of corporate governance within firms and evaluating their relative effectiveness (García-Castro *et al.*, 2013).

The technique is based on set theory and identifies to what extent causal conditions can count as sufficient and/or necessary for a given outcome. An essential property of the fs/QCA is that it develops causal analysis in terms of configurations. Using Boolean algebra, it explores whether causal configurations (causal conditions) are sufficient for a certain outcome to occur. A representation of both the causal conditions and outcome uses fuzzy set scores (Ragin, 2009). The calibration requires an anchoring of three qualitative breakpoints: full membership (1), full nonmembership (0) and the ambiguous crossover point (0.5). These values correspond to the threshold for full membership (fuzzy score = 0.95), the crossover point (fuzzy score = 0.5) and the threshold for full nonmembership (fuzzy score = 0.05) (Ragin, 2008). In this study, the values of the 95th, 50th and 5th percentiles correspond to full membership, the crossover point and full nonmembership, respectively (Felício *et al.*, 2016; Kraus *et al.*, 2016; Cucari, 2019). Table 2 shows the calibration process and indicates the transformation of both the outcome and the conditions into fuzzy terms.

The next step is to use the fs/QCA truth table algorithm to generate different combinations of causal conditions that are sufficient for achieving low cash holdings. By setting the consistency cut-off value to 0.75 and the threshold for the number of cases to 10, this study discriminates between configurations that are sufficient for the outcome and those that are not (Cheng *et al.*, 2013; Fiss, 2011). The statistical software package used to carry out the analysis is fs/QCA 2.5. The solutions presented are the intermediate ones, because they are superior to both complex and parsimonious solutions (Ragin, 2009).

Finally, we recognize that the selected methodological approach may entail relatively demanding procedures to deal with logical remainders (Emmenegger *et al.*, 2013; Thomann and Maggetti, 2020). Directional expectations, based on theoretical and empirical knowledge, help to distinguish plausible from implausible counterfactuals (Ragin, 2008). Simultaneous subset relations and contradictory assumptions prevail when the same configuration is incoherently considered sufficient for both the outcome and its negation (Schneider and Wagemann, 2012, 2013). In our case, by also carrying out the Boolean minimization with high cash holdings (the negated outcome), we can exclude the presence of configurations that entail both the outcome and the absence of the outcome (i.e. contradictory configurations). Moreover, to avoid other logically impossible arguments, we treat remainders with enhanced standard analysis (ESA; Schneider and Wagemann, 2013; Thomann, 2020).

Outcome/conditions	Full nonmembership (0.05)	Crossover point (0.5)	Full membership (0.95)
Cash holding	0.009	0.012	0.018
Board size	3	7	11
Board activity (frequency)	2	6	12
Board activity (duration)	0.008	0.011	0.013
Board composition	0.28	0.42	0.67
Board independence	0.24	0.38	0.59
Board diversity	0.31	0.58	0.71
CEO duality	0.28	0.31	0.35
Audit committee composition	0.22	0.38	0.56
Audit committee independence	0.33	0.59	0.72
Audit committee activity (frequency)	2	6	12
Audit committee activity (duration)	0.017	0.019	0.021
Compensation committee composition	0.21	0.39	0.54
Compensation committee independence	0.26	0.41	0.69
Compensation committee activity	1	3	6
Nomination committee composition	0.19	0.37	0.52
Nomination committee independence	0.36	0.52	0.72
Nomination committee activity (frequency)	1	2	4
Nomination committee activity (duration)	0.010	0.015	0.018
Family ownership concentration	0.12	0.39	0.58

Table 2. Distribution of each variable and its corresponding set

Sample

The analysis is carried out on a sample of Italian listed companies. We believe that Italy may be an ideal setting in which to investigate our research question, from a PP conflicts perspective, due to the high percentage of firms with a concentrated ownership, mostly family firms (68.8%) (Aidaf, 2018). In more detail, the firms in our sample were listed in the MTA Italian Stock Exchange during the years 2014–2017. MTA – Mercato Telematico Azionario – is the Italian market dedicated primarily to medium-sized and large listed companies. We only include the segment of MTA listed companies, excluding for example the companies listed on AIM, which is designed for small and medium-sized companies, so as to include more detailed information. We also excluded banks and other financial institutions because their cash holding policies are incompatible with those of industrial companies and are worthy of a dedicated investigation (Boubaker *et al.*, 2015). Furthermore, we excluded new listings and delistings which occurred during the time span 2014–2017, with a view to having a complete overview of the listed companies and not to be influenced by different business "stories". The three-year span is also useful for including all the renewals of the BoD, which is nominated in Italy over a three-year period (Brogi, 2016).

For each listed company in our sample, we hand-collected corporate governance information from the annual corporate governance reports, formulated by all Italian companies since 2001. Information relating to ownership structure and its evolution over time was taken from Consob (Commissione Italiana per le Società e la Borsa), the Italian authority for listed companies and the stock exchange market. Finally, financial data were collected from Aida by Bureau Van Dijke, which is a highly reliable and current source of financial information relating to Italian listed companies, for the period 2015–2018. The use of a lagged variable (excess cash) allows for the effect of the board structure to be captured and for reverse causality issues to be controlled. Should information relating to corporate governance or financial data not be available in relation to the sources selected as primary, we referred to companies' websites and to the specialized press and were able to fill in some of the missing values.

This sampling process allowed us to identify 268 companies, both family and nonfamily. The sample appears larger than others used by applying QCA. We recognize that QCA is usually performed with small samples and that, from its very origin, QCA embraces the idea that researchers should establish "intimacy" with the cases and complement cross-case comparisons with analyses of individual cases (Ragin, 1987). However, scholars (Greckhamer *et al.*, 2018) maintain that "regarding sample size, large samples neither render cluster analysis more meaningful nor do they limit the applications of applying QCA. While QCA was originally designed for relatively small-N samples (e.g. Ragin, 1987), it has developed into a well-suited tool for analyzing large-N samples (Greckhamer *et al.*, 2013, p. 484)". Obviously, when analysis is performed on small sample, researchers have the opportunity of returning to case data in order to facilitate configurational theory building through case-level analyses (Aversa *et al.*, 2015). However, QCA can also be performed on large samples, and to help interpret QCA findings, different types of cases can be selected and compared to one other (Schneider and Rohlfing, 2016). We follow this line and identify specific cases that are covered by each configuration in the solution to build additional insights. Furthermore, we would like to highlight that the analysis presented here refers to the years 2017 (for corporate governance information) and to 2018 (for excess cash measures). We use the previous years purely to carry out robustness tests.

Conditions and outcome measurements

To depict different board configurations effective in mitigating the risk of expropriation by controlling shareholders via cash holdings, we consider as conditions: the *board size*, measured by the number of directors that sit on the board; the *board activity*, relating to the frequency of meetings in one year and the average duration of each meeting; the *board composition*, referring to the percentage of nonexecutive board members; the *board independence*, relating to the percentage of independent directors of the total number of directors that sit on the board; the *board diversity*, associated with the percentage of independent women directors on the total number of board members and *CEO duality*, which assumes the value of 1 if the CEO simultaneously chairs the board. We also look at the audit/compensation/nomination *committee composition*, as the percentage of nonexecutive board members on each committee; the audit/compensation/nomination *committee independence*, as the percentage of independent board members on the committee and the audit/remuneration/nomination *committee activity*, as the frequency of meetings, represented by the number of meetings held by the three committees on average in one year, as well as the average duration of each meeting. Finally, we consider the *family ownership concentration*. To measure this, we do not simply consider the percentage of equity owned by family members but, more accurately from a PP conflict perspective, we apply the Herfindahl index (Santulli *et al.*, 2019). The Herfindahl index is a measurement of concentration often used in finance and political economic studies (Demsetz, 1983; Demsetz and Lehn, 1985) but recently applied to many family business studies, aimed at understanding the role of ownership dispersion or the concentration of FFs' performance (De Massis *et al.*, 2013; Goel *et al.*, 2011; Le Breton-Miller *et al.*, 2011). This index allows us to capture the heterogeneity characterizing family-owned firms and to differentiate between FFs with one, two or more family shareholders. It is calculated by summing the squared percentages of shares, controlled by the top seven family shareholders, and it varies between 0 and 1. To detect the family identity of the major owners, we relied primarily on surname commonality, as recorded in Consob and company reports (Amore *et al.*, 2014), but also on public information collected through company websites, social networks (such as LinkedIn) and specialized press articles. Combining these sources should minimize inaccuracies – for example, should the owner be an in-law with a different name from the owning family.

