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Managerial Social Capital and Dividends: Evidence from the UK

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Abstract: We examine the relationship between managerial social capital (MSC) and firms' dividend policies. For an unbalanced panel of publicly listed UK FTSE 350 firms from 2006 to 2017, we find that MSC has a negative impact on a firm's dividend policy. Firms pay lower dividends when a higher proportion of well-connected directors join corporate boards. Our main result is consistent with the notion that a high degree of social capital leads to better monitoring and control; therefore, social capital works under the substitution effect between governance quality and dividend payouts. In further analyses, we explore potential differences in this relationship between financial and non-financial firms and show that the association between MSC and dividend policy is weaker in financial firms than in non-financial firms. Taken together, our findings infer that investors should consider the social capital status of firms when they make investment decisions. Our results proved to be robust when subjected to a battery of tests, including alternative model specifications and definitions of MSC.

Keywords: dividend policy; managerial social capital; corporate governance; social connections; social networks

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1. Introduction

Since the seminal work of Miller and Modigliani (1961), a large body of literature has investigated dividend policy determinants, including firm-specific factors (such as firm size, profitability, debt structure, growth, risk, liquidity, and growth opportunity), corporate governance factors (such as ownership structure, board composition, and board characteristics), and non-financial factors (such as culture, religion, geography, and norms). Nevertheless, dividend policy remains a topic of research interest in finance.

In this paper, we study whether dividend policy is influenced by managerial social capital (MSC), a form of structural social capital. We define MSC based on the idea of network centrality, whereby an executive director's social capital stems from the extent of social ties with executive directors of other firms (Fracassi 2017). Our study is motivated by the importance of understanding firms' dividend payout policies, with a large amount of the literature investigating dividend policy under various theories: for example, Easterbrook (1984) and La Porta et al. (2000) use agency theory; Asquith and Mullins (1986) and Baker and Wurgler (2004) use signaling theory; and Dhaliwal et al. (1999) use tax clientele to explain the association between dividend policy and various financial decisions. However, despite the substantial prior literature that has examined the determinants of firms' dividend policies, the potential role of managerial and board connections in influencing dividend policy remains largely unexplored.

Furthermore, our focus on social capital is motivated by recent studies, which emphasize its importance for corporate outcomes. The existing literature suggests that social capital can significantly influence the effectiveness of firms' corporate governance, as well as financial policies (Hasan et al. 2020), with a small number of studies investigating associations between social capital and firms' financial policies (e.g., García-Feijóo et al. 2021; Huang and Shang 2019; Larcker et al. 2013). Nevertheless, social capital created through social networks between directors and executives, and its influence on issues such as dividend policy, capital structure, corporate governance, and firm performance, have received little attention in the literature to date (García-Feijóo et al. 2021; Oyotode-Adebile and Ujah 2021; Lins et al. 2017). Instead, prior work in this domain has mainly focused on the relevance of so-called interlocks between leaders (El-Khatib et al. 2015; Larcker et al. 2013; Horton et al. 2012; Mizruchi 1996), which has been shown to have either negative or positive effects on firm performance contingent on firm governance (Zona et al. 2018). Yet, such a focus ignores the possibility that social ties between firm directors and executives may also shape managerial decision-making and firm outcomes. For example, distinct from interlocking directors, social networking encompasses larger relationships, which are not limited to the interlocking between firms through directors (Fracassi 2017).

We argue that studying the association between dividend policy and social capital can help address the ambiguity that surrounds firms' dividend policies (García-Feijóo et al. 2021; Farinha 2003; Black 1976). For example, the agency model of dividends illustrates that the distribution of dividends at the discretion of managers helps to alleviate the agency problem between them and shareholders by forcing firms to interact repeatedly within the capital market to seek external financing (Gomes 2000; Easterbrook 1984; Rozeff 1982). For instance, Rozeff (1982) argues that an inadequate monitoring mechanism could be covered (substituted) by the distribution of cash dividends. Additionally, under the free cash flow hypothesis of Jensen (1986), managers tend to reduce cash distributions to use them in the future to finance positive net present value (NPV) projects. Overall, managers implicitly agree that cash dividends are costly.

Studies in finance reveal that the social capital of managers can mitigate information asymmetries and reduce agency costs (Ferris et al. 2017; El-Khatib et al. 2015; Faleye et al. 2014; Cai and Sevilir 2012; Cohen et al. 2008). The asymmetric information model in the signaling hypothesis (Bhattacharya 1979) implies that managers hold better information than outside investors about a firm's financial position and future cash flows, and that dividend policy works as an efficient tool to signal to market participants about a firm's financial position. Therefore, dividend policy is a reliable means to transfer information about a firm's value and performance (Al-Yahyaee et al. 2011; Bhattacharya 1979). This implies that dividend signaling should be low (or high) among firms that have a low (or high) degree of information asymmetry. From a different perspective, Pfeffer (1987) suggests that socially connected directors are good monitors, controlling agency costs by acting in the best interest of shareholders, while social capital is a means of trust (Dasgupta 1988) and associated with the managerial concern of losing their reputation in the market (McMillan and Woodruff 2000; Kandori 1992). Similarly, Ferris et al. (2017) highlight that MSC alleviates information asymmetry and agency problems by reducing the cost of equity. Accordingly, by considering the substantial attributes of social capital, this study conjectures that social capital can affect the firm's dividend policy.

Our study employs panel data of UK FTSE 350 Index firms from 2006 to 2017 to test the relationship between MSC and dividend policy. By way of preview, we test two hypotheses that posit that there should be *a negative relationship between board social networks and dividend payout policy* and that *the expected association between MSC and dividend policy is not subject to change under the financial and non-financial firms*. To do so, we use data from the BoardEx database (Javakhadze et al. 2016; Engelberg et al. 2012; Fracassi and Tate 2012) to build a rich social network index that captures MSC based on employment, education, and other social activities. Using Logit and Tobit estimators (Al-Najjar and Hussainey 2009; Sharma 2011; Sonika et al. 2014), we present evidence that the relationship between dividend policy and MSC is negative; that is, firms with a higher degree of MSC are reluctant to pay higher dividends. This evidence is in line with the substitution hypothesis (La Porta et al. 2000). We also distinguish between financial and non-financial firms in our analyses, allowing us to consider how social capital's role may differ for firms that operate in the financial sector. Prior work has not explored this granularity, but our findings suggest that this is important.

Furthermore, given the potential yet uncertain impact of corporate governance attributes (Zona et al. 2018), we follow the recommendations of Hasan et al. (2017) and Hasan et al. (2020) and explore interactions between social capital and firms' corporate governance dimensions in affecting dividend policy. Previous studies assert that dividend policy and corporate governance are significantly affected by each other (Jiraporn and Lee 2018; Sharma 2011; Chae et al. 2009). Various studies have explored the relationship between corporate governance and firms' dividend policy, such as that between dividend policy and the gender composition of the board (Chen et al. 2017), board independence (Sharma 2011; Al-Najjar and Hussainey 2009), ownership concentration (Setia-Atmaja et al. 2009), and co-opted directors (Jiraporn and Lee 2018). Additionally, socioeconomic factors have also been considered to a more limited extent. Pertinently, Ucar (2016), Davaadorj (2019) and García-Feijóo et al. (2021) argue that dividend policy is likely influenced by attributes of social capital. We show that there is a significant joint effect between MSC and corporate governance factors (namely the degree of board independence and size, audit committee size, and the proportion of female directors on the board).

Our study makes several contributions to the extant literature. Importantly, it adds to our understanding of firms' dividend policy choices. Specifically, we contribute new empirical evidence to the dividend policy literature by using a new unexamined factor, namely MSC. Our work is also the first to explore the relevance of social capital for firm dividend policy in the UK. Our research also adds to the nascent understanding of the role of socioeconomic factors in firm policies. Previous research has studied the effect of numerous non-financial variables (such as culture, religion, region, and norms) on dividend policy. For instance, Shao et al. (2010) investigated how national culture influences dividend policy. Ucar (2016) added the cultural aspect to dividend policy, while Davaadorj (2019) also explored the relationship between regional social capital and dividend policy. In this regard, Ucar (2016) and García-Feijóo et al. (2021) argue that dividend policy can be affected by the attributes of social capital. Therefore, it is important to determine how social capital attributes among the board of directors (BODs) and management teams can affect dividend policy through implicit social networks (Wasserman and Faust 1994). In particular, our study contributes to this body of research by demonstrating that MSC and firm corporate governance exhibit an important interactive effect on firm dividend policy (e.g., García-Feijóo et al. 2021; Chen et al. 2017; Farinha 2003; La Porta et al. 2000).

Finally, our study provides further evidence about the association between the dividend policy and social capital of financial and non-financial firms. Prior work has not explored the potentially different roles played by social capital on dividend policy in the financial sector. We add to the extant knowledge by showing that the effect of MSC in reducing dividend payouts is weaker in financial sector firms.

The rest of the study proceeds as follows. Section 2 reviews the relevant literature and develops testable hypotheses. Section 3 discusses the sample, model, and variable construction, while Section 4 presents empirical results and discusses the findings. Section 5 concludes.

2. Literature Review and Hypotheses Development

2.1. Dividend Decisions

Financial markets and firms are impacted by agency problems and information asymmetries related to control problems (Hoi et al. 2019; Ferris et al. 2017; Tuugi et al. 2014; Fidrmuc and Jacob 2010; Fama 1980). Numerous research studies have attempted to provide rational explanations for the psychological, behavioral, and societal influences on financial markets and corporate decisions (Johnson et al. 2013). According to the agency theory, self-serving managerial behavior (Eisenhardt 1989) proposes that managers may exploit information asymmetries to expropriate firm value. This misuse of resources ranges from overconsumption, transfer pricing, excessive compensation, issuing additional securities to relatives, and (mis)use of dividends (La Porta et al. 2000; Shleifer and Vishny 1997).

Cash dividends limit the available cash for managers and expose the firm to more legal constraints through market security. Therefore, the agency model of dividends ensures that dividend policy aligns agents' interests with those of the principals. However, Ferris et al. (2003) show that, under the busyness hypothesis, firms may have a poor monitoring system, which results in additional agency costs, and this can lower dividend distributions.

Non-financial aspects can also have a significant impact on firms' dividend payments. For instance, Shao et al. (2010) provide evidence of the influence of management's and investors' perceptions as a determinant of dividend policy. They used Schwartz's national culture measurements, conservatism and mastery, and found that conservatism had a positive influence on dividend payouts. This relationship is interpreted as a signal of managers' discipline and a signal of security needs, whereas mastery has a negative influence on dividends, giving insiders a better chance to take control of a firm's resources. These findings suggest that the cultural aspect affects the perceptions of managers and investors, in turn, influencing the information asymmetry and agency problem (Panta 2020).

In addition, cultural differences have been studied as a determinant of payout policy. For instance, based on data from 33 countries, Bae et al. (2012) found that the cultural aspects of uncertainty avoidance, masculinity, and long-term orientation, derived from Hofstede's cultural dimensions, were key determinants of a firm's dividend policy. Moreover, they show that it is difficult to ignore the influence of culture in any aspect of human life, reporting that the propensity to pay dividends and the level of dividends paid are affected by the cultural dimension.

Fidrmuc and Jacob (2010) linked dividend payout to cultural differences across 41 countries, also using Hofstede's cultural dimensions, and revealed that cultural factors, including individualism, power distance, and uncertainty avoidance, have a significant association with dividend payout. Moreover, they show that dividend policy is influenced by social institutions, as measured by regulatory bodies and culture. Ucar (2016) investigated the effects of cultural and religious differences on dividend policy. He found that firms located in Protestant areas had a higher tendency to pay and initiate dividends and a higher ratio of dividend to price. On the other hand, firms located in areas with a Catholic population had a lower tendency to distribute cash dividends and a lower ratio of dividends to price. Accordingly, he asserts that when local investors are the dominant investors in a certain firm, their corporate policies will work in line with the local culture. In China, Cao et al. (2016) explored how religiosity can shape dividend policy by examining the relation between Buddhism/Taoism and dividend payout decisions. They found that regions with a strong Buddhist or Taoist influence tended to pay higher dividends, as the faiths involve more sympathy, sharing behavior and compassion, thus having a significant influence on dividend policy through the distribution of profits rather than their accumulation. In light of the bird-in-hand argument, Chintrakarn et al. (2019) argue that religiosity is associated with a higher degree of risk aversion. They also report that piety is associated with a stronger tendency to pay dividends.