While all the conditions are measured in the year 2017, the outcome (*excess cash*) is measured in 2018, with a temporal lag of one year. This choice is in line with previous studies assessing the effects of corporate governance from a configurational viewpoint and through fs-QCA (e.g. Felício *et al.*, 2016; Madanoglu *et al.*, 2018). In details, the measure of *excess cash* is calculated following Simutin (2010) who moved from the regression model by Opler *et al.* (1999). Accordingly, we first built all the variables previously identified by Opler *et al.* (1999) as determinants of cash holdings: the market-to-book ratio as the book value of assets, less the book value of equity, plus the market value of equity, divided by assets; the log of real assets to measure size; the ratio of capital expenditures to assets; the ratio of net working capital (calculated without cash) to assets; the ratio of long-term debts to assets; the ratio of research and development expense to sales; the ratio of cash flow to total assets; the industry sigma as the mean of standard deviation of cash flows over 10 years for firms in the same industry. Then, we regressed the cash-to-asset ratio (measured as the log of ratio of cash to total assets less cash) on these variables. By isolating the residuals ε_i of this regression, we obtained the measure of the excess cash (Simutin, 2010).

Table 3 reports the main descriptive statistics and the correlation matrix.

In our sample, we found that, on average, the board comprises 10 members, that women make up 10% and the executive directors, 30%. The number of meetings of the board within one year is approximately nine, the average duration is 1 h and 12 min. Looking at the committee, we noted that the number of nonexecutive members is higher than 90% and the number of meetings is on average higher with regard to the audit committee (5) and lower for the nomination (4) and compensation (3) committees.

Results

As a first step, we tested whether any of the causal conditions and their negation were necessary in relation to the outcome. A condition is necessary when its consistency score is equal or above 0.9 (Schneider and Wagemann, 2010). This stringent cut-off point of 0.9 restricts the number of conditions that fulfill the requirement (Alegre *et al.*, 2016). Table 4 summarizes the consistency and coverage values for each configuration and for all configurations together. Consistency measures the degree to which causal combinations are subsets of the outcome. This is analogous to a correlation in statistical hypothesis testing. Coverage measures the extent to which the configurations lead to the outcome. This is analogous to an R^2 in regression analysis (Ragin, 2009; Woodside and Zhang, 2013). As the highest consistency value among all conditions is 0.74, none of the variables are a necessary condition for limiting excess cash.

In the second step, using Boolean algebra, we yielded the causal conditions sufficient for the outcome (Chang and Cheng, 2014). Table 5 shows the intermediate solutions that illustrate alternative causal conditions for no or low excess cash. Black circles denote causal conditions, whereas white circles indicate the negation of a condition. The blank cells represent irrelevant conditions that are absent from the causal combinations (Ragin and Fiss, 2008).

The results show that overall solution consistency exceeds 0.77; thus, the configurations are sufficient conditions to cause low excess cash. In addition, all the raw and solution coverage are in the acceptable range (higher than 0.30) indicating that such configurations are the most meaningful in explaining a large proportion of excess cash and covering the greatest proportion of cases that can be explained exclusively by these combinations (Samara and Berbegal-Mirabent, 2018).

Table 6 summarizes the three identified configurations.

The first configuration combines a family ownership dispersion with board independence and nomination committee independence and with audit committee activity. We could define it as a situation of *Independent Active Control*. The ownership, although concentrated among

Outcome/Conditions	Mean	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Cash holding	0.29	0.17	1																			
2. Board size	10.44	2.49	0.038*	1																		
3. Board frequency	9.91	4.25	0.076*	0.185	1																	
4. Board duration	1 h 38'	9.37	0.023*	0.015	0.019	1																
5. Board composition	76.60	12.75	−0.176	0.169	0.145	0.010	1															
6. Board independence	48.27	17.02	−0.102**	−0.037	0.306**	0.111	0.498**	1														
7. Board diversity	19.24	11.41	−0.098†	0.050	0.363*	0.089	0.208	0.442	1													
8. CEO duality	–	–	0.104	0.042	−0.101	−0.107	0.291	−0.044	−0.089	1												
9. Audit committee composition	76.60	1.07	−0.115	0.041**	0.028**	0.046	0.032**	0.101**	073**	0.221	1											
10. Audit committee independence	87.12	16.26	−0.203	0.194	0.253	0.190	0.097	0.381	0.080	0.071	**	1										
11. Audit committee frequency	7.25	4.66	0.098*	0.039	−0.025**	0.113	−0.022	0.347**	0.275	−0.024	0.104	0.197	1									
12. Audit committee duration	1 h 34'	7.67	0.054	−0.275	0.102	−0.084	0.017	0.200	0.121	0.124	−0.108	0.172	0.099	1								
13. Compensation committee composition	76.63	2.04	−0.108	0.097**	0.017**	0.121	0.118**	−0.109	0.027**	0.014	0.089	0.102**	0.108	0.112	1							
14. Compensation committee independence	82.42	17.02	−0.194	0.103	0.204	0.224	0.130	0.523**	0.065	−0.021	0.231	0.654**	0.264	0.371		1						
15. Compensation committee frequency	4.44	2.57	0.078	0.091	0.574**	−0.112	0.175	0.308	0.289	0.033	0.112	0.115	0.469	−0.056	0.539	0.094	1					
16. Compensation committee duration	1 h 36'	7.31	0.037	−0.094	−0.079	0.089	0.199	0.242	0.213	0.103	0.146	0.055	−0.006	0.539	0.044	0.111	0.171	1				
17. Nomination committee composition	78.44	1.83	−0.121	0.079	0.126	0.115	0.107	0.031	0.099	0.127	−0.105	−0.109	−0.022	−0.097	0.028	−0.142	0.130	0.029	1			
18. Nomination committee independence	81.51	17.40	−0.089	0.054	0.190	0.107	0.139	0.477**	0.052	−0.118	0.019	0.525**	0.249	0.273	0.015	0.854	0.073	0.120	0.249	1		
19. Nomination committee frequency	3.76	2.64	0.088	0.115	0.604**	−0.098	0.076	0.211	0.185	0.107	0.021	0.086	−487**	−0.063	0.019	0.140	0.834	0.082	0.144	0.192	1	
20. Nomination committee duration	1 h 35'	8.38	0.042	−0.232	−0.204	0.072	0.060	0.227	0.161	0.099	−0.003	−0.026	−0.094	0.386	−0.115	0.145	0.130	0.828	−0.001	0.180	0.162	1
21. Family ownership concentration	0.58	0.33	0.124*	0.021*	0.104	−0.109	0.042	−0.131	0	0.079**	0.045	0.142	0.098	−0.111	0.021	0.245	0.118	−0.109	0.041	0.117	0.078	−0.101