2.2. Managerial Social Capital (MSC) and Dividend Policy

While the previous discussion suggests that there are several factors that can influence dividend payouts, there are many behavioral factors which have been underexplored in the existing literature. One such factor is the social capital of managers. Social capital has long been thought to be an important construct that can influence personal and professional outcomes and has been studied in various disciplines, including political science, anthropology, sociology, and economics (Schneider 2006; Dasgupta 2005; Portes 1998; Knack and Keefer 1995; Putnam 1995). Furthermore, as the socioeconomic effects in financial markets are dynamic and changing rapidly, new research is required to provide a reasonable understanding of social influences on a firm's financial decisions (Rupasingha et al. 2006). For instance, García-Feijóo et al. (2021) argue that dividend policy can be affected by social capital; therefore, it should be considered in relation to dividend policy.

Social capital can be defined in different ways, for example, as a means for networks to accelerate the efficiency of collective actions (Putnam et al. 1994), or through the embedded features in social networks, such as information transfer, trust, and norms (Woolcock 1998). However, perhaps the most important definition is that of Putnam et al. (1994, p. 167), who define social capital as "*features of social organization, such as trust, norms, and networks that can improve the efficiency of society by facilitating coordinated actions*". Although social capital can be considered from other perspectives, in this study, we focus on firm-level structural social capital, given that this is the only form of social capital which can be readily quantitatively measured and thus studied in an organizational context, and that it has been important for firms' outcomes (e.g., El-Khatib et al. 2015; Ferris et al. 2017; Javakhadze and Rajkovic 2018). Specifically, and as discussed in Section 3.4, we adapt the network centrality concept and calculation of Fracassi (2017) to compute the MSC of UK firms. Here, structural capital is captured by the extent of social ties between executive directors from the focal firm with other firms.

Social capital has received growing attention in corporate finance because of its ability to facilitate information sharing, build trust, and enhance monitoring and control. The prior literature posits that social capital should represent a valuable source and control mechanism, with the potential to enhance information flows and mitigate information asymmetries (García-Feijóo et al. 2021; Hasan et al. 2020), and with the size of an agent's network, a key determinant of the level of social capital possessed (Bourdieu 1986). In an information-sharing approach, social capital provides an efficient way of sharing information that would not be possible (or hard to achieve) otherwise (Shropshire 2010). For instance, Cohen et al. (2008) highlight that educational networks facilitate information exchange between mutual fund managers and firm BODs. Similarly, Cai and Sevilir (2012) illustrate that social connections between acquired and target firms mitigate information asymmetry. Consequently, it can be argued that MSC facilitates information flow, which should mitigate information asymmetry and the need to signal to the market. Equally importantly, Ferris et al. (2017) and Gupta et al. (2018) argue that social capital is a strong mechanism which alleviates opportunistic managerial behavior through its reputation effect.

From a resource dependence-theory perspective (Hillman and Dalziel 2003; Pfeffer 1987; Pfeffer and Salancik 1978), a firm can meet environmental uncertainty and a scarcity of resources such as trust by maintaining good connections with other firms. Previous research (e.g., Shropshire 2010; Davis 1991; Grossman and Hart 1986) shows that BOD linkages eliminate extra costs related to incomplete contracts, allow the learning of new tactics, and facilitate access to information. Moreover, social capital is a means of supporting trust among networked participants, facilitating efficient and effective transactions, implying that it is an efficient medium for inducing cooperative links. Therefore, trust is vitally important in financial market transactions and social connections, as it helps to support efficient transactions among participants (Arrow 1972). Moreover, social capital stimulates managerial concern regarding their reputation and future career plans. Therefore, honest dealing becomes dominant among socially connected agents (McMillan and Woodruff 2000), leading to a reduction in agency costs.

2.3. MSC, Dividends, and the Substitute Hypothesis

The previous subsection established the relevance of MSC for reducing information asymmetries faced by firm outsiders. In this section, and by way of preview, we argue that since MSC can mitigate information asymmetries, such firms may pay lower dividends because of a substitution effect (La Porta et al. 2000). If true, this substitution effect would be consistent with broadly related findings concerning the role of independent directors on corporate boards (Al-Najjar and Hussainey 2009). Furthermore, as highlighted by García-Feijóo et al. (2021, p. 2), they are consistent with *asymmetric information models, and because social connections positively affect information flows, they should reduce information asymmetry and, hence, the need for dividend smoothing*.

We conjecture that MSC has certain attributes which could lead to a better monitoring policy and, in turn, reduce agency costs. Indeed, dividend policy is one of the tools that can be considered to mitigate the conflict between managers and shareholders. However, the usefulness of this policy in alleviating agency costs depends on the degree of control of management decisions. Therefore, managers with poor monitoring can deviate from the efficient use of free cash flow to invest in inefficient projects. In this vein, Jiraporn et al. (2011) argue that the market responds negatively to dividend cuts and unstable dividend policy, so dividend policy works as a pre-commitment mechanism that forces managers to work in the best interest of shareholders; the mechanism works effectively in the presence of a severe agency conflict.

However, the exact explanation for this reduction in agency costs is not theoretically clear. Therefore, building on the argument of La Porta et al. (2000), this study builds on the substitute hypothesis to explain this relationship. As argued by La Porta et al. (2000), the substitution hypothesis is based on the premise that sometimes firms need to raise money from external capital markets. Therefore, they try to establish a good reputation in the market due to their commitment to shareholders and not to exploit them in order to be able to obtain capital from the market on suitable terms. One of the tools to achieve this target is the use of dividend payments to prove the commitment of management to shareholders. This is because dividend payments reduce the cash available in the hands of the management, thus alleviating their expected opportunistic behavior. Consequently, firms with a weak governance regime need to build a good reputation in the market, which is possible by paying dividends. This study argues that, in addition to its ability to release financial constraints, MSC equips company directors with a good reputation, monitoring, and prestige. Therefore, firms with such directors can use their connections in the market to access cash, implying that well-connected directors can offset (substitute) the need for distributing extra dividends. In simple terms, larger dividends are a substitute for a stronger monitoring system; the need for dividends has to be greater for companies with a poor governance regime than for those with a solid one, indicating that the relationship between dividend policy and MSC can be negative.

Social capital fosters monitoring and control by obtaining information at lower costs and completing contracts at low cost, and it provides the capability to punish and reward, which is very sensitive to cash flow (Hasan et al. 2020; Javakhadze et al. 2016). In relevant research studies, Ferris et al. (2017) and Gupta et al. (2018) report that social capital impacts the cost of equity by alleviating asymmetric information and agency costs. In addition, social connections increase executives' prestige and reputation (Useem 1984). Certo (2003), based on signaling theory, showed that prestigious directors are used by firms to inform the market about their reputation and legitimacy, which influences investors' investment decisions. Chu and Davis (2016) state that highly connected networks of directors become an inner circle, serving as an efficient mechanism for diffusing information and corporate practices and encouraging elite cohesion. Thus, monitoring and control functions, which are a vital job of BODs, should improve since well-connected BODs have better MSC.

Accordingly, we build on the fact that a strong monitoring mechanism, a reduced form of asymmetric information problem, better information transfer, less need for signaling the market, and the reputation effect will result in less need to pay dividends. This is consistent with the corporate governance literature, which asserts that a strong governance system results in less need to pay dividends. Moreover, these expectations are reasonable, as this research argues that social capital attributes have common influences on dividend policy, like the corporate governance regimes. Under those circumstances, this study postulates that social capital can negatively impact dividend policy, which is in line with the corporate governance literature (Jiraporn and Lee 2018; La Porta et al. 2000). In a relevant research study, Al-Najjar and Belghitar (2014) emphasize that studying the effect of MSC on dividend decisions can improve the knowledge and understanding of the role of monitoring in cash dividend decisions. Therefore, this study adds to the extant literature by using the substitution model and signaling theory to investigate the relationship between social capital and dividend policy.

Accordingly, consistent with the substitution model and signaling theory of dividends, the following hypothesis is postulated:

H1: *There is a negative relationship between board social networks and dividend payout policy.*

Interestingly, Mizruchi (1996) illustrates that financial firms are crucial in studying the effect of social networks. Indeed, his argument is in line with the fact that financial firms have several representatives in different firms and from different firms, as supported by Javakhadze et al. (2016). Additionally, Akbar et al. (2017) show that corporate governance characteristics vary in regard to their effect on the performance of financial firms. However, Pathan (2009) explains that non-financial firms work in a less risky environment than financial firms, which may result in a conservative policy to distribute dividends. Indeed, financial firms were explicitly excluded in several works, such as in corporate governance, dividend distributions, and, more recently, social capital studies (García-Feijóo et al. 2021; Jiraporn and Lee 2018; Ucar 2016). Moreover, the regulations in the financial sector are very rigid (Laeven and Levine 2009). Under these conditions, this study goes beyond previous studies and does not ignore the differences in the financial sector. It classifies firms as financial and non-financial to provide a deep understanding of the association between dividend policy and social capital. Accordingly, this study adds to the extant literature by estimating all firms in a pooled sample in one model, thereafter separating the sampled firms into financial and non-financial firms.

H2: *The expected association between MSC and dividend policy is not subject to change under the financial and non-financial firms.*

3. Sample, Model, and Variables Construction

3.1. Sample and Data

This study uses data from the UK to investigate the relationship between dividend policy and MSC. Accordingly, it obtained data from the FTSE 350 Index of firms for the period 2006–2017. The data encompass all firms that were included in the index at any point during the study period. This helps in mitigating the survivorship bias. The study period covers some of the main developments that have taken place regarding the governance code in the UK. For example, the CGC of 2010 asserts that, in the case of all FTSE 350 companies, 50% of the board should be independent non-executive directors, having a major effect on BOD social capital (Devos et al. 2009).

To test this study's hypotheses, data were sourced from the BoardEx[1] database to construct the social capital variable through the social networking approach, that is, using degree centrality, in addition to extracting governance variables. The BoardEx data were then matched with Datastream/Worldscope for financial and accounting variables by using the firms' International Securities Identification Number.[2] Consequently, to reduce the effect of outliers, all continuous variables were winsorized at the 1st and 99th percentiles (e.g., Javakhadze et al. 2016). Previous studies on MSC, such as that by Oyotode-Adebile and Ujah (2021), excluded financial and utility firms, whereas Mizruchi (1996) and Javakhadze et al. (2016) assert that the connections with/through financial firms are an essential determinant of MSC.

In addition, the FTSE 350 Index firms, which are used in this study, include financial and non-financial firms. Consequently, to test the first hypothesis (*H1: There is a negative relationship between board social networks and dividend payout policy*), and thereafter to test the second hypothesis (*H2: The expected association between the MSC and dividend policy is not subject to change under the financial and non-financial firms)*, this study uses all firms, non-financial firms, and financial firms in a separate estimation to compare the three situations and provide empirical evidence on *H1* and *H2*. Therefore, the sample of the study not only includes all firms on the FTSE 350 Index but also is divided into financial and non-financial firms in separate estimations. However, the final study sample consists of an unbalanced panel of 3638 firm-year observations.[3]

3.2. Study Model

Following the extant literature, this study uses two models,[4] the Logit model (Sharma 2011) and the Tobit model (Sonika et al. 2014), to test the study hypotheses as follows:

Model-I: Logit estimation

$$\begin{aligned} DIVDUM_{i,t} = \beta_0 &+ \beta_1(MSC) + \beta_2(NED_{i,t-1}) + \beta_3(BSIZE_{i,t-1}) + \beta_4(ASIZE_{i,t-1}) + \beta_5(GEN_{i,t-1}) + \beta_6(ROA_{i,t-1}) \\ &+ \beta_7(VOL_{i,t-1}) + \beta_8(DEBTR_{i,t-1}) + \beta_9(FSIZE_{i,t-1}) + \beta_{10}(TOBIN'Q_{i,t-1}) + \beta_{11}(TURN_{i,t-1}) \\ &+ \beta_{12}(FAGE_{i,t-1}) + INDD + YEARD + \varepsilon_{i,t} \end{aligned} \quad (1)$$

Model-II: Tobit estimation

$$\begin{aligned} DIVPOUT_{i,t} = \beta_0 &+ \beta_1(MSC) + \beta_2(NED_{i,t-1}) + \beta_3(BSIZE_{i,t-1}) + \beta_4(ASIZE_{i,t-1}) + \beta_5(GEN_{i,t-1}) + \beta_6(ROA_{i,t-1}) \\ &+ \beta_7(VOL_{i,t-1}) + \beta_8(DEBTR_{i,t-1}) + \beta_9(FSIZE_{i,t-1}) + \beta_{10}(TOBIN'Q_{i,t-1}) + \beta_{11}(TURN_{i,t-1}) \\ &+ \beta_{12}(FAGE_{i,t-1}) + INDD + YEARD + \varepsilon_{i,t} \end{aligned} \quad (2)$$

3.3. Dependent Variables

To predict the firm's dividend policy, this study considers two estimation methods: the Logit estimation model and the Tobit model. Both models have been used extensively in related research to capture the nature of dividend decisions (e.g., Al-Najjar and Hussainey 2009; Sharma 2011; Sonika et al. 2014). As shown in these studies, both measures capture the dividend decisions within firms. Specifically, firms need to make two decisions regarding dividend distributions: they can decide not to pay any dividend, or they can distribute up to 100% of their earnings. This means that, in either scenario, dividends are never negative. Accordingly, there are two scenarios for dividends policy. Thus, a Logit regression is well suited to such a binary choice. Similarly, Tobit regressions are also suitable to capture dividend payout decisions. For example, as emphasized by Jiraporn et al. (2011, p. 264), "*Several previous studies employ Tobit regressions when examining dividend payouts as dividend payouts cannot be below zero and can be regarded as a censored variable*".

Following the above logic, in our setup, the first scenario is paying dividends or not; in this scenario, the dependent variable, DIVDUM, is a binary variable (0/1), which is estimated using Logit regression (Wooldridge 2015). The second scenario is the ratio of dividend distribution; in this scenario, the dependent variable, DIVPOUT, is left-censored at zero, and then Tobit regression is the appropriate model, as it has continuous and discrete values (Wooldridge 2015; Greene 2003).

3.4. Main Independent Variable

Generally, social capital is classified into three dimensions: the structural dimension (Bourdieu 1989), the relational dimension (Nahapiet and Ghoshal 1998), and the cognitive dimension (Coleman 1988). The latter two may look similar, and sometimes they are categorized as a macro-concept of social capital. The cognitive dimension pays more attention to the common values and goals of actors, whereas the relational dimension focuses more on the trust between connected actors (Nahapiet and Ghoshal 1998). More importantly, the structural dimension relates social capital to the connections among actors in social networks and is related to structural theory (Lin 1999; Burt 1992). Consequently, social capital, in this theory, is an embedded asset residing in the social network between agents, which can be used to facilitate and transfer these assets. This means that one can use the size of social networks to determine the value of social capital for the network participants (Javakhadze et al. 2016; Burt 1983; Freeman 1979).

The literature on corporate finance uses the structural dimension of social capital, which is commonly referred to as social network capital. It has a significant influence on different corporate finance applications. For instance, Fogel et al. (2018) report that the terms of private debt are influenced by social capital through implementation of structural social capital methods. Similarly, Engelberg et al. (2012) state that interest rates will be reduced if banks are connected through management ties, a process which also implements structural social capital methods. Such an influence stems from the exchange of information and the trust and norms that implicitly reside in social networks (García-Feijóo et al. 2021; Hasan et al. 2020). Therefore, in this study, the structural social capital view is considered, and we reflect that social capital between agents is an asset embedded in social networks that can be utilized through connections between agents (Burt 1992; Lin 1999).

In our paper, we adopt a network centrality measure to compute MSC as the size of the social network held by an agent on the board team from the social networking index, as developed by Fracassi (2017). Following prior work (Fracassi and Tate 2012; Javakhadze et al. 2016; Fracassi 2017), we collect and aggregate the number of connections for all executive directors in a specific firm to compute MSC as a firm-level measure of structural social capital. These connections are the summation of connections from (1) *current employment*, where two agents are connected through working together in the same firm; (2) *past employment*, where two agents are connected from previously working in the same firm (distinct from current employment); (3) *educational network*, where two agents both attended the same higher education institution within a one-year overlap[5]; and (4) "*other social activities*", representing the total number of connection between two agents if they have the same membership in social and charitable organizations, including football clubs, golf clubs, charities, and other social organizations, at the same time. However, to ensure that connections are "effective", we consider connections through educational networks and other social activities only if the agents also have connections from current or previous employment. An individual is considered highly connected if they have strong connections with other agents in the network (i.e., the study sample).

As shown in Equation (3) below, the overall connections are aggregated to represent the firm-level connections as the managerial social capital index (MSCI) in the models for each year, from 2006 to 2017. This approach is consistent with that adopted in recent studies (e.g., El-Khatib et al. 2015; Ferris et al. 2017; Javakhadze and Rajkovic 2018). All the information/data to develop the firm-year MSCI were extracted from the BoardEx database.

$$MSC_{it} = \sum_{n=1}^{i} (CEC_{it} + PEC_{it} + EDC_{it} + OSAC_{it}) \quad (3)$$

where

MSC represents the managerial social capital;
CEC represents the current employment connections;
PEC represents the previous employment connections;
EDC represents the education connections;
OSAC represents the other social activity connections;
Subscripts *i* and *t* refer to firm and time.

3.5. Control Variables

The set of control variables that we incorporate into our empirical model is consistent with the existing literature. Our first set of firm-level controls is for governance characteristics. First, since dividends are a substitute for independent directors on the board (Al-Najjar and Hussainey 2009), we control for board independence ($NED_{i,t-1}$), measured as the lagged percentage of independent directors to board size (Akbar et al. 2017). Next, we include board size ($BZISE_{i,t-1}$), which has a negative influence on payout decisions (Ghosh and Sirmans 2006), and it is computed as the natural logarithm of the lagged number of directors on the board (Akbar et al. 2017). We also control for female representation on the board ($GEN_{i,t-1}$), which can influence dividend payout decisions (Chen et al. 2017; Elmagrhi et al. 2017), measured as the percentage of lagged female directors on the board (Chen et al. 2017). Finally, we control for audit committee size ($ASIZE_{i,t-1}$), defined as the lagged total number of directors sitting on the audit committee, given that larger audit committees may be more effective at mitigating opportunistic managerial behaviors linked to dividend payout decisions (Elmagrhi et al. 2017).

Second, we control for common "traditional" financial characteristics which could influence firms' dividend policy. One of the key variables in this respect is profitability (Al-Najjar and Hussainey 2009; Aivazian et al. 2003), defined as ($ROA_{i,t-1}$) lagged net income to total assets (Homroy and Slechten 2019). Since firms' dividend policy is also significantly affected by business conditions, we control for the volatility of returns ($VOL_{i,t-1}$) (e.g., Chen et al. 2017), defined as the standard deviation of lagged daily returns each year (Chung and Chuwonganant 2018). Another consideration related to a firm's dividend policy is its ability to pay its obligations (Jensen et al. 1992), with a lower debt to equity ratio associated with lower default risk and costs to managers and providers of firm debt (Sharma 2011); therefore, we include the debt ratio ($DEBTR_{i,t-1}$), measured as lagged total debt to market capitalization.

Additionally, since larger firms have better access to external cash, this implies that they tend to pay more dividends (Farinha 2003). Thus, we control for firm size ($FSIZE_{i,t-1}$), measured as the natural logarithm of lagged total assets (Jiraporn et al. 2009). Because better long-run firm performance is associated with higher dividend payouts (Florackis et al. 2015), we control for a firm's future growth opportunities with lagged Tobin's Q ($Q_{i,t-1}$), calculated as the number of shares outstanding times the stock price, plus total liabilities to total assets (Singh et al. 2018). Bearing this in mind, the quality of asset utilization produces higher profits and, in turn, more probability of distributing dividends, so we also include the lagged sales-to-assets ratio ($TURN_{i,t-1}$) (Singh and Davidson 2003). Another factor is related to the age of the firm; notably older, more stable, firms tend to distribute more dividends (Grullon et al. 2002). Accordingly, we control for firm age ($FAGE_{i,t-1}$), with a lag as a determinant of dividend policy. Finally, industry and year dummies are also included to account for variations in industries and time factors. Full details of the study variables are given in Table 1.

Table 1. Variables definitions and sources.

Variable Type/Name	Notation	Source	Variable Description	Previous Studies/Code(s)
Dependent variables:				
Dividend payout ratio	PAYOUT	DataStream	Dividends per share divided by earnings per share × 100	Sonika et al. (2014)/WC09504
Dividend pay	DIVDUM	DataStream	Binary variable equal to one if the firm pays dividends, and 0 otherwise	Sharma (2011)
Independent variables:				
Managerial social capital	MSC	BoardEx	Firm aggregate connections for each board member (plus one), computed as follows: $MSC_{it} = \sum_{n=1}^{i}(CEC_{it} + PEC_{it} + EDC_{it} + OSAC_{it})$, where *MSC* represents the managerial social capital; *CEC* represents the current employment connections; *PEC* represents the previous employment connections; *EDC* represents the education connections; *OSAC* represents the other social activity connections; and subscripts *i* and *t* refer to firm and time, respectively.	Fracassi and Tate (2012); Ferris et al. (2017); own calculation.
Board independence	NED	BoardEx	Ratio of the number of independent directors to the number of all directors*(one-year lagged and winsorized)*	(Akbar et al. 2017)
Board size	BSIZE	BoardEx	Total number of directors sitting on the board (*one-year lagged*	Fracassi (2017)

Table 1. *Cont.*

Variable Type/Name	Notation	Source	Variable Description	Previous Studies/Code(s)
Audit committee size	ASIZE	BoardEx	Total number of directors sitting on the audit committee *(one-year lagged)*	Elmagrhi et al. (2017)
Female directors	GEN	BoardEx	Ratio of the number of female directors to the total number of directors *(one-year lagged and winsorized)*	Chen et al. (2017)
Return on assets	ROA	DataStream	Ratio of net income to total assets *(one-year lagged and winsorized)*	Homroy and Slechten (2019)/WC01751; WC02999
Volatility	VOL	Bloomberg	Return volatility of each stock using the standard deviation of daily returns each year *(one-year lagged and winsorized)*	Chung and Chuwonganant (2018); own calculation
Debt ratio	DEBTR	DataStream	Short-term and long-term debt divided by market capitalization *(one-year lagged and winsorized)*	Ferris et al. (2018)/WC03251; WC03051; P; NOSH
Firm size	FSIZE	DataStream	Ln (total assets) *(one-year lagged)*	Huang and Shang 2019)/WC02999
Tobin's Q ratio	Q	DataStream	Number of shares outstanding times stock price, plus total liabilities divided by total assets *(one-year lagged and winsorized)*	Singh et al. (2018)/NOSH; P; WC03251; WC03051; WC02999
Turnover ratio	TURN	DataStream	Asset turnover, measured as the ratio of annual sales to total assets *(one-year lagged and winsorized)*	Singh and Davidson (2003)/WC01001; WC02999
Firm age	FAGE	DataStream/ gov.uk	Natural logarithm of the number of years since the incorporation of the firm *(one- year lagged and winsorized)*	Akbar et al. (2017); WC18273
Industry dummy	SIC	Bloomberg	Dummy for each micro-sector	Phillips and Ormsby (2016)
Year dummy	YEAR		Dummy variable for each year	

4. Empirical Findings

Table 2 presents the descriptive statistics of all the variables discussed in Section 3 and Table 1. These variables are employed in multivariate analyses in the study. The panel dataset merged 376 firms that appeared at least once on the FTSE 350 Index during the period 2006–2017 to minimize survivorship bias.

Table 2. Descriptive statistics of the variables used in the multivariate analysis.