Note(s): †$p < 0.10$; *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$

Table 3.
Descriptive statistics and correlation matrix

Conditions tested*	Consistency	Coverage
Board size	0.57	0.61
~ Board size	0.64	0.72
Board activity (frequency)	0.70	0.67
~ Board activity (frequency)	0.54	0.68
Board activity (duration)	0.62	0.59
~ Board activity (duration)	0.51	0.53
Board composition	0.59	0.65
~ Board composition	0.64	0.64
Board independence	0.62	0.59
~ Board independence	0.73	0.52
Board diversity	0.68	0.62
~ Board diversity	0.64	0.66
CEO duality	0.76	0.74
~ CEO duality	0.52	0.56
Audit committee composition	0.58	0.69
~ Audit committee composition	0.67	0.75
Audit committee independence	0.74	0.71
~ Audit committee independence	0.59	0.69
Audit committee activity (frequency)	0.66	0.63
~ Audit committee activity (frequency)	0.63	0.54
Audit committee activity (duration)	0.59	0.62
~ Audit committee activity (duration)	0.50	0.58
Compensation committee composition	0.59	0.57
~ Compensation committee composition	0.68	0.64
Compensation committee independence	0.54	0.68
~ Compensation committee independence	0.66	0.72
Compensation committee activity (frequency)	0.72	0.66
~ Compensation committee activity (frequency)	0.58	0.73
Compensation committee activity (duration)	0.53	0.61
~ Compensation committee activity (duration)	0.51	0.65
Nomination committee composition	0.65	0.59
~ Nomination committee composition	0.63	0.62
Nomination committee independence	0.71	0.71
~ Nomination committee independence	0.70	0.67
Nomination committee activity	0.67	0.54
~ Nomination committee activity	0.66	0.58
Nomination committee activity (frequency)	0.71	0.62
~ Nomination committee activity (duration)	0.59	0.50
Ownership concentration	0.59	0.63
~ Ownership concentration	0.57	0.69

Note(s): * The symbol (~) represents the negation of the characteristic

Table 4.
Analysis of necessary conditions

one family, is highly dispersed among family members. This circumstance generates even more type-II agency problems and increases the risk of expropriation by controlling shareholders that exert more power on the firm. The board is able to provide high quality monitoring thanks to the presence of independent directors that are also involved in the nomination committee. Such an independent and objective view in relation to control and nomination functioning enables the cash holdings levels to be kept low (Ozkan and Ozkan, 2004), thus protecting minority shareholders from potential opportunistic behavior (Rosenstein and Wyatt, 1990; Adams *et al.*, 2010) and limiting, in turn, potential agency conflicts (Christensen *et al.*, 2010). Moreover, a third element, essential to the effectiveness of such an IAC configuration is the activism of the audit committee, that oversees a company's

Conditions	Configurations 1	2	3
Board size			•
Board activity (frequency)		•	
Board activity (duration)		◦	
Board composition			
Board independence	•		
Board diversity		•	
CEO duality			◦
Audit committee composition			
Audit committee independence			
Audit committee activity (frequency)	•	•	
Audit committee activity (duration)	◦	◦	
Compensation committee composition			
Compensation committee independence			
Compensation committee activity (frequency)			
Compensation committee activity			
Nomination committee composition			
Nomination committee independence			
Nomination committee activity (frequency)			
Nomination committee activity (duration)			
Family ownership concentration	◦		•
Raw coverage	0.347	0.312	0.369
Consistency	0.925	0.907	0.966
Solution coverage	0.535		
Solution consistency	0.924		

Table 5. Causal configurations for cash holdings

Independent Active Control	Female active control	Double internal control
• Family ownership dispersion • Board independence • Audit committee activity (high frequency – short duration)	• Board activity (high frequency – short duration) • Board diversity • Audit committee activity (high frequency – short duration)	• Family ownership concentration • Large board size • Absence of CEO duality

Table 6. A synthesis of the three emerging configurations

operations and further ensures the protection of shareholders' interests by guaranteeing good governance practices (Kunitake, 1983), such as financial reporting, internal controls and risk management (DeZoort *et al.*, 2002; Eichenseher and Shields, 1985). To fully exploit its role, it is necessary that the audit committee meets periodically but that each meeting does not take much time. Here, we report on the example of the Alfa Company, founded in 1954 and operating in the food industry, in the south of Italy. It is a large-sized firm, 63.12% of which is owned by the members of the same family. The remaining percentage of ownership is publicly distributed. In 2018 (and even in the previous years), this firm records no excess cash and liquidity as lower than the other firms operating in the same industry; however, with the availability of raw materials, the working capital is sufficient to cover short-term debts. The company has a relatively large BoD (seven members), with the number of independent directors (four members) accounting for 57%. Three of them are also members of the nomination committee within the board. Furthermore, we verified that in this firm the controlling role of the audit committee is played out in monthly meetings, not longer than one hour.

The second configuration combines board activity with board diversity and audit committee activity. We could define this situation as *Female Active Control*. In this configuration, the number and the duration of board and audit committee meetings became essential for guaranteeing a high-quality monitoring functioning and for limiting excess cash. However, this is not sufficient, because for this combination to work effectively, the presence of independent women on the board is required. Women carry out more stringent monitoring (Adams and Ferreira, 2009) which leads to a decrease in cash reserves, reducing agency costs arising from free cash flow. Among others, we identified such a configuration in one firm within our sample, operating in the fashion industry in the north–central Italy and listed on the Italian Stock Exchange Market since 1988; 62% of this firm is owned by a brother and a sister. The remaining percentage is owned by another company and is publicly distributed; 60% of the BoD is composed of independent women directors. Furthermore, we verified that both board and audit committees meet monthly for an average of 48 min.

Finally, the third configuration associates family ownership concentration with a large board size and the absence of CEO duality. We could define this combination as *Double Internal Control*. In such a case, ownership is dominated by one family member. In such a case, the board size and the absence of CEO duality become essential in avoiding the risk of misappropriation by the controlling shareholder. The controlling shareholder, who is not also the CEO, cannot use his/her managerial power to expropriate benefits to minority shareholders. Furthermore, the large size of the board mitigates discretional power by the chairman. Among the real cases, we found a similar configuration in a company, founded in 1902, operating in the household appliances industry, in the north of Italy. A trust, whose beneficiary is a member of the owning family, owns 67% of the company. The remaining percentage is publicly distributed among institutional investors. The controlling shareholder also holds the role of chairman, while the CEO is outside the family. The BoD comprises 12 members.

Robustness tests

To test the robustness of our results, we replicated the same analysis across different years (2014–2015; 2015–2016; 2016–2017), beyond 2017–2018, and obtained the same configurations. Second, we checked for the robustness of our results by changing the thresholds in the calibration of raw data into fuzzy-set scores and found results consistent with the original results. Third, we used as dependent variables two different measures of cash holdings (Bates *et al.*, 2009; Itzkowitz, 2013) and likewise noted the robustness of the results for low levels of cash holdings. Fourth, we also performed a Boolean minimization for high cash holdings (the negated outcome) and verified that overlapping results did not exist for the positive and negative outcomes, thus further corroborating the robustness of the results and excluding contradictions. In more detail, we depicted the following two configurations for high cash holdings: The first combines a lower percentage of independent directors, overlapping between chairman and CEO and with a low frequency of board meetings in one year. Put differently, a board with fewer independent directors, governed by a chairman that also has managerial power, and whose members meet rarely, is less effective in mitigating the risk of expropriation by controlling shareholders via cash holdings. The second configuration associates a small board size and a greater percentage of executives on the board with concentrated family ownership, thus suggesting that when one family shareholder owns the majority of shares, a small BoD composed primarily of executives is not able to be effective. These two configurations may be considered ineffective constellations of board constitution and structure for mitigating the risk of expropriation by controlling shareholders via cash holdings in contexts dominated by firms with a concentrated ownership.

Conclusion

The research has adopted a configurational approach and has applied an fs/QCA on a sample of 268 Italian listed companies to depict the effective combinations of board configurations able to mitigate the risk of expropriation by controlling shareholders via cash holding. The findings, which reveal three different effective configurations that concur equally to limit excess cash, offer contributions to theory and practice although not without limits.