		N	Max	Min	Mean	25%	Median	75%	SD
1	PAYOUT	3293	0.98	0.000	0.364	0.122	0.363	0.548	0.269
2	DIVDUM	3636	1.000	0.000	0.844	1.000	1.000	1.000	0.363
3	MSC	3638	11.79	0.000	5.041	3.951	5.286	6.526	2.202
4	NED	3618	0.857	0.250	0.623	0.556	0.625	0.714	0.128
5	BSIZE	3618	3.332	1.099	2.092	1.946	2.079	2.303	0.289
6	ASIZE	3432	2.565	0.000	1.401	1.099	1.386	1.609	0.341
7	GEN	3383	0.50	0.000	0.128	0.000	0.13	0.20	0.12
8	ROA	3638	0.303	−0.320	0.066	0.025	0.056	0.103	0.083
9	VOL	3638	1.05	0.000	0.329	0.22	0.295	0.40	0.172
10	DEBTR	3637	28.329	0.003	1.436	0.19	0.491	1.077	3.781
11	FSIZE	3638	22.266	9.329	14.095	12.846	13.799	15.045	1.829
12	Q	3638	5.319	0.616	1.53	0.966	1.232	1.791	0.864
13	TURN	3638	3.413	0.000	0.817	0.119	0.638	1.194	0.785
14	FAGE	3623	4.97	0.000	3.565	2.944	3.466	4.344	0.803

The dataset includes 3638 firm-year observations of FTSE 350 firms during the period 2006–2017. Variable definitions, sources, and notations are outlined in Table 1.

As shown in Table 2, the average PAYOUT is 36.4%, with a 26.9% standard deviation, which means that less than 50% of the generated income is distributed as dividends. DIVDUM has a mean value of 84%, showing that 84% of the sample firms paid a dividend at some point during the sample period. MSC is the main independent variable in the study, with a minimum value of zero, a maximum value of 11.79, and a mean value of around 5. This result is similar to that of the study conducted by Homroy and Slechten (2019), who found that the average connection between board teams on the FTSE 350 was around 4.

Regarding the governance variables, NED has a mean of 62%, which means that independent directors are dominant on the firm's BODs. In addition, BSIZE has an approximate average of 2 (measured as a natural logarithm, $e^2 = 8$); however, ASIZE is 1.4 (also measured as a natural logarithm, $e^{1.4} = 4.05$), a value that is consistent with the finding of (Al-Najjar 2011). In addition, the GEN variable has a mean of 12.8%, with a minimum value of zero, which means that, for some firm-years, there are no women on the BOD.

In addition, the use of debt is common in the UK, with DEBTR having a mean value of 144%. Moreover, ROA shows that only around 6% of returns are derived from assets. The risk measured by VOL has a mean value of 32.9% and a standard deviation of 17.2%. Furthermore, asset utilization has a mean value of 81.8%.

Table 3 displays the results of the correlation matrix across the study variables and the variance inflation factors (VIFs) for the independent variables. Gujarati (2003) illustrates that collinearity between two independent variables may result in an econometric problem known as multicollinearity. Accordingly, having a VIF value equal to or above 10 implies that the tolerance (1/VIF) value is lower than 0.10, which indicates that there is a multicollinearity problem. The highest value of the VIF is 1.91, with a tolerance of 0.53. Therefore, the multicollinearity problem does not influence the results of this study.

Table 3. Pearson's correlations and VIF values.

Variable	MSC	BSIZE	NED	ASIZE	GEN	ROA	VOLA	DEBT	FSIZE	TOBINQ	TURN	VIF	1/VIF
MSC	1											1.277	0.783
BSIZE	0.108 *	1										1.199	0.834
NED	−0.09 *	−0.080 *	1									1.906	0.525
ASIZE	−0.042 *	0.015	0.097 *	1								1.606	0.623
GEN	−0.18 *	0.032	0.123 *	0.258 *	1							1.657	0.603
ROA	−0.076 *	0.006	0.02	0.058 *	0.039 *	1						1.433	0.698
VOL	0.074 *	0.016	−0.042 *	−0.111 *	−0.18 *	−0.100 *	1					1.288	0.776
DEBT	0.075 *	0.205 *	0.028	−0.052 *	−0.029	−0.243 *	0.087 *	1				1.109	0.902
FSIZE	0.107 *	0.514 *	0.218 *	−0.057 *	0.061 *	−0.06 *	0.037 *	0.494 *	1			1.146	0.873
Q	−0.018	−0.02	−0.031	0.044 *	0.046 *	0.269 *	−0.061 *	−0.163 *	−0.108 *	1		1.209	0.827
TURN	0.054 *	−0.156 *	−0.025	−0.023	−0.057 *	0.038 *	0.054 *	−0.114 *	−0.183 *	0.372 *	1	1.165	0.858
FAGE	−0.018	−0.026	0.026	0.048 *	0.076 *	0.037 *	−0.045 *	−0.053 *	0.051 *	−0.098 *	0.013	1.341	0.746

Variable definitions, sources, and notations are as outlined in Table 1. * Indicates significance level at 5%.

A set of statistical treatments are considered to deal with the panel data. First, all the continuous variables were winsorized at (below) 1% and (above) 99% to mitigate the effect of the outliers (e.g., Javakhadze et al. 2016). Moreover, the endogeneity issue could lead to inconsistent results. Therefore, following Wintoki et al. (2012), this study assumes that all the governance and financial variables may be potentially endogenous apart from the age and year dummies, so the one-year lag of these variables is included to mitigate potential issues with causality. Additionally, industry and time dummies are included to help mitigate the impact of unobservable factors.

4.1. Multivariate Analysis

This section presents empirical results for this study's hypotheses. However, as this study has discussed, financial firms play a significant role in building social connections, the MSC variable; thus, the primary outcomes of this study will be based on all the sample firms.[6] Nevertheless, this study does not ignore the expected differences that might result from separating the sample into financial and non-financial firms. Therefore, in addition to examining *H1*, this study provides a further test for *H2* to provide better insights into the relationship between dividend policy and social capital. Additionally, this section presents the outcomes under the Logit model and the Tobit model based on the econometric nature of each dependent variable.

4.1.1. Logit Estimations

In Table 4, Model-I, Model-II, and Model-III report the estimations for the Logit regressions using all the sample firms, non-financial firms, and financial firms, respectively. As illustrated, Logit regression is used to consider the decision of paying dividends or not (e.g., Sharma 2011; Al-Najjar and Hussainey 2009). The Logit regressions in each model (Model-I, Model-II, and Model-III) show that MSC has a negative influence on the probability of paying dividends. To illustrate this, as reported in the coefficient in Model-I, t = −3.364, $p < 0.01$, for the whole sample of firms; for Model-II, t = −1.994, $p < 0.05$, for non-financial firms; and for Model-III, t = −1.782, $p < 0.10$ for financial firms. This result indicates that the higher the MSC, the lower the probability of paying dividends. Equally important, as shown by the estimations' outcome in the three Logit models, the relationship between MSC and dividend distributions is the most significant at 1% in Model-I, followed by Model-II, which is significant at 5%, and finally, Model-III, at the 10% significance level. Accordingly, the whole sample of firms results in the strongest relationship, followed by the non-financial firms and, finally, the financial firms. Keeping this in mind, for Model-I, the marginal effects of MSC, with all else being equal, show that a 100% point increase in MSC will decrease the probability of distributing dividends (DIVDUMs) by approximately 1% for average firms, which is close to the marginal effects in Model-II and Model-III.

Table 4. The effect of the MSC on dividend policy.

	Model-I		**Model-II**		**Model-III**	
	Full Sample		**Non-Financial Subsample**		**Financial Subsample**	
Model	**Pooled Logit**	**Marginal Effect**	**Pooled Logit**	**Marginal Effect**	**Pooled Logit**	**Marginal Effect**
MSC	−0.115 *** (−3.364)	−0.011 *** (−3.367)	−0.083 ** (−1.994)	−0.008 ** (−1.998)	−0.104 * (−1.782)	−0.010 * (−1.784)
BSIZE	−0.635 ** (−2.363)	−0.061 ** (−2.365)	−0.02 (−0.0517)	0.002 (−0.0517)	−1.283 *** (−2.863)	−0.121 *** (−2.846)
NED	−2.348 *** (−3.986)	−0.224 *** (−4.01)	−2.264 *** (−3.176)	−0.215 *** (−3.193)	−2.574 *** (−2.617)	−0.242 *** (−2.603)
ASIZE	−0.22 (−1.15)	−0.02 (−1.152)	0.06 (0.24)	0.01 (0.24)	−0.631 * (−1.891)	−0.0593 * (−1.91)
GEN	−1.692 *** (−2.656)	−0.162 *** (−2.651)	−1.09 (−1.311)	−0.1 (−1.306)	−1.810 (−1.578)	−0.17 (−1.591)
ROA	13.45 *** (8.56)	1.284 *** (9.82)	17.980 *** (6.63)	1.705 *** (7.81)	10.71 *** (5.820)	1.006 *** (6.86)
VOL	−1.558 *** (−3.583)	−0.149 *** (−3.588)	−2.155 *** (−4.434)	−0.204 *** (−4.414)	−0.660 (−0.878)	−0.06 (−0.878)
DEBTR	−0.105 *** (−5.261)	−0.01 *** (−5.19)	−0.087 *** (−4.425)	−0.008 *** (−4.312)	−0.05 (−1.109)	−0.01 (−1.103)
FSIZE	0.539 *** (9.44)	0.052 *** (9.29)	0.408 *** (6.49)	0.039 *** (6.30)	0.586 *** (6.04)	0.055 *** (6.04)
TOBIN'Q	−0.03 (−0.333)	0.003 (−0.334)	−0.381 *** (−3.037)	−0.036 *** (−3.161)	0.823 *** (3.70)	0.077 *** (3.79)
TURN	0.485 *** (5.55)	0.046 *** (5.46)	0.555 *** (4.91)	0.0526 *** (4.74)	0.030 (0.19)	0.003 (0.19)

Table 4. *Cont.*

	Model-I		Model-II		Model-III	
	Full Sample		Non-Financial Subsample		Financial Subsample	
Model	**Pooled Logit**	**Marginal Effect**	**Pooled Logit**	**Marginal Effect**	**Pooled Logit**	**Marginal Effect**
FAGE	0.457 *** (5.94)	0.0437 *** (5.82)	0.39 *** (4.19)	0.0369 *** (4.05)	0.45 *** (3.47)	0.0423 *** (3.44)
Constant	−1.26 (−1.128)		−2.528 ** (−2.472)		−3.000 ** (−2.007)	
Observations	2808	2808	1813	1813	995	995
Pseudo R2	0.27		0.27		0.26	
Wald chi2	427.18 ***		237.10 ***		144.44 ***	

This table reports the Logit estimations and z-statistics in the parentheses. *** $p < 0.01$, ** $p < 0.05$, and * $p < 0.10$ indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Independent variables are one-year-lagged, industry, and year fixed effects already used. Model-I, Model-II, and Model-III represent the full sample, non-financial subsample, and financial subsample, respectively. Variable definitions, sources, and notations are outlined in Table 1.

These findings therefore support H1 and can be understood from the substitute hypothesis perspective. According to this, MSC is considered a valuable resource that can reduce both the informational asymmetries and the need for managers to build a good reputation in the market through dividend payouts, since it is already achieved through social connections. This funding complements recent findings in the literature. For example, Davaadorj (2019) introduced the influence of regional social capital on firms' dividend policy, considering the direct influence through behavior, and indirectly by reducing opportunity cost. He finds that firms with weaker corporate governance are more likely to pay dividends in higher social capital regions. Our results complement such findings since we show that, within firms, MSC can, to some extent, substitute the need for dividend payouts to mitigate information asymmetries (García-Feijóo et al. 2021).

4.1.2. Tobit Estimations

In Table 5, Model-IV, Model-V, and Model-VI present the estimations for the Tobit regressions using the whole sample of firms, non-financial firms, and financial firms, respectively. As illustrated, Tobit regression is used to consider the fact that the dividend payout ratio is left-censored at zero and comprises discrete and continuous observations (Jiraporn et al. 2011; Al-Najjar and Hussainey 2009).

Table 5. The effect of MSC on dividend policy.