Contributions

First, this research contributes to the fields of studies on board effectiveness, by investigating the effectiveness of the BoD in mitigating the risk of expropriation via cash holdings in a context dominated by firms with concentrated ownership. While the greater part of studies provided evidence on the role of the BoD in public companies (Akhtar *et al.*, 2018), by focusing on the Italian context, we may add new insights into the different configurations that a board may have to limit excess cash and to avoid the risk of expropriation by controlling shareholders. In other words, we move the lens of observation from the principal–agent conflicts and the risk of self-interested behavior by managers, on which theorize Cambrea *et al.* (2021), working on the same context of analysis, toward the PP problem and connected agency costs, linked to cash holdings policies. In doing so, we revisit the topic of corporate cash holdings in the type-II agency problem framework which, although worthy of investigation, is not currently broadly analyzed (an exception is the work by Jebran *et al.*, 2019). Second, we try to delineate what board effectiveness means in a mature economic context, dominated by firms with concentrated ownership, or by family firms, as in Italy. Although the concept of board effectiveness has a multidimensional nature from an agency perspective, the board of a firm with a concentrated ownership is effective when providing a strong monitoring role to align controlling shareholders and minority shareholder interests and reduce potential losses in the firm's value. Especially in family-controlled firms, minority shareholders monitor the family less; therefore, there is more incentive to reserve excess cash, both for future investment opportunities and flexibility in the capital market and to extract private benefits (de Holan and Sanz, 2006). Potential PP conflicts, by exacerbating agency costs, are thus positively associated with excess cash and require the intervention of an effective board to avoid the risk of expropriation. Furthermore, a board is effective when it is able to provide firm financial resources with advantageous costs. In this circumstance, a firm does not need to retain too much cash to support investment decisions. According to Corbetta and Salvato (2004), in a family-controlled firm, this ability is increased by family business experience and does not solely depend on a higher number of directors on the board (board size), on the presence of outsiders with different backgrounds (board composition) and on board activities (number of meetings, duration and frequency, as in other types of firms (Pfeffer, 1972; Hillman *et al.*, 2000; Forbes and Milliken, 1999; Sonnenfeld, 2002). Third, to the best of our knowledge, this is the first study to apply a configurational approach to investigate board effectiveness in cash holding decisions and thus it is the first to overcome the "one-size-fits-all" prescriptions and move toward a "bundle" perspective (Brogi *et al.*, 2020). Findings suggest that single governance mechanisms are not sufficient in reaching effectiveness in cash holding decisions. They do not operate in isolation but interact and can appear ineffective if investigated individually or independently. Put differently, by adopting a configurational approach, this research overcomes the focus on the causality relationship between each board characteristic and cash holdings policies and finds evidence that there are multiple board configurations that can be considered effective in mitigating the risk of expropriation by controlling shareholders via cash holdings. Therefore, we warn of the perils of a "one-size-fits all" governance solution and invite practitioners to consider the board configuration most suitable to their characteristics and expectations.

Implication for practice

The purpose underlying this research was understanding which board configurations may be effective in protecting minority shareholders, in mature contexts dominated by firms with a concentrated ownership, through the mitigation of the risk of controlling shareholders' expropriation via cash holding.

The empirical analysis depicts three different configurations, for each of them we provide suggestions to minority shareholders, and sometimes to policymakers too, about which composition and functioning a BoD should have to protect minorities against opportunistic behaviors by majority shareholders.

First, when minority shareholders own shares in firms characterized by a family ownership dispersion, we suggest them to require a higher percentage (with respect to that of 50% stated by the Corporate Governance Code and the Testo Unico delle Finanza - Consolidated Law on Finance [TUF]) of independent directors on the board and on the nomination committee. Furthermore, they should claim a more assiduous control, through a high number of audit committee meetings, but short in duration, to protect their interests. It can be useful to precise that, in firms characterized by a family ownership dispersion, minorities are also the members of the owning family that own low percentage of shares. As anticipated in the discussion section, this circumstance may occur after several generational transfers.

Second, we invite minority shareholders to require a higher percentage of independent women directors to protect their interests. This requirement underlines the importance of the regulation on gender quotas (Law 120/2011) beyond the already-cited Corporate Governance Code on the minimum percentage of independent directors. However, it is important to note that a higher percentage of independent women directors is a necessary, but not a sufficient, condition for an effective BoD. It must be combined with a high frequency of board meetings and audit committee meetings. Put it differently, an active and frequent control is together with a higher percentage of women directors.

Finally, in the case of family ownership concentration, we invite policymakers to consider the possibility to regulate the CEO duality. Avoiding that the family member, who owns the greater part of shares, seats at the same time as director of the board and as CEO can be a way, together with the presence of a large board, to protect minority shareholders.

Limitations

Despite the contributions, the study presents several limitations that are open to further research. First, although we advance the knowledge relating to board effectiveness in contexts dominated by firms with concentrated ownership, we limit our investigation to medium-sized and large listed companies. It would be interesting in future research to analyze the issue in small and medium-sized companies, listed in different stock exchange markets (for example AIM for Italy). Second, although QCA has developed into a well-suited tool to analyze large-N samples (Greckhamer *et al.*, 2013, 2018) and our large sample allows us to have more data, we also invite scholars to broaden a similar study on a smaller sample in order to examine cases in-depth, support and qualify the findings through qualitative analysis and, in turn, include more knowledge in relation to the board effectiveness in terms of mitigating the risk of expropriation by controlling shareholders via cash holdings in a context dominated by firms with concentrated ownership. Third, it would be interesting to deepen, as in Cambrea *et al.* (2021), whether differences occur between steady-state periods and crisis periods, such as the current pandemic one. To do this, it is necessary to extend the period of analysis and consider a wider span. Fourth, although we discuss many theoretical reasons for holding cash and empirically investigate the role of the BoD on these, we do not consider the other reasons that result in a corporation having excess liquidity at the end of a

period. For example, a practical situation that occurs rather frequently is holding cash at the end of the year or the period as a result of budgeting which is too cautious/imprecise, regardless of the BoD's intentions. To overcome this limitation, further studies could collect quantitative data relating to budgeting and qualitative information from board members in relation to their intentions regarding cash holdings. Fifth, the effect of board effectiveness on cash holding policies is subject to the investment environments, and in general to the internal and external contingencies, that firms face. Therefore, despite the fact that we provide new insights into board effectiveness from a mature context, it would be worth examining which board configurations are more suitable in terms of protecting shareholders' interests in contexts with an abundance of investment opportunities, where there are strong incentives to hold more cash in order to maintain firms' competitive positions. Finally, as the board's monitoring role is highly dependent on the quality of the legal context and the level of protection for minority shareholders (Kim *et al.*, 2007), a cross-country comparison could also be carried out.

References

Adams, R.B. and Ferreira, D. (2009), "Women in the boardroom and their impact on governance and performance", *Journal of Financial Economics*, Vol. 94 No. 2, pp. 29-309.

Adams, R., Hermalin, B. and Weisbach, M. (2010), "The role of boards of directors in corporate governance: a conceptual framework and survey", *Journal of Economic Literature*, Vol. 48 No. 1, pp. 58-107.

Aguilera, R.V., Desdender, K. and Castro, L.R.K. (2011), "A bundle perspective to comparative corporate governance", in Clarke, T. and Branson, D. (Eds), *SAGE Handbook of Corporate Governance*, Sage Publications, New York, NY, pp. 379-405.

Aidaf (2018), *X Osservatorio AUB*, Università Commerciale Luigi Bocconi, Milano, available at: https://www.aidaf.it/wp-content/uploads/2014/08/Report-AUB-X-edizione.pdf.

Akhtar, T., Tareq, M.A., Sakti, M.R.P. and Khan, A.A. (2018), "Corporate governance and cash holdings: the way forward", *Qualitative Research in Financial Markets*, Vol. 10 No. 2, pp. 152-170.

Alegre, I., Mas-Machuca, M. and Berbegal-Mirabent, J. (2016), "Antecedents of employee job satisfaction: do they matter?", *Journal of Business Research*, Vol. 69 No. 4, pp. 1390-1395.

Amore, M.D., Garofalo, O. and Minichilli, A. (2014), "Gender interactions within the family firm", *Management Science*, Vol. 60 No. 5, pp. 1083-1097.

Anderson, R.C. and Reeb, D.M. (2004), "Board composition: balancing family influence in S&P 500 firms", *Administrative Science Quarterly*, Vol. 49 No. 2, pp. 209-237.