	Model-IV		Model-V		Model-VI	
	Full Sample		Non-Financial Subsample		Financial Subsample	
Model	**Pooled Tobit**	**Marginal Effect**	**Pooled Tobit**	**Marginal Effect**	**Pooled Tobit**	**Marginal Effect**
MSC	−0.00701 *** (−2.796)	−0.00701 *** (−2.796)	−0.00638 ** (−2.259)	−0.00638 ** (−2.259)	−0.00576 (−1.207)	−0.00576 (−1.207)
BSIZE	−0.0399 * (−1.832)	−0.0399 * (−1.832)	0.00664 (0.232)	0.00664 (0.232)	−0.102 *** (−2.918)	−0.102 *** (−2.918)
NED	−0.133 *** (−2.793)	−0.133 *** (−2.793)	−0.0981 * (−1.677)	−0.0981 * (−1.677)	−0.204 ** (−2.521)	−0.204 ** (−2.521)
ASIZE	−0.0104 (−0.650)	−0.0104 (−0.650)	−0.00628 (−0.331)	−0.00628 (−0.331)	−0.0259 (−0.916)	−0.0259 (−0.916)

Table 5. *Cont.*

	Model-IV		Model-V		Model-VI	
	Full Sample		Non-Financial Subsample		Financial Subsample	
Model	**Pooled Tobit**	**Marginal Effect**	**Pooled Tobit**	**Marginal Effect**	**Pooled Tobit**	**Marginal Effect**
GEN	0.00853 (0.174)	0.00853 (0.174)	0.0945 (1.532)	0.0945 (1.532)	−0.142 * (−1.687)	−0.142 * (−1.687)
ROA	0.255 *** (4.154)	0.255 *** (4.154)	0.507 *** (6.400)	0.507 *** (6.400)	0.0612 (0.599)	0.0612 (0.599)
VOL	−0.0562 (−1.268)	−0.0562 (−1.268)	−0.0802 (−1.559)	−0.0802 (−1.559)	0.0254 (0.341)	0.0254 (0.341)
DEBTR	−0.00943 *** (−5.916)	−0.00943 *** (−5.916)	−0.0104 *** (−5.599)	−0.0104 *** (−5.599)	−0.00427 * (−1.741)	−0.00427 * (−1.741)
FSIZE	0.0436 *** (11.58)	0.0436 *** (11.58)	0.0363 *** (7.939)	0.0363 *** (7.939)	0.0467 *** (6.669)	0.0467 *** (6.669)
TOBIN'Q	0.0277 *** (4.517)	0.0277 *** (4.517)	−0.00116 (−0.167)	−0.00116 (−0.167)	0.0626 *** (5.560)	0.0626 *** (5.560)
TURN	0.0552 *** (8.002)	0.0552 *** (8.002)	0.0469 *** (5.571)	0.0469 *** (5.571)	0.0524 *** (4.169)	0.0524 *** (4.169)
FAGE	0.00418 (0.676)	0.00418 (0.676)	0.00831 (1.110)	0.00831 (1.110)	−0.00247 (−0.223)	−0.00247 (−0.223)
Constant	−0.0920 (−1.258)		−0.111 (−1.363)		−0.0408 (−0.372)	
Observations	2541	2541	1631	1631	910	910
Pseudo R^2	0.82		0.78		0.95	
F-Statistic	14.11 ***		13.54 ***		8.97 ***	

This table reports the Tobit estimates and z-statistics in parentheses. *** $p < 0.01$, ** $p < 0.05$, and * $p < 0.10$ indicate statistical significance at the 10%, 5%, and 1% levels, respectively. Independent variables are one-year lagged, industry, and year fixed effects already used. Model-IV, Model-V, and Model-VI represent the full sample, non-financial sample, and financial sample, respectively. Variable definitions, sources, and notations are outlined in Table 1.

The Tobit regressions in Model-IV, Model-V, and Model-VI show that MSC has a negative influence on the dividend payouts. To explain this, as reported in the coefficient in Model-IV, t = −2.796, $p < 0.01$, for the whole sample of firms; in Model-V, t = 2.259, $p < 0.05$ for non-financial firms; and in Model-VI, t = −1.207, $p > 0.10$, for financial firms. This result indicates that the higher the MSC, the lower the payouts. Equally important, as shown by the estimations' outcome in the three Tobit models, the relationship between MSC and dividend distributions is the most significant at 1% in Model-IV, followed by Model-V, which is significant at 5%, but Model-VI is not significant at 10%.

Comparing the results between the full sample and the financial and non-financial industry subsamples, the results are strongest for the full sample, followed by the non-financial firms, yet they are insignificant for the financial firms. Keeping this in mind, for Model-IV, the marginal effects of MSC, all else being equal, show that a 100% point increase in MSC will reduce the dividend distributions (PAYOUT) by approximately 0.70% for average firms, which is similar to the marginal effects in Model-II and Model-III. The negative relationship can be ranked according to the significance level as follows: the whole sample of firms provides the strongest relationship at 1%, followed by the non-financial sample at 5%, and, finally, the financial sample at the 10% significance level in Model-VI, but not Model-VI. Accordingly, this leads to accepting the second hypothesis (H_2), which implies that the negative association between MSC and dividend policy is not subject to change if we separate the sample into financial and non-financial firms.

The difference in significance levels lends additional support to the argument that calls for more attention to incorporating financial firms in studying social networks as a measure of social capital. However, these differences can be justified from the viewpoint of Laeven and Levine (2009), as they illustrate that the differences in the governance structure for financial firms lead to less risk-taking. In addition, Akbar et al. (2017) argue that governments impose more interventions and regulations on financial firms than on non-financial firms. Accordingly, having different governance structures and more government interventions might reduce the significance level of the MSC's effects on dividend policy for financial firms: that is, the role of the MSC can be compensated by other monitoring mechanisms such as governance structure and government regulations. For this reason, this study goes further to provide an additional test on the interaction effect between MSC and governance variables.

From a practical perspective, the main results in this section support the fact that MSC has a negative impact on the dividend policy, that is, both for dividend decisions and dividend payouts. Overall, the result is consistent with the substitute hypothesis (La Porta et al. 2000) and with the first hypothesis, *H1*. It also supports the arguments of García-Feijóo et al. (2021) concerning social capital reducing the need for dividend signaling, as social connections positively affect information flows and reduce information asymmetry, and hence the need for dividend smoothing.

Regarding the control variables, Logit regression in Model-I and Tobit regression in Model-IV, which present the whole sample of firms, report that a firm's profitability (ROA) has a positive and significant effect on the firms' dividend policy at the 1% level. This positive relation is consistent with the signaling theory (Bhattacharya 1979), suggesting that profitable firms distribute dividends to show their good performance in the market. Furthermore, the result in both models (Model-I and Model-IV) reports that debt (DEBTR) has a negative impact on the firm's dividend policy at the 1% significance level. This result is consistent with the view of using debt and dividends alternatively in monitoring managers' performance and controlling the problems related to the agency conflict (Crutchley et al. 1999; Jensen and Meckling 1976). Accordingly, this means that firms that have a high debt structure will tend to restrict the internally generated earnings to meet their obligations derived from the costly external financing.

In addition, firm size (FSIZE) has a positive and significant effect on the dividend policy of the UK firms, supporting the agency problem and the related argument of the transaction costs (Crutchley and Hansen 1989; Lloyd et al. 1985). Under these arguments, large firms have better access to external funds from the capital market at relatively low costs, thus reducing the need for internal funds. Therefore, firms tend to pay more dividends to moderate such problems. Moreover, similar to ROA, the result of the assets turnover ratio (TURN) illustrates that the management's ability to utilize the assets improves the firm's profitability, which is consistent with the signaling hypothesis.

The Logit model (Model-I) shows that stock return volatility (VOL) has a negative and significant effect on the firm's decision to pay dividends. This result is consistent with that of Allen and Rachim (1996) and Hussainey et al. (2011) that a firm's dividend policy is a key driver of stock price volatility. In addition, firm age (FAGE) has a significant and positive influence on the dividend distribution decision at the 1% level. This result is consistent with the firm life cycle, or what is called the maturity hypothesis. Grullon et al. (2002) and DeAngelo et al. (2006) confirm the positive association between firm age and dividend payments. However, Model-IV shows that no significant relationship exists between firm age and dividend policy. In addition, the relationship between Tobin's Q and dividend payouts is positive and significant at the 1% level, a finding that is in line with the signaling hypothesis. On the other hand, as indicated by Model-I, Tobin's Q variable has no significant influence on the dividend decision, which can be explained as Tobin's Q does not affect the dividend policy decision, but it is relevant when firms try to specify the number of dividends.

Furthermore, control variables such as board independence (NED) have a significant and negative relationship with dividend policy in the Logit and Tobit models, emphasizing the ability of outside directors to improve the monitoring mechanisms. This is consistent with the findings of La Porta et al. (2000) and the substitute hypothesis and similar to the finding of a recent study in the UK (Al-Najjar and Hussainey 2009). On the other hand, board size (BSIZE) has a negative influence on the firm dividend policy, and this may relate to the view of a large board as a medium of greater expertise and the existence of a skillful team, as well as the outside members who bring better contacts that could not be attainable internally (Fiegener et al. 2000). Therefore, this supports the substitute hypothesis of La Porta et al. (2000) and considers the large board size as an efficient monitor. However, this relationship is significant in Model-I and Model-IV at the 5% and 10% levels. Furthermore, the results of the study indicate that a negative influence of audit committee size on a firm's dividend policy is not significant; this is consistent with the findings of Al-Najjar and Belghitar (2014).

Finally, the Logit Model-II shows that board gender composition (GEN) has a significant and inverse relationship with the dividend distribution decision. This relationship implies that women are more conservative than men in deciding to distribute dividends, as they engage in better monitoring (Adams and Ferreira 2009). Moreover, Chen et al. (2017) found that female directors use dividend payout as a governance tool in firms with weak governance structures. However, Model-VI indicates that gender composition has a positive but insignificant impact on the payout ratios.

4.2. Additional Analyses

This study uses additional estimations to assess the robustness of the study outcomes. Particularly, as argued by Fracassi and Tate (2012) and Hasan et al. (2020), this study acknowledges the association between the roles of corporate governance and social capital. Accordingly, this can be expressed in two prospective scenarios that are conditional based on the use of corporate governance variables. To illustrate this, the first scenario can view the effect of MSC on dividend policy by considering each corporate governance variable separately to ensure that the outcomes of the main analyses (Model-I and Mode-IV) are not derived from the governance variables or an endogenous effect which might result from considering all governance variables jointly (Elmagrhi et al. 2017). The second scenario employs the interaction between corporate governance variables and MSC concerning dividend policy as a dependent variable (Elmagrhi et al. 2018; Zona et al. 2018).

Consequently, this study considers the MSC and governance variables one by one (NED, BSIZE, ASIZE, and GEN) to ascertain whether the main estimation results are sensitive to the governance roles followed by the firms. In addition, this study provides further tests for the interaction effect of MSC and corporate governance variables on the MSC and dividend policy nexus; therefore, the interaction effect between the governance variables and MSC has been incorporated into the regression models (Logit and Tobit) concerning the dividend policy. To clarify this, the regressions include the same control variables used in Model-I and Model-IV coupled, with the interaction variables (MSC*BSIZE, MSC*GEN, MSC*NED, and MSC*ASIZE).

Table 6[7] presents the estimation outcomes from the first scenario, that is, using the regression by incorporating the MSC and governance variables one by one. To explain this, after keeping the control variables (as used in Model-I) and MSC, the Logit regressions incorporate BSIZE, NED, ASIZE, and GEN in Model-VII, Model-VIII, Model-IX, and Model-X, respectively. Importantly, as reported in Table 6, MSC is significant in all models, which means that the relationship between MSC and dividend policy is not derived from the joint use of governance variables. Comparably, under the Tobit regressions, the control variables (as used in Model-IV) are incorporated in addition to MSC, and then in Model-XI, Model-XII, Model-XIII, and Model-XIV, the Tobit regressions incorporate BSIZE, NED, ASIZE, and GEN, respectively, in each regression. Similarly, MSC is significant, which confirms the outcomes from the Logit regressions.

Table 6. Additional analyses for the effect of MSC on dividend policy.