Arregle, J.-L., Naldi, L., Nordqvist, M. and Hitt, M.A. (2012), "Internationalization of family-controlled firms: a study of the effects of external involvement in governance", *Entrepreneurship Theory and Practice*, Vol. 36, pp. 1115-1143.

Aversa, P., Furnari, S. and Haefliger, S. (2015), "Business model configurations and performance: a qualitative comparative analysis in Formula One racing, 2005-2013", *Industrial and Corporate Change*, Vol. 24 No. 3, pp. 655-676.

Bammens, Y., Voordeckers, W. and Van Gils, A. (2011), "Boards of directors in family businesses: a literature review and research agenda", *International Journal of Management Reviews*, Vol. 13 No. 2, pp. 134-152.

Basco, R. and Calabrò, A. (2017), "Who should sit there? Effects of family-oriented objectives on board composition", *International Journal of Entrepreneurial Venturing*, Vol. 9 No. 1, pp. 81-99.

Bates, T.W., Kahle, K.M. and Stulz, R.M. (2009), "Why do U.S. firms hold so much more cash than they used to?", *Journal of Finance*, Vol. 64 No. 5, pp. 1985-2021.

Bebchuk, L.A. and Roe, M.J. (1999), "A theory of path dependence in corporate ownership and governance", *Stanford Law Review*, Vol. 52, p. 127.

Belghitar, Y. and Khan, J. (2013), "Governance mechanisms, investment opportunity set and SMEs cash holdings", *Small Business Economics*, Vol. 40 No. 1, pp. 59-72.

Bell, G., Filatotchev, I. and Aguilera, R. (2014), "Corporate governance and investors' perceptions of foreign IPO value: an institutional perspective", *Academy of Management Journal*, Vol. 57 No. 1, pp. 301-320.

Benkraiem, R., Lakhal, F. and Zopounidis, C. (2020), "International diversification and corporate cash holding behavior: what happens during economic downturns?", *Journal of Economic Behavior and Organization*, Vol. 170 February, pp. 362-371.

Boubaker, S., Derouiche, I. and Nguyen, D.K. (2015), "Does the board of directors affect cash holdings? A study of French listed firms", *Journal of Management and Governance*, Vol. 19 No. 2, pp. 341-370.

Brickley, J., Coles, J. and Jarrell, G. (1997), "Leadership structure: separating the CEO and chairman of the board", *Journal of Corporate Finance*, Vol. 3 No. 3, pp. 189-220.

Brogi, M. (2016), *Corporate Governance*, Egea, Milano.

Brogi, M. and Lagasio, V. (2019), "Do bank boards matter? A literature review on the characteristics of banks' Board of Directors", *International Journal of Business Governance and Ethics*, Vol. 13 No. 3, pp. 244-274.

Brogi, M., Lagasio, V. and Pesic, V. (2020), "Can governance help in making an IPO "successful"? New evidence from Europe", *Journal of International Financial Management and Accounting*, Vol. 31 No. 3, pp. 239-269.

Calabrò, A. and Mussolino, D. (2013), "How do boards of directors contribute to family SME export intensity? The role of formal and informal governance mechanisms", *Journal of Management and Governance*, Vol. 17 No. 2, pp. 363-403.

Calabrò, A., Campopiano, G. and Basco, R. (2017), "Principal-principal conflicts and family firm growth", *Journal of Family Business Management*, Vol. 7 No. 3, pp. 291-308.

Cambrea, D.R., Calabrò, A., La Rocca, M. and Paolone, F. (2021), "The impact of boards of directors' characteristics on cash holdings in uncertain times", *Journal of Management and Governance*, pp. 1-33, doi: 10.1007/s10997-020-09557-3.

Cambrea, D.R., Tenuta, P. and Vastola, V. (2020), "Female directors and corporate cash holdings: monitoring vs executive roles", *Management Decision*, Vol. 58 No. 2, pp. 295-311.

Catuogno, S., Arena, C., Cirillo, A. and Pennacchio, L. (2018), "Exploring the relation between family ownership and incentive stock options: the contingency of family leadership, board monitoring and financial crisis", *Journal of Family Business Strategy*, Vol. 9 No. 1, pp. 59-72.

Chang, M.L. and Cheng, C.F. (2014), "How balance theory explains high-tech professionals' solutions of enhancing job satisfaction", *Journal of Business Research*, Vol. 67 No. 9, pp. 2008-2018.

Chang, Y., Benson, K. and Faff, R. (2017), "Are excess cash holdings more valuable to firms in times of crisis? Financial constraints and governance matters", *Pacific Basin Finance Journal*, Vol. 45 June, pp. 157-173.

Cheng, C.F., Chang, M.L. and Li, C.S. (2013), "Configural paths to successful product innovation", *Journal of Business Research*, Vol. 66 No. 2, pp. 2561-2573.

Christensen, J., Kent, P. and Stewart, J. (2010), "Corporate governance and company performance in Australia", *Australian Accounting Review*, Vol. 20 No. 4, pp. 372-386.

Clifford, P. and Evans, R. (1997), "Non-executive directors: a question of independence", *Corporate Governance: An International Review*, Vol. 5 No. 4, pp. 224-231.

Connelly, B.L., Hoskisson, R.E., Tihanyi, L. and Certo, S.T. (2010), "Ownership as a form of corporate governance", *Journal of Management Studies*, Vol. 47 No. 8, pp. 1561-1589.

Corbetta, G. and Salvato, C.A. (2004), "The board of directors in family firms: one size fits all?", *Family Business Review*, Vol. 17 No. 2, pp. 119-134.

Cotter, J. and Silvester, M. (2003), "Board and monitoring committee independence", *Abacus*, Vol. 39 No. 2, pp. 211-232.

Couderc, N. (2006), "La detention d'actifs liquides par les entreprises: quelles explications? (Corporate cash holdings: financial determinants and consequences. With English summary)", *Revue Economique*, Vol. 57 No. 3, pp. 485-495.

Cucari, N. (2019), "Determinants of say on pay vote: a configurational analysis", *International Entrepreneurship and Management Journal*, Vol. 15 No. 3, pp. 837-856.

Daily, C.M. and Dalton, D.R. (1997), "CEO and board chair roles held jointly or separately: much ado about nothing?", *Academy of Management Perspectives*, Vol. 11 No. 3, pp. 11-20.

Dalziel, T., White, R.E. and Arthurs, J.D. (2011), "Principal costs in initial public offerings", *Journal of Management Studies*, Vol. 48 No. 6, pp. 1346-1364.

de Holan, P.M. and Sanz, L. (2006), "Protected by the family? How closely held family firms protect minority shareholders", *Journal of Business Research*, Vol. 59 No. 3, pp. 356-359.

De Massis, A., Kotlar, J., Campopiano, G. and Cassia, L. (2013), "Dispersion of family ownership and the performance of small-to-medium size private family firms", *Journal of Family Business Strategy*, Vol. 4 No. 3, pp. 166-175.

Deb, P., David, P. and O'Brien, J. (2017), "When is cash good or bad for firm performance?", *Strategic Management Journal*, Vol. 38 No. 2, pp. 436-454.

Dedman, E. and Filatotchev, I. (2008), "Corporate governance research: a contingency framework", *International Journal of Managerial Finance*, Vol. 4 No. 4, pp. 248-258.

Demsetz, H. (1983), "The structure of ownership and the theory of the firm", *The Journal of Law and Economics*, Vol. 26 No. 2, pp. 375-390.

Demsetz, H. and Lehn, K. (1985), "The structure of corporate ownership: causes and consequences", *Journal of Political Economy*, Vol. 93 No. 6, pp. 1155-1177.

DeZoort, F., Hermanson, D., Archambeault, D. and Reed, S. (2002), "Audit committee effectiveness: a synthesis of empirical audit committee literature", *Journal of Accounting Literature*, Vol. 21 No. 38, pp. 38-75.

Dharwadkar, B., George, G. and Brandes, P. (2000), "Privatization in emerging economies: an agency theory perspective", *Academy of Management Review*, Vol. 25 No. 3, pp. 650-669.