	Logit Regressions				Tobit Regressions			
	Model-VII	**Model-VIII**	**Model-IX**	**Model-X**	**Model-XI**	**Model-XII**	**Model-XIII**	**Model-XIV**
	BSIZE	**NED**	**ASIZE**	**GEN**	**BSIZE**	**NED**	**ASIZE**	**GEN**
BSIZE	0.0768 −0.413				0.00836 (0.543)			
NED		−0.251 (−1.598)				−0.00606 (−0.454)		
ASIZE			−0.367 ** (−2.208)				−0.00639 (−0.433)	
GEN				−1.885 *** (−3.221)				−0.0189 (−0.397)
MSC	−0.108 *** (−3.236)	−0.0780 ** (−2.457)	−0.0990 *** (−2.984)	−0.114 *** (−3.391)	−0.00648 ** (−2.533)	−0.00681 *** (−2.758)	−0.00592 ** (−2.360)	−0.00646 ** (−2.525)
ROA	11.75 *** −8.551	12.00 *** −8.757	11.86 *** −8.655	11.76 *** −8.6	0.250 *** (4.446)	0.245 *** (4.460)	0.257 *** (4.642)	0.250 *** (4.439)
VOL	−1.363 *** (−3.283)	−1.056 *** (−2.603)	−1.319 *** (−3.142)	−1.450 *** (−3.451)	−0.0688 (−1.573)	−0.0345 (−0.816)	−0.0590 (−1.356)	−0.0689 (−1.576)
DEBTR	−0.0989 *** (−5.186)	−0.0965 *** (−5.177)	−0.100 *** (−5.216)	−0.100 *** (−5.233)	−0.00878 *** (−5.418)	−0.00846 *** (−5.259)	−0.00873 *** (−5.387)	−0.00878 *** (−5.390)
FSIZE	0.476 *** −10.01	0.469 *** −10.29	0.480 *** −10.13	0.484 *** −9.968	0.0400 *** (13.52)	0.0402 *** (13.83)	0.0404 *** (13.68)	0.0400 *** (13.49)
TOBIN'S Q	0.042 −0.426	0.0777 −0.775	0.084 −0.831	0.046 −0.465	0.0307 *** (5.113)	0.0302 *** (5.272)	0.0319 *** (5.376)	0.0308 *** (5.124)
TURN	0.557 *** −6.12	0.535 *** −6.344	0.522 *** −6.04	0.539 *** −5.94	0.0591 *** (8.715)	0.0601 *** (9.156)	0.0588 *** (8.801)	0.0591 *** (8.693)
FAGE	0.506 *** −6.636	0.486 *** −6.535	0.518 *** −6.834	0.502 *** −6.603	0.00773 (1.261)	0.00466 (0.780)	0.00879 (1.448)	0.00779 (1.270)
Constant	−4.193 *** (−3.869)	−3.955 *** (−3.871)	−3.710 *** (−3.515)	−3.794 *** (−3.738)	−0.253 *** (−3.681)	−0.239 *** (−4.021)	−0.248 *** (−3.877)	−0.234 *** (−3.930)
Observations	2868	3053	2908	2868	2609	2768	2642	2609
Pseudo R^2	26%	25.84%	26.10%	26.43%	78.26%	79.64%	84.15%	78.24%
Wald chi2/F	436.21 ***	457.96 ***	446.37 ***	445.48 ***	17.61 ***	19.26 ***	18.27 ***	17.62 ***

This table presents the Logit and Tobit estimates and z-statistics in parentheses. *** $p < 0.01$, ** $p < 0.05$, indicate statistical significance at the 1%, 5% levels, respectively. Independent variables are one-year-lagged, and industry and year fixed effects are included in each regression. Model-VII, Model-VIII, Model-IX, and Model-X use BSIZE, GEN, NED, and ASIZE, respectively, for Logit regressions, whereas Model-XI, Model-XII, Model-XIII, and Model-XIV use BSIZE, GEN, NED, and ASIZE, respectively, for Tobit regressions. Variable definitions, sources, and notations are outlined in Table 1.

However, referring to the Logit regression outcomes from Model-I that represent the regression outcomes by incorporating all the governance variables together, it is clear that the BSIZE and NED variables are not significant, whereas when each variable is used without other governance variables, the BSIZE and NED variables become significant, but the ASIZE and GEN variables have the opposite outcomes: that is, both are significant when all governance variables are used jointly but are not significant separately.

On the other hand, referring to the Tobit regression outcomes from Model-IV, which represent the regression outcomes by incorporating all the governance variables together, it is notable that none of the governance variables is significant, whereas when each variable is used without other governance variables, the BSIZE and NED variables become significant. Consequently, it is notable that MSC is significant in all the models in Table 6. The second scenario is based on the interaction between corporate governance variables and MSC. Table 7[8] presents the estimations of the interactions between governance variables and MSC. Interestingly, compared to Table 6's Logit regressions, which consider each governance variable separately, Table 7's Logit regressions, which represent the interaction between MSC and governance variables, show that the interaction between MSC and BSIZE results in a significant outcome; this is also true under the interaction between MSC and NED. While the BSIZE and NED variables were not significant in the Logit regression in Table 6 (Model-VII and Model-VIII), they became significant after their interaction with MSC.

Table 7. The estimation of the interactions between the governance variables and the MSC on dividend policy.

	VII	VIII	IX	X	XI	XII	XIII	XIV
	Logit	**Logit**	**Logit**	**Logit**	**Tobit**	**Tobit**	**Tobit**	**Tobit**
MSC × SIZE	−0.001 *** (−4.039)				−0.001 *** (−4.039)			
MSC × NED		−0.0124 *** (−3.530)				−0.0124 *** (−3.530)		
MSC × ASIZE			−0.000784 * (−1.786)				−0.000784 * (−1.786)	
MSC × GEN				−0.00469 (−0.568)				−0.00469 (−0.568)
ROA	0.251 *** −4.137	0.278 *** −4.446	0.252 *** −4.145	0.278 *** −4.514	0.251 *** −4.137	0.278 *** −4.446	0.252 *** −4.145	0.278 *** −4.514
VOL	−0.0328 (−0.767)	−0.0533 (−1.190)	−0.0328 (−0.767)	−0.0539 (−1.223)	−0.0328 (−0.767)	−0.0533 (−1.190)	−0.0328 (−0.767)	−0.0539 (−1.223)
DEBTR	−0.00872 *** (−5.466)	−0.00875 *** (−5.275)	−0.00898 *** (−5.678)	−0.00875 *** (−5.317)	−0.00872 *** (−5.466)	−0.00875 *** (−5.275)	−0.00898 *** (−5.678)	−0.00875 *** (−5.317)
FSIZE	0.0412 *** −13.48	0.0364 *** −12.04	0.0393 *** −13.21	0.0370 *** −12.36	0.0412 *** −13.48	0.0364 *** −12.04	0.0393 *** −13.21	0.0370 *** −12.36
TOBIN'S Q	0.0280 *** −4.831	0.0284 *** −4.593	0.0268 *** −4.615	0.0293 *** −4.8	0.0280 *** −4.831	0.0284 *** −4.593	0.0268 *** −4.615	0.0293 *** −4.8
TURN	0.0528 *** −8.028	0.0533 *** −7.587	0.0551 *** −8.321	0.0530 *** −7.687	0.0528 *** −8.028	0.0533 *** −7.587	0.0551 *** −8.321	0.0530 *** −7.687
FAGE	−0.00011 (−0.0177)	0.00403 −0.645	4.55×10^{-5} −0.00753	0.00529 −0.853	−0.00011 (−0.0177)	0.00403 −0.645	4.55×10^{-5} −0.00753	0.00529 −0.853
Constant	−0.226 *** (−3.928)	−0.211 *** (−3.535)	−0.207 *** (−3.580)	−0.208 *** (−3.452)	−0.226 *** (−3.928)	−0.211 *** (−3.535)	−0.207 *** (−3.580)	−0.208 *** (−3.452)
Observations	2966	2754	2966	2797	2687	2501	2687	2539
Pseudo R^2	0.25	0.25	0.26	0.25	0.76	0.76	0.7537	0.77
F-statistics					16.36 ***	14.08 ***	15.93 ***	14.93 ***
Wald chi2	406.18 ***	390.62 ***	415.73 ***	391.86 ***				

Model-VII, Model-VIII, Model-IX, and Model-X represent the Logit estimations for the interaction between MSC and the BSIZE, GEN, NED, and ASIZE variables, respectively, whereas Model-XI, Model-XII, Model-XIII, and Model-XIV show the Tobit estimations for the interaction between MSC and the BSIZE, GEN, NED, and ASIZE variables, respectively. *** $p < 0.01$ and * $p < 0.10$ indicate statistical significance at the 1% and 10% levels, respectively. z-statistics are reported in parentheses. Independent variables are one-year lagged, and industry and year fixed effects are used in each regression. Variable definitions, sources, and notations are outlined in Table 1.

Similarly, Tobit regressions in Table 6 (all Tobit models) show that none of the governance variables is significant; notably, however, BSIZE, NED, and GEN are significant under the interaction with MSC. Indeed, these outcomes indicate that MSC is a vital variable which can affect the dividend policy, and, importantly, it has a significant role in the effect of governance variables as a determinant of dividend policy.

However, the overall result from Tables 6 and 7 adds to the result from the main analyses, showing that the level of social capital impacts the dividend policy decision; and this also means that social connections affect the governance variables, which is clear through the interaction effect between the MSC and governance variables. To emphasize this, by referring to the coefficient for Model-IV reported in Table 5, BSIZE has t = −1.832, $p < 0.10$, and the interaction variable MSC*BSIZE has t = −4.039, $p < 0.01$; NED has t = −2.793, $p < 0.10$, and the interaction variable MSC*NED has t = −3.530, $p < 0.01$; and ASZIE has t = −0.650, $p > 0.10$, and the interaction variable MSC*NED has t = −1.786, $p < 0.01$. Accordingly, this adds to the previous studies that emphasize the importance of considering the MSC and governance factors (e.g., Hasan et al. 2020; Fracassi and Tate 2012; Horton et al. 2012).

5. Conclusions

The theoretical literature establishes a role for social capital as a potentially important factor which could influence managerial decision-making and, by extension, firms' financial policies. However, few studies have examined social capital in corporate finance. Recent research suggests that social capital can influence information asymmetry; agency costs; financing decisions; and other non-financial aspects, such as corporate social responsibility and culture (Amin et al. 2020; Ferris et al. 2017; Javakhadze et al. 2016; Tuugi et al. 2014). Our study adds to existing knowledge by exploring the effect of social capital measured by MSC on firms' dividend policies using a rich sample of FTSE 350 firms from 2006 to 2017.

Accordingly, this study uses two econometric models that are commonly used in the literature, namely the Logit model and the Tobit model (Sharma 2011; Al-Najjar and Hussainey 2009). The Logit model deals with dividend policy as a decision of whether or not to pay any dividend, which takes a value of zero if the company does not pay any dividend or one if it does pay dividends, whereas the Tobit model considers the fact that dividend payments can be zero or positive.

Our results indicate that MSC has a negative impact on the firm's dividend policy, consistent with H1. Consequently, firms pay lower dividends when a higher number of well-connected directors join the board team. This shows that a high degree of social capital leads to better monitoring and control; therefore, social capital works under the substitution effect between governance quality and dividend payouts (La Porta et al. 2000).

This result adds to the extant literature in different ways, such as highlighting the importance of considering the socioeconomic factors in explaining the dividend decision, particularly MSC. This study is one of a few that link social capital to financial decisions, and it enhances our theoretical understanding of social capital. Moreover, concerning dividend distributions, this study uses UK data, where management has the right to make dividend distributions or restrict them by explaining if they do not distribute dividends. Accordingly, our evidence indicates that shareholders should consider the social capital status of the firm when they make their investment decisions. Thus, future research on corporate governance and dividend policy should not ignore the role of social capital. Finally, our findings add to the debate on the differences between financial and non-financial firms, since we show that the negative relationship between MSC and dividend policy is weaker in financial firms than in non-financial firms.

Our study is not without limitations, which also present opportunities for future research. First, while we contribute new knowledge as to how MSC can shape dividend decisions in the context of UK firms, the results might not be generalizable to other country contexts. For instance, the results may not effectively explain the dividend policy of UK firms due to regulatory and cultural differences, as the structure of social capital is different in the UK from that in other countries (Renneboog and Zhao 2013). For instance, the 2006 UK Companies Act asserts that profitable companies are not required to distribute dividends, leaving dividend policy as a voluntary decision. As computational resources become more powerful, future research could expand our focus to international samples. For example, studies could build on our foundation and on early studies (Schwartz 1994; Rupasingha et al. 2006) to explore the role of cultural factors using Hofstede's cultural dimensions and Schwartz's national culture dimensions. Second, our study seeks to examine the fundamental relationship between MSC and firm dividend choice, and therefore our sample ends before the COVID-19 period to mitigate its potential impact on this relationship. Although beyond the scope of this paper, future researchers could expand the sample period to incorporate the COVID-19 period and beyond to see whether the effects of social capital have changed in recent years, given significant world events, including geopolitical tensions.

Finally, and from a policy perspective, our findings suggest that since social capital is dynamic and is influenced by the nature of society (Hasan et al. 2020), policy makers should seek to promote business environments where MSC can flourish. Specifically, our findings suggest that stakeholders should assess the extent of MSC in firms, given its potential to reduce informational asymmetries without the need for additional regulation. However, they should also be aware of the potential for business environments to create an opportunity where potential negative effects of social capital in organizations could arise (Pillai et al. 2017). Future researchers could explore the contexts where MSC can convey more harmful impacts within organizations.

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Appendix A

Table A1. Study sample and industry classifications—micro-sector.

Financial Firms Industry Classification	Mean	Freq.	Percentage
Asset management	5.934	146	4.01%
Banking	5.713	64	1.76%
Institutional financial services	4.991	12	0.33%
Insurance	6.807	37	1.02%
Real estate	5.100	266	7.31%
Specialty finance	3.147	114	3.13%
Non-Financial Firms Industry Classification	**Mean**	**Freq.**	**Percentage**
Media	4.732	172	4.73%
Home and office products	4.761	700	19.24%
Consumer products	5.461	210	5.77%
Oil, gas, and coal	5.303	68	1.87%
Biotech and pharma	5.461	115	3.16%
Industrial distribution	5.375	561	15.42%
Iron and steel	5.741	211	5.80%
Technology services	4.668	222	6.10%
Utilities	5.657	53	1.46%
Unknown	4.710	687	18.88%
Total		3638	

Mean refers to the average of the MSC for each industry during the study period. Freq. refers to the frequency of the firms from each industry. Percentage refers to the ratio of each industry to the full sample.

Notes

1. The BoardEx database started data collection in 1999 and then updated its collection methodology in 2006 (Larcker et al. 2013).
2. Some missing data were collected from FAME, Bloomberg, annual reports, and https://www.gov.uk/.
3. More details on the sample are provided in the Appendix A.
4. These models are used to estimate the sampled firms as financial firms, non-financial firms, and all firms.
5. We also ran analyses using two years and obtained consistent results.

[6] For Logit estimation, the firms in the whole sample are provided in Table 4 through Model-I, whereas the outcomes for firms in the whole sample under the Tobit model are provided in Table 2 through Model-IV.

[7] The marginal effects of the independent variables in Logit and Tobit regressions are also estimated but not included for brevity.

[8] The marginal effects of the independent variables in Logit and Tobit regressions are also estimated but not included for reasons of brevity.

References

Adams, Renée B., and Daniel Ferreira. 2009. Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics* 94: 291–309. [CrossRef]

Aivazian, Varouj, Laurence Booth, and Sean Cleary. 2003. Do emerging market firms follow different dividend policies from US firms? *Journal of Financial Research* 26: 371–87. [CrossRef]

Akbar, Saeed, Buthiena Kharabsheh, Jannine Poletti-Hughes, and Syed Zulfiqar Ali Shah. 2017. Board structure and corporate risk taking in the UK financial sector. *International Review of Financial Analysis* 50: 101–10. [CrossRef]

Allen, Dave E., and Veronica S Rachim. 1996. Dividend policy and stock price volatility: Australian evidence. *Applied Financial Economics* 6: 175–88. [CrossRef]

Al-Najjar, Basil. 2011. The Determinants of Audit Committee Independence and Activity: Evidence from the UK. *International Journal of Auditing* 15: 191–203. [CrossRef]

Al-Najjar, Basil, and Khaled Hussainey. 2009. The association between dividend payout and outside directorships. *Journal of Applied Accounting Research* 10: 4–19. [CrossRef]

Al-Najjar, Basil, and Yacine Belghitar. 2014. Do corporate governance mechanisms affect cash dividends? An empirical investigation of UK firms. *International Review of Applied Economics* 28: 524–38. [CrossRef]

Al-Yahyaee, Khamis H., Toan M. Pham, and Terry S. Walter. 2011. The information content of cash dividend announcements in a unique environment. *Journal of Banking & Finance* 35: 606–12.

Amin, Abu, Lamia Chourou, Syed Kamal, Mahfuja Malik, and Yang Zhao. 2020. It's who you know that counts: Board connectedness and CSR performance. *Journal of Corporate Finance* 64: 101662. [CrossRef]

Arrow, Kenneth J. 1972. Gifts and exchanges. *Philosophy & Public Affairs* 1: 343–62.

Asquith, Paul, and David W. Mullins, Jr. 1986. Signalling with dividends, stock repurchases, and equity issues. *Financial Management* 15: 27–44. [CrossRef]

Bae, Sung C., Kiyoung Chang, and Eun Kang. 2012. Culture, corporate governance, and dividend policy: International evidence. *Journal of Financial Research* 35: 289–316. [CrossRef]

Baker, Malcolm, and Jeffrey Wurgler. 2004. A catering theory of dividends. *The Journal of Finance* 59: 1125–65. [CrossRef]

Bhattacharya, Sudipto. 1979. Imperfect information, dividend policy, and "the bird in the hand" fallacy. *Bell Journal of Economics* 10: 259–70. [CrossRef]

Black, Fischer. 1976. The dividend puzzle. *Journal of Portfolio Management* 2: 5–8. [CrossRef]

Bourdieu, Pierre. 1986. The forms of capital. In *Handbook of Theory and Research for the Sociology of Education*. Edited by John G. Richardson. New York: Greenwood Press, pp. 241–58.

Bourdieu, Pierre. 1989. Social space and symbolic power. *Sociological Theory* 7: 14–25. [CrossRef]

Burt, Ronald S. 1983. *Corporate Profits and Cooptation: Networks of Market Constraints and Directorate Ties in the American Economy*. Cambridge: Academic Press.

Burt, Ronald S. 1992. *Structural Holes: The Social Structure of Competition*. Harvard: Harvard University Press.

Cai, Ye, and Merih Sevilir. 2012. Board connections and M&A transactions. *Journal of Financial Economics* 103: 327–49.

Cao, Chunfang, Fansheng Jia, Xiaowei Zhang, and Kam C. Chan. 2016. Does religion matter to dividend policy? Evidence from Buddhism and Taoism in China. *Nankai Business Review International* 7: 510–41. [CrossRef]

Certo, S. Trevis. 2003. Influencing initial public offering investors with prestige: Signaling with board structures. *Academy of Management Review* 28: 432–46. [CrossRef]

Chae, Joon, Sungmin Kim, and Eun Jung Lee. 2009. How corporate governance affects payout policy under agency problems and external financing constraints. *Journal of Banking & Finance* 33: 2093–101. [CrossRef]

Chen, Jie, Woon Sau Leung, and Marc Goergen. 2017. The impact of board gender composition on dividend payouts. *Journal of Corporate Finance* 43: 86–105. [CrossRef]

Chintrakarn, Pandej, Pattanaporn Chatjuthamard, Pornsit Jiraporn, and Young S Kim. 2019. Exploring the causal effect of religious piety on dividend policy: Evidence from historical religious identification. *Applied Economics Letters* 26: 306–10. [CrossRef]

Chu, Johan S. G., and Gerald F. Davis. 2016. Who killed the inner circle? The decline of the American corporate interlock network. *American Journal of Sociology* 122: 714–54. [CrossRef]

Chung, Kee H., and Chairat Chuwonganant. 2018. Market volatility and stock returns: The role of liquidity providers. *Journal of Financial Markets* 37: 17–34. [CrossRef]

Cohen, Lauren, Andrea Frazzini, and Christopher Malloy. 2008. The small world of investing: Board connections and mutual fund returns. *Journal of Political Economy* 116: 951–79. [CrossRef]

Coleman, James S. 1988. Social capital in the creation of human capital. *American Journal of Sociology* 94: S95–S120. [CrossRef]
Crutchley, Claire E., and Robert S. Hansen. 1989. A test of the agency theory of managerial ownership, corporate leverage, and corporate dividends. *Financial Management* 18: 36–46. [CrossRef]
Crutchley, Claire E., Marlin R. H. Jensen, John S. Jahera, Jr., and Jennie E. Raymond. 1999. Agency problems and the simultaneity of financial decision making: The role of institutional ownership. *International Review of Financial Analysis* 8: 177–97. [CrossRef]
Dasgupta, Partha. 1988. Trust as a commodity. In *Trust: Making and Breaking Cooperative Relations*. Edited by Diego Gambetta. New York: Basil Blackwell, pp. 47, 72.
Dasgupta, Partha. 2005. Economics of social capital. *Economic Record* 81: S2–S21. [CrossRef]
Davaadorj, Zagdbazar. 2019. Does social capital affect dividend policy? *Journal of Behavioral and Experimental Finance* 22: 116–28. [CrossRef]
Davis, Gerald F. 1991. Agents without principles? The spread of the poison pill through the intercorporate network. *Administrative Science Quarterly* 36: 583–613. [CrossRef]
DeAngelo, Harry, Linda DeAngelo, and René M. Stulz. 2006. Dividend policy and the earned/contributed capital mix: A test of the life-cycle theory. *Journal of Financial Economics* 81: 227–54. [CrossRef]
Devos, Erik, Andrew Prevost, and John Puthenpurackal. 2009. Are interlocked directors effective monitors? *Financial Management* 38: 861–87. [CrossRef]
Dhaliwal, Dan S., Merle Erickson, and Robert Trezevant. 1999. A test of the theory of tax clienteles for dividend policies. *National Tax Journal* 52: 179–94. [CrossRef]
Easterbrook, Frank H. 1984. Two agency-cost explanations of dividends. *The American Economic Review* 74: 650–59.
Eisenhardt, Kathleen M. 1989. Agency theory: An assessment and review. *Academy of Management Review* 14: 57–74. [CrossRef]
El-Khatib, Rwan, Kathy Fogel, and Tomas Jandik. 2015. CEO network centrality and merger performance. *Journal of Financial Economics* 116: 349–82. [CrossRef]
Elmagrhi, Mohamed H., Collins G. Ntim, John Malagila, Samuel Fosu, and Abongeh A. Tunyi. 2018. Trustee board diversity, governance mechanisms, capital structure and performance in UK charities. *Corporate Governance: The International Journal of Business in Society* 18: 478–508. [CrossRef]
Elmagrhi, Mohamed H., Collins G. Ntim, Richard M. Crossley, John K. Malagila, Samuel Fosu, and Tien V. Vu. 2017. Corporate governance and dividend pay-out policy in UK listed SMEs: The effects of corporate board characteristics. *International Journal of Accounting & Information Management* 25: 459–83.
Engelberg, Joseph, Pengjie Gao, and Christopher A Parsons. 2012. Friends with money. *Journal of Financial Economics* 103: 169–88. [CrossRef]
Faleye, Olubunmi, Tunde Kovacs, and Anand Venkateswaran. 2014. Do better-connected CEOs innovate more? *Journal of Financial and Quantitative Analysis* 49: 1201–25. [CrossRef]
Fama, Eugene F. 1980. Agency problems and the theory of the firm. *Journal of Political Economy* 88: 288–307. [CrossRef]
Farinha, Jorge. 2003. Dividend policy, corporate governance and the managerial entrenchment hypothesis: An empirical analysis. *Journal of Business Finance & Accounting* 30: 1173–209.
Ferris, Stephen P., David Javakhadze, and Tijana Rajkovic. 2017. CEO social capital, risk-taking and corporate policies. *Journal of Corporate Finance* 47: 46–71. [CrossRef]
Ferris, Stephen P., Jan Hanousek, Anastasiya Shamshur, and Jiri Tresl. 2018. Asymmetries in the Firm's use of debt to changing market values. *Journal of Corporate Finance* 48: 542–55. [CrossRef]
Ferris, Stephen P., Murali Jagannathan, and Adam Christopher Pritchard. 2003. Too Busy to Mind the Business? Monitoring by Directors with Multiple Board Appointments. *The Journal of Finance* 58: 1087–112. [CrossRef]
Fidrmuc, Jana P., and Marcus Jacob. 2010. Culture, agency costs, and dividends. *Journal of Comparative Economics* 38: 321–39. [CrossRef]
Fiegener, Mark K., Bonnie M. Brown, Dirk R. Dreux, and William J. Dennis, Jr. 2000. The adoption of outside boards by small private US firms. *Entrepreneurship & Regional Development* 12: 291–309.
Florackis, Chris, Angelos Kanas, and Alexandros Kostakis. 2015. Dividend policy, managerial ownership and debt financing: A non-parametric perspective. *European Journal of Operational Research* 241: 783–95. [CrossRef]
Fogel, Kathy, Tomas Jandik, and William R McCumber. 2018. CFO social capital and private debt. *Journal of Corporate Finance* 52: 28–52. [CrossRef]
Fracassi, Cesare. 2017. Corporate Finance Policies and Social Networks. *Management Science* 63: 2420–38. [CrossRef]
Fracassi, Cesare, and Geoffrey Tate. 2012. External networking and internal firm governance. *The Journal of Finance* 67: 153–94. [CrossRef]
Freeman, Linton C. 1979. Centrality in social networks conceptual clarification. *Social Networks* 1: 215–39. [CrossRef]
García-Feijóo, Luis, Md Miran Hossain, and David Javakhadze. 2021. Managerial social capital and dividend smoothing. *Journal of Corporate Finance* 66: 101811. [CrossRef]
Ghosh, Chinmoy, and Clemon F. Sirmans. 2006. Do managerial motives impact dividend decisions in REITs? *The Journal of Real Estate Finance and Economics* 32: 327–55. [CrossRef]
Gomes, Armando. 2000. Going public without governance: Managerial reputation effects. *The Journal of Finance* 55: 615–46. [CrossRef]