Dittmar, A. and Mahrt-Smith, J. (2007), "Corporate governance and the value of cash holdings", *Journal of Financial Economics*, Vol. 83 No. 3, pp. 599-634.

Dittmar, A., Mahrt-Smith, J. and Servaes, H. (2003), "International corporate governance and corporate cash holdings", *Journal of Financial and Quantitative Analysis*, Vol. 38 No. 1, pp. 111-133.

Drobetz, W., Grüninger, M. and Hirschvogl, S. (2010), "Information asymmetry and the value of cash", *Journal of Banking and Finance*, Vol. 34 No. 9, pp. 2168-2184.

Du, Y. and Beuselinck, C. (2017), "Determinants of cash holdings in multinational corporation's foreign subsidiaries: US subsidiaries in China", *Corporate Governance: An International Review*, Vol. 25 No. 2, pp. 100-115.

Ehrhardt, O. and Nowak, E. (2003), "Private benefits and minority shareholder expropriation (or what exactly are private benefits of control)", *EFA 2003 Annual Conference, Paper No. 809*.

Eichenseher, J. and Shields, D. (1985), "Corporate director liability and monitoring preferences", *Journal of Accounting and Public Policy*, Vol. 152 No. 1, pp. 13-31.

Eisenberg, T., Sundgren, S. and Wells, M.T. (1998), "Larger board size and decreasing firm value in small firms", *Journal of Financial Economics*, Vol. 48 No. 1, pp. 35-54.

Eluyela, D.F., Akintimehin, O.O., Okere, W., Ozordi, E., Osuma, G.O., Ilogho, S.O. and Oladipo, O.A. (2018), "Board meeting frequency and firm performance: examining the nexus in Nigerian deposit money banks", *Heliyon*, Vol. 4 No. 10, p. e00850.

Emmenegger, P., Kvist, J. and Skaaning, S. (2013), "Making the most of configurational comparative analysis: an assessment of QCA applications in comparative welfare-state research", *Political Research Quarterly*, Vol. 66, pp. 185-190.

Faccio, M., Lang, L.H. and Young, L. (2001), "Dividends and expropriation", *American Economic Review*, Vol. 91 No. 1, pp. 54-78.

Faccio, M., Marchica, M.T. and Mura, R. (2016), "CEO gender, corporate risk-taking, and the efficiency of capital allocation", *Journal of Corporate Finance*, Vol. 39 August, pp. 193-209.

Fama, E. and Jensen, M. (1983), "Separation of ownership and control", *The Journal of Law and Economics*, Vol. 26 No. 2, pp. 301-325.

Faulkender, M. and Wang, R. (2006), "Corporate financial policy and the value of cash", *Journal of Finance*, Vol. 61 No. 4, pp. 1957-1990.

Felício, J.A., Rodrigues, R. and Samagaio, A. (2016), "Corporate governance and the performance of commercial banks: a fuzzy-set QCA approach", *Journal of Small Business Strategy*, Vol. 26 No. 1, pp. 87-101.

Filatotchev, I. and Wright, M. (2017), "Methodological issues in governance research: an editor's perspective", *Corporate Governance: An International Review*, Vol. 25 No. 6, pp. 454-460.

Finkelstein, S. and D' Aveni, R.A. (1994), "CEO duality as a double-edged sword: how boards of directors balance entrenchment avoidance and unity of command", *Academy of Management Journal*, Vol. 37 No. 5, pp. 1079-1108.

Fiss, P.C. (2007), "A set-theoretic approach to organizational configurations", *Academy of Management Review*, Vol. 32 No. 4, pp. 1180-1198.

Fiss, P.C. (2011), "Building better causal theories: a fuzzy set approach to typologies in organization research", *Academy of Management Journal*, Vol. 54 No. 2, pp. 393-420.

Forbes, D.P. and Milliken, F.J. (1999), "Cognition and corporate governance: understanding boards of directors as strategic decision-making groups", *Academy of Management Review*, Vol. 24, pp. 489-505.

Gabrielsson, J. and Winlund, H. (2000), "Boards of directors in small and medium-sized industrial firms: examining the effects of the board's working style on board task performance", *Entrepreneurship and Regional Development*, Vol. 12 No. 4, pp. 311-330.

García-Castro, R., Aguilera, R.V. and Ariño, M.A. (2013), "Bundles of firm corporate governance practices: a fuzzy set analysis", *Corporate Governance: An International Review*, Vol. 21 No. 4, pp. 390-407.

Gill, A. and Shah, C. (2012), "Determinants of corporate cash holdings: evidence from Canada", *International Journal of Economics and Finance*, Vol. 4 No. 1, pp. 295-312.

Goel, S., He, X. and Karri, R. (2011), "Family involvement in a hierarchical culture: effect of dispersion of family ownership control and family member tenure on firm performance in Chinese family owned firms", *Journal of Family Business Strategy*, Vol. 2 No. 4, pp. 199-206.

Goyal, V. and Park, C. (2002), "Board leadership structure and CEO turnover", *Journal of Corporate Finance*, Vol. 8 No. 1, pp. 49-66.

Greckhamer, T., Misangyi, V.F. and Fiss, P.C. (2013), "The two QCAs: from a small-N to a large-N set-theoretic approach", *Research in the Sociology of Organizations*, Vol. 38, pp. 49-75.

Greckhamer, T., Furnari, S., Fiss, P.C. and Aguilera, R.V. (2018), "Studying configurations with qualitative comparative analysis: best practices in strategy and organization research", *Strategic Organization*, Vol. 16 No. 4, pp. 482-495.

Gul, F.A. and Leung, S. (2004), "Board leadership, outside directors' expertise and voluntary corporate disclosures", *Journal of Accounting and Public Policy*, Vol. 23 No. 5, pp. 351-379.

Han, S. and Qiu, J. (2007), "Corporate precautionary cash holdings", *Journal of Corporate Finance*, Vol. 13 No. 1, pp. 43-57.

Hanh, L.T.M., Ting, I.W.K., Kweh, Q.L. and Hoanh, L.T.H. (2018), "Board meeting frequency and financial performance: a case of listed firms in Vietnam", *International Journal of Business and Society*, Vol. 19 No. 2, pp. 464-472.

Harford, J. (1999), "Corporate cash reserves and acquisitions", *Journal of Finance*, Vol. 54 No. 6, pp. 1969-1997.

Harford, J., Mansi, S.A. and Maxwell, W.F. (2008), "Corporate governance and firm cash holdings in the US", *Journal of Financial Economics*, Vol. 87 No. 3, pp. 535-555.

Hautz, J., Mayer, M.C. and Stadler, C. (2013), "Ownership identity and concentration: a study of their joint impact on corporate diversification", *British Journal of Management*, Vol. 24 No. 1, pp. 102-126.

Hermalin, B.E. and Weisbach, M.S. (2001), "Boards of directors as an endogenously determined institution: a survey of the economic literature", *Economic Policy Review*, Vol. 9 No. 1, pp. 7-26.

Hillman, A.J., Cannella, A.A. Jr and Paetzold, R.L. (2000), "The resource dependence role of corporate directors: strategic adaptation of board composition in response to environmental change", *Journal of Management Studies*, Vol. 37 No. 2, pp. 235-255.

Hoque, M.Z., Islam, M.D.R. and Azam, M.N. (2013), "Board committee meetings and firm financial performance: an investigation of Australian companies", *International Review of Finance*, Vol. 13 No. 4, pp. 503-528.

Itzkowitz, J. (2013), "Customers and cash: how relationships affect suppliers' cash holdings", *Journal of Corporate Finance*, Vol. 19, pp. 159-180.

Jebran, K., Chen, S. and Tauni, M.Z. (2019), "Principal-principal conflicts and corporate cash holdings: evidence from China", *Research in International Business and Finance*, Vol. 49, pp. 55-70.

Jensen, M.C. (1986), "Agency costs of free cash flow, corporate finance, and takeovers", *American Economic Review*, Vol. 76 No. 2, pp. 323-329.

Jensen, M. (1993), "The modern industrial revolution, exit, and the failure of internal control systems", *Journal of Finance*, Vol. 48 No. 3, pp. 831-880.

Jensen, M.C. and Meckling, W.H. (1976), "Theory of the firm: managerial behavior, agency costs and ownership structure", *Journal of Financial Economics*, Vol. 3 No. 4, pp. 305-360.

Johnson, J.L., Daily, C.M. and Ellstrand, A.E. (1996), "Boards of directors: a review and research agenda", *Journal of Management*, Vol. 22 No. 3, pp. 409-438.

Kalcheva, I. and Lins, K. (2007), "International evidence on cash holdings and expected managerial agency problems", *Review of Financial Studies*, Vol. 20 No. 4, pp. 1087-1112.

Kan, A.K.S., Adegbite, E., El Omari, S. and Abdellatif, M. (2016), "On the use of qualitative comparative analysis in management", *Journal of Business Research*, Vol. 69 No. 4, pp. 1458-1463.

Kaplan, S.N. and Reishus, D. (1990), "Outside directorships and corporate performance", *Journal of Financial Economics*, Vol. 27 No. 2, pp. 389-410.

Keynes, J.M. (1936), *The General Theory of Employment, Interest and Money*, Harcourt, Brace, London.

Kim, C., Mauer, D. and Sherman, A. (1998), "The determinants of corporate liquidity: theory and evidence", *The Journal of Financial and Quantitative Analysis*, Vol. 33 No. 3, pp. 335-359.

Kim, K.A., Kitsabunnarat-Chatjuthamard, P. and Nofsinger, J.R. (2007), "Large shareholders, board independence, and minority shareholder rights: evidence from Europe", *Journal of Corporate Finance*, Vol. 13 No. 5, pp. 859-880.

Kraus, S., Mensching, H., Calabrò, A., Cheng, C.F. and Filser, M. (2016), "Family firm internationalization: a configurational approach", *Journal of Business Research*, Vol. 69 No. 11, pp. 5473-5478.

Kraus, S., Ribeiro-Soriano, D. and Schüssler, M. (2018), "Fuzzy-set qualitative comparative analysis (fsQCA) in entrepreneurship and innovation research - the rise of a method", *International Entrepreneurship and Management Journal*, Vol. 14 No. 1, pp. 15-33.

Krause, R. (2017), "Being the CEO's boss: an examination of board chair orientations", *Strategic Management Journal*, Vol. 38 No. 3, pp. 697-713.

Kuan, T.H., Li, C.S. and Chu, S.H. (2011), "Cash holdings and corporate governance in family-controlled firms", *Journal of Business Research*, Vol. 64 No. 7, pp. 757-764.

Kuan, T.H., Li, C.S. and Liu, C.C. (2012), "Corporate governance and cash holdings: a quantile regression approach", *International Review of Economics and Finance*, Vol. 24, pp. 303-314.

Kunitake, W. (1983), "Auditor changes by audit committees and outside directors", *Akron Business and Economic Review*, Vol. 14 No. 3, pp. 48-52.

Kusnadi, Y. (2005), "Corporate governance mechanisms and corporate cash holdings", meeting paper, EFA 2005, Moscow.

La Rocca, M. and Cambrea, D.R. (2019), "The effect of cash holdings on firm performance in large Italian companies", *Journal of International Financial Management and Accounting*, Vol. 30 No. 1, pp. 30-59.

Lagasio, V. (2018), "Corporate governance in banks: systematic literature review and meta-analysis", *Corporate Ownership and Control*, Vol. 16 No. 1, pp. 113-126.

Lagasio, V. and Brogi, M. (2021), "Market reaction to banks' interim press releases: an event study analysis", *Journal of Management and Governance*, Vol. 25 No. 1, pp. 95-119.

Le Breton-Miller, I., Miller, D. and Lester, R.H. (2011), "Stewardship or agency? A social embeddedness reconciliation of conduct and performance in public family businesses", *Organization Science*, Vol. 22 No. 3, pp. 704-721.

Lee, K.W. and Lee, C.F. (2009), "Cash holdings, corporate governance structure and firm valuation", *Review of Pacific Basin Financial Markets and Policies*, Vol. 12 No. 3, pp. 475-508.

Lipton, M. and Lorsch, J. (1992), "A modest proposal for improved corporate governance", *Business Lawyer*, Vol. 48, pp. 59-77.

Madanoglu, M., Kizildag, M. and Ozdemir, O. (2018), "Which bundles of corporate governance provisions lead to high firm performance among restaurant firms?", *International Journal of Hospitality Management*, Vol. 72 June, pp. 98-108.

Mak, Y. and Kusnadi, Y. (2005), "Size really matters: further evidence on the negative relationship between board size and firm value", *Pacific Basin Finance Journal*, Vol. 13 No. 3, pp. 301-318.

Martín-Ugedo, J.F., Mínguez-Vera, A. and Palma-Martos, L. (2018), "Female CEOs, returns and risk in Spanish publishing firms", *European Management Review*, Vol. 15 No. 1, pp. 111-120.

Mayers, D., Shivdasani, A. and Smith, C.W., Jr. (1997), "Board composition and corporate control: evidence from the insurance industry", *Journal of Business*, Vol. 70, pp. 33-62.

Menon, K. and Deahl Williams, J. (1994), "The use of audit committees for monitoring", *Journal of Accounting and Public Policy*, Vol. 13 No. 2, pp. 121-139.

Miller, M.H. and Orr, D. (1966), "A model of the demand for money by firms", *Quarterly Journal of Economics*, Vol. 80 No. 3, pp. 413-435.

Misangyi, V.F. and Acharya, A.G. (2014), "Substitutes or complements? A configurational examination of corporate governance mechanisms", *Academy of Management Journal*, Vol. 57 No. 6, pp. 1681-1705.

Misangyi, V.F., Greckhamer, T., Furnari, S., Fiss, P.C., Crilly, D. and Aguilera, R. (2017), "Embracing causal complexity the emergence of a neo-configurational perspective", *Journal of Management*, Vol. 43 No. 1, pp. 255-282.

Myers, S.C. and Majluf, N.S. (1984), "Corporate financing and investment decisions when firms have information that investors do not have", *Journal of Financial Economics*, Vol. 13 No. 2, pp. 187-221.

Myers, S.C. and Rajan, R.G. (1998), "The paradox of liquidity", *The Quarterly Journal of Economics*, Vol. 113 No. 3, pp. 733-771.

Nason, R.S. and Patel, P.C. (2016), "Is cash king? Market performance and cash during a recession", *Journal of Business Research*, Vol. 69 No. 10, pp. 4242-4248.

Nikolov, B. and Whited, T. (2009), "Agency conflicts and cash: estimates from a structural model", Working Paper, University of Rochester, New York, NY.

Opler, T., Pinkowitz, L., Stulz, R. and Williamson, R. (1999), "The determinants and implications of corporate cash holdings", *Journal of Financial Economics*, Vol. 52 No. 1, pp. 3-46.

Ozkan, A. and Ozkan, N. (2004), "Corporate cash holdings: an empirical investigation of UK companies", *Journal of Banking and Finance*, Vol. 28 No. 9, pp. 2103-2134.

Palvia, A., Vähämaa, E. and Vähämaa, S. (2014), "Are female CEOs and Chairwomen more conservative and risk averse? Evidence from the banking industry during the financial crisis", *Journal of Business Ethics*, Vol. 131 No. 3, pp. 577-594.

Papaioannou, G.J., Strock, E. and Travlos, N.G. (1992), "Ownership structure and corporate liquidity policy", *Managerial and Decision Economics*, Vol. 13 No. 4, pp. 315-322.

Pfeffer, J. (1972), "Size and composition of corporate boards of directors: the organization and its environment", *Administrative Science Quarterly*, Vol. 17 No. 2, pp. 218-228.

Pinkowitz, L. and Williamson, R. (2001), "Bank power and cash holdings: evidence from Japan", *Review of Financial Studies*, Vol. 14 No. 4, pp. 1059-1082.

Pinto, I. and Picoto, W.N. (2016), "Configurational analysis of firms' performance: understanding the role of internet financial reporting", *Journal of Business Research*, Vol. 69 No. 11, pp. 5360-5365.

Ragin, C.C. (1987), *The Comparative Method: Moving beyond Qualitative and Quantitative Methods*, University of California, Berkeley.

Ragin, C.C. (2008), *Redesigning Social Inquiry: Fuzzy Sets and beyond*, University of Chicago Press, Chicago.

Ragin, C.C. (2009), "Qualitative comparative analysis using fuzzy sets", in Rihoux, B. and Ragin, C.C. (Eds), *Configurational Comparative Methods: Qualitative Comparative Analysis (QCA) and Related Techniques (Applied Social Research Methods)*, Sage, Thousand Oaks, California, CA, pp. 87-121.

Ragin, C.C. and Fiss, P.C. (2008), "Net effects analysis versus configurational analysis: an empirical demonstration", in Ragin, C.C. (Ed.), *Redesigning Social Inquiry: Fuzzy Sets and beyond*, University of Chicago Press, Chicago, pp. 190-212.

Rechner, P.L. and Dalton, D.R. (1991), "CEO duality and organizational performance: a longitudinal analysis", *Strategic Management Journal*, Vol. 12 No. 2, pp. 155-160.

Rediker, K.J. and Seth, A. (1995), "Boards of directors and substitution effects of alternative governance mechanisms", *Strategic Management Journal*, Vol. 16 No. 2, pp. 85-99.

Roig-Tierno, N., Huarng, K.H. and Ribeiro-Soriano, D. (2016), "Qualitative comparative analysis: crisp and fuzzy sets in business and management", *Journal of Business*, Vol. 69 No. 4, pp. 1261-1264.

Rosenstein, S. and Wyatt, J. (1990), "Outside directors, board independence, and shareholder wealth", *Journal of Financial Economics*, Vol. 26 No. 2, pp. 175-191.

Rosenstein, S. and Wyatt, J.G. (1997), "Inside directors, board effectiveness, and shareholder wealth", *Journal of Financial Economics*, Vol. 44 No. 2, pp. 229-250.

Samara, G. and Berbegal-Mirabent, J. (2018), "Independent directors and family firm performance: does one size fit all?", *International Entrepreneurship and Management Journal*, Vol. 14 No. 1, pp. 149-172.

Santulli, R., Torchia, M., Calabrò, A. and Gallucci, C. (2019), "Family ownership concentration and firm internationalization: integrating principal-principal and socioemotional wealth perspectives", *Journal of International Entrepreneurship*, Vol. 17 No. 2, pp. 220-248.

Schauten, M.B.J., van Dijk, D. and van der Waal, J.P. (2013), "Corporate governance and the value of excess cash holdings of large European firms", *European Financial Management*, Vol. 19 No. 5, pp. 991-1016.

Schneider, C.Q. and Rohlfing, I. (2016), "Case studies nested in fuzzy-set QCA on sufficiency: formalizing case selection and causal inference", *Sociological Methods and Research*, Vol. 45 No. 3, pp. 526-568.

Schneider, C.Q. and Wagemann, C. (2010), "Standards of good practice in qualitative comparative analysis (QCA) and fuzzy-sets", *Comparative Sociology*, Vol. 9 No. 3, pp. 397-418.

Schneider, C.Q. and Wagemann, C. (2012), *Set-theoretic Methods for the Social Sciences. A Guide to Qualitative Comparative Analysis*, Cambridge University Press, New York, NY.

Schneider, C.Q. and Wagemann, C. (2013), "Doing justice to logical remainders in QCA: moving beyond the standard analysis", *Political Research Quarterly*, Vol. 66, pp. 211-220.

Schnyder, G. (2012), Measuring Corporate Governance: Lessons from the 'Bundles Approach', *SSRN* 2220616. doi: 10.2139/ssrn.2220616.

Sciascia, S., Mazzola, P., Astrachan, J.H. and Pieper, T.M. (2012), "The role of family ownership in international entrepreneurship: exploring nonlinear effects", *Small Business Economics*, Vol. 38 No. 1, pp. 15-31.

Simutin, M. (2010), "Excess cash and stock returns", *Financial Management*, Vol. 39 No. 3, pp. 1197-1222.

Singla, C., Veliyath, R. and George, R. (2014), "Family firms and internationalization-governance relationships: evidence of secondary agency issues", *Strategic Management Journal*, Vol. 35 No. 4, pp. 606-616.

Sonnenfeld, J.A. (2002), "What makes great boards great", *Harvard Business Review*, September, pp. 106-113.

Steiner, I.D. (1972), *Group Process and Productivity*, Academic Press, New York, NY.

Thomann, E. (2020), "Qualitative comparative analysis for comparative policy analysis", *Handbook of Research Methods and Applications in Comparative Policy Analysis*, Edward Elgar Publishing.

Thomann, E. and Maggetti, M. (2020), "Designing research with qualitative comparative analysis (QCA): approaches, challenges, and tools", *Sociological Methods and Research*, Vol. 49 No. 2, pp. 356-386.

Ullah, S. and Kamal, Y. (2017), "Board characteristics, political connections, and corporate cash holdings: the role of firm size and political regime", *Business and Economic Review*, Vol. 9 No. 1, pp. 157-179.

Walsh, J.P. and Seward, J.K. (1990), "On the efficiency of internal and external corporate control mechanisms", *Academy of Management Review*, Vol. 15 No. 3, pp. 421-458.

Ward, J.L. (1978), *Keeping the Family Business Healthy: How to Plan for Continuing Growth, Profitability, and Family Leadership*, Jossey-Bass, San Francisco.

Ward, A.J., Brown, J.A. and Rodriguez, D. (2009), "Governance bundles, firm performance, and the substitutability and complementarity of governance mechanisms", *Corporate Governance: An International Review*, Vol. 17 No. 5, pp. 646-660.

Weir, C., Laing, D. and McKnight, P. (2002), "Internal and external governance mechanisms: their impact on performance of large UK public companies", *Journal of Business Finance and Accounting*, Vol. 29 No. 5, pp. 579-611.

Woodside, A.G. (2013), "Moving beyond multiple regression analysis to algorithms: calling for adoption of a paradigm shift from symmetric to asymmetric thinking in data analysis and crafting theory", *Journal of Business Research*, Vol. 66 No. 4, pp. 463-472.

Woodside, A.G. and Zhang, M. (2013), "Cultural diversity and marketing transactions: are market integration, large community size, and world religions necessary for fairness in ephemeral exchanges?", *Psychology and Marketing*, Vol. 30 No. 3, pp. 263-276.

Yeh, Y.H., Lee, T.S. and Woidtke, T. (2001), "Family control and corporate governance: evidence from Taiwan", *International Review of Finance*, Vol. 2 Nos 1-2, pp. 21-48.

Yermack, D. (1996), "Higher market valuation of companies with a small board of directors", *The Journal of Financial Economics*, Vol. 40 No. 2, pp. 185-212.

Yermack, D. (2004), "Remuneration, retention, and reputation incentives for outside directors", *The Journal of Finance*, Vol. 59 No. 5, pp. 2281-2308.

Yoshikawa, T., Zhu, H. and Wang, P. (2014), "National governance system, corporate ownership, and roles of outside directors: a corporate governance bundle perspective", *Corporate Governance: An International Review*, Vol. 22 No. 3, pp. 252-265.

Young, M.N., Peng, M.W., Ahlstrom, D., Bruton, G.D. and Jiang, Y. (2008), "Corporate governance in emerging economies: a review of the principal–principal perspective", *Journal of Management Studies*, Vol. 45 No. 1, pp. 196-220.

Zona, F. and Zattoni, A. (2007), "Beyond the black box of demography: board processes and task effectiveness within Italian firms", *Corporate Governance: An International Review*, Vol. 15 No. 5, pp. 852-864.

Corresponding author
Rosalia Santulli can be contacted at: rsantulli@unisa.it