Greene, William. 2003. *Econometric Analysis*. Upper Saddle River: Prentice Hall, Pearson Education, Inc.

Grossman, Sanford J., and Oliver D. Hart. 1986. The costs and benefits of ownership: A theory of vertical and lateral integration. *Journal of Political Economy* 94: 691–719. [CrossRef]

Grullon, Gustavo, Roni Michaely, and Bhaskaran Swaminathan. 2002. Are dividend changes a sign of firm maturity? *The Journal of Business* 75: 387–424. [CrossRef]

Gujarati, Damodar. 2003. *Basic Econometrics*, 4th ed. Singapura: McGraw-Hill.

Gupta, Atul, Kartik Raman, and Chenguang Shang. 2018. Social capital and the cost of equity. *Journal of Banking & Finance* 87: 102–17.

Hasan, Iftekhar, Chun-Keung Hoi, Qiang Wu, and Hao Zhang. 2017. Does Social Capital Matter in Corporate Decisions? Evidence from Corporate Tax Avoidance. *Journal of Accounting Research* 55: 629–68. [CrossRef]

Hasan, Iftekhar, Qing He, and Haitian Lu. 2020. The impact of social capital on economic attitudes and outcomes. *Journal of International Money and Finance* 108: 102162. [CrossRef]

Hillman, Amy J., and Thomas Dalziel. 2003. Boards of directors and firm performance: Integrating agency and resource dependence perspectives. *Academy of Management Review* 28: 383–96. [CrossRef]

Hoi, Chun Keung Stan, Qiang Wu, and Hao Zhang. 2019. Does social capital mitigate agency problems? Evidence from Chief Executive Officer (CEO) compensation. *Journal of Financial Economics* 133: 498–519. [CrossRef]

Homroy, Swarnodeep, and Aurelie Slechten. 2019. Do Board Expertise and Networked Boards Affect Environmental Performance? *Journal of Business Ethics* 158: 269–92. [CrossRef]

Horton, Joanne, Yuval Millo, and George Serafeim. 2012. Resources or power? Implications of social networks on compensation and firm performance. *Journal of Business Finance & Accounting* 39: 399–426.

Huang, Kershen, and Chenguang Shang. 2019. Leverage, debt maturity, and social capital. *Journal of Corporate Finance* 54: 26–46. [CrossRef]

Hussainey, Khaled, Chijoke Oscar Mgbame, and Aruoriwo M. Chijoke-Mgbame. 2011. Dividend policy and share price volatility: UK evidence. *The Journal of Risk Finance* 12: 57–68. [CrossRef]

Javakhadze, David, and Tijana Rajkovic. 2018. How friends with money affect corporate cash policies? The international evidence. *European Financial Management* 25: 807–60. [CrossRef]

Javakhadze, David, Stephen P. Ferris, and Dan W. French. 2016. Social capital, investments, and external financing. *Journal of Corporate Finance* 37: 38–55. [CrossRef]

Jensen, Gerald R., Donald P. Solberg, and Thomas S. Zorn. 1992. Simultaneous determination of insider ownership, debt, and dividend policies. *Journal of Financial and Quantitative Analysis* 27: 247–63. [CrossRef]

Jensen, Michael C. 1986. Agency costs of free cash flow, corporate finance, and takeovers. *The American Economic Review* 76: 323–29.

Jensen, Michael C., and William H. Meckling. 1976. Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics* 3: 305–60. [CrossRef]

Jiraporn, Pornsit, and Sang Mook Lee. 2018. Do Co-Opted Directors Influence Dividend Policy? *Financial Management* 47: 349–81. [CrossRef]

Jiraporn, Pornsit, Jang-Chul Kim, and Young Sang Kim. 2011. Dividend Payouts and Corporate Governance Quality: An Empirical Investigation. *Financial Review* 46: 251–79. [CrossRef]

Jiraporn, Pornsit, Manohar Singh, and Chun I. Lee. 2009. Ineffective corporate governance: Director busyness and board committee memberships. *Journal of Banking & Finance* 33: 819–28. [CrossRef]

Johnson, Scott G., Karen Schnatterly, and Aaron D. Hill. 2013. Board composition beyond independence: Social capital, human capital, and demographics. *Journal of Management* 39: 232–62. [CrossRef]

Kandori, Michihiro. 1992. Social norms and community enforcement. *The Review of Economic Studies* 59: 63–80. [CrossRef]

Knack, Stephen, and Philip Keefer. 1995. Institutions and economic performance: Cross-country tests using alternative institutional measures. *Economics & Politics* 7: 207–27. [CrossRef]

Laeven, Luc, and Ross Levine. 2009. Bank governance, regulation and risk taking. *Journal of Financial Economics* 93: 259–75. [CrossRef]

La Porta, Rafael, Florencio Lopez-de-Silanes, Andrei Shleifer, and Robert W. Vishny. 2000. Agency problems and dividend policies around the world. *The Journal of Finance* 55: 1–33. [CrossRef]

Larcker, David F., Eric C. So, and Charles C. Y. Wang. 2013. Boardroom centrality and firm performance. *Journal of Accounting and Economics* 55: 225–50. [CrossRef]

Lin, Nan. 1999. Social networks and status attainment. *Annual Review of Sociology* 25: 467–87. [CrossRef]

Lins, Karl V., Henri Servaes, and Ane Tamayo. 2017. Social capital, trust, and firm performance: The value of corporate social responsibility during the financial crisis. *The Journal of Finance* 72: 1785–824. [CrossRef]

Lloyd, William P., John S. Jahera, and Daniel E. Page. 1985. Agency costs and dividend payout ratios. *Quarterly Journal of Business and Economics* 24: 19–29. [CrossRef]

McMillan, John, and Christopher Woodruff. 2000. Private order under dysfunctional public order. *Michigan Law Review* 98: 2421–58. [CrossRef]

Miller, Merton H., and Franco Modigliani. 1961. Dividend policy, growth, and the valuation of shares. *The Journal of Business* 34: 411–33. [CrossRef]

Mizruchi, Mark S. 1996. What do interlocks do? An analysis, critique, and assessment of research on interlocking directorates. *Annual Review of Sociology* 22: 271–98. [CrossRef]
Nahapiet, Janine, and Sumantra Ghoshal. 1998. Social capital, intellectual capital, and the organizational advantage. *Academy of Management Review* 23: 242–66. [CrossRef]
Oyotode-Adebile, Renee, and Nacasius U. Ujah. 2021. Is social capital a determinant of board gender diversity? *Journal of Financial Research* 44: 25–52. [CrossRef]
Panta, Humnath. 2020. Does social capital influence corporate risk-taking? *Journal of Behavioral and Experimental Finance* 26: 100301. [CrossRef]
Pathan, Shams. 2009. Strong boards, CEO power and bank risk-taking. *Journal of Banking & Finance* 33: 1340–50.
Pfeffer, Jeffrey. 1987. A resource dependence perspective on intercorporate relations. In *Intercorporate Relations: The Structural Analysis of Business*. Cambridge: Cambridge University Press, pp. 25–55.
Pfeffer, Jeffrey, and Gerald R. Salancik. 1978. *The External Control of Organizations: A Resource Dependence Approach*. New York: Harper and Row Publishers.
Phillips, Ryan L., and Rita Ormsby. 2016. Industry classification schemes: An analysis and review. *Journal of Business & Finance Librarianship* 21: 1–25.
Pillai, Kishore Gopalakrishna, Gerard P. Hodgkinson, Gurumurthy Kalyanaram, and Smitha R. Nair. 2017. The negative effects of social capital in organizations: A review and extension. *International Journal of Management Reviews* 19: 97–124. [CrossRef]
Portes, Alejandro. 1998. Social capital: Its origins and applications in modern sociology. *Annual Review of Sociology* 24: 1–24. [CrossRef]
Putnam, Robert D. 1995. Tuning in, tuning out: The strange disappearance of social capital in America. *PS: Political Science & Politics* 28: 664–83.
Putnam, Robert D., Robert Leonardi, and Raffaella Y. Nanetti. 1994. *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton: Princeton University Press.
Renneboog, Luc, and Yang Zhao. 2013. The governance of director networks. In *The Oxford Handbook of Corporate Governance*. Oxford: Oxford University Press, pp. 200–21.
Rozeff, Michael S. 1982. Growth, beta and agency costs as determinants of dividend payout ratios. *Journal of Financial Research* 5: 249–59. [CrossRef]
Rupasingha, Anil, Stephan J. Goetz, and David Freshwater. 2006. The production of social capital in US counties. *The Journal of Socio-Economics* 35: 83–101. [CrossRef]
Schneider, Jo Anne. 2006. *Social Capital and Welfare Reform: Organizations, Congregations, and Communities*. New York: Columbia University Press.
Schwartz, Shalom H. 1994. Beyond individualism/collectivism: New cultural dimensions of values. In *Individualism and Collectivism: Theory, Method, and Applications*. Edited by Uichol Kim, Harry C. Triandis, Cigdem Kâğitçibaşi, Sang-Chin Choi and Gene Yoon. Washington: Sage Publications, Inc., pp. 85–119.
Setia-Atmaja, Lukas, George A. Tanewski, and Michael Skully. 2009. The role of dividends, debt and board structure in the governance of family controlled firms. *Journal of Business Finance & Accounting* 36: 863–98.
Shao, Liang, Chuck C. Y. Kwok, and Omrane Guedhami. 2010. National culture and dividend policy. *Journal of International Business Studies* 41: 1391–414. [CrossRef]
Sharma, Vineeta. 2011. Independent directors and the propensity to pay dividends. *Journal of Corporate Finance* 17: 1001–15. [CrossRef]
Shleifer, Andrei, and Robert W. Vishny. 1997. A survey of corporate governance. *The Journal of Finance* 52: 737–83. [CrossRef]
Shropshire, Christine. 2010. The Role of the Interlocking Director and Board Receptivity in the Diffusion of Practices. *Academy of Management Review* 35: 246–64. [CrossRef]
Singh, Manohar, and Wallace N. Davidson, III. 2003. Agency costs, ownership structure and corporate governance mechanisms. *Journal of Banking & Finance* 27: 793–816.
Singh, Satwinder, Naeem Tabassum, Tamer K. Darwish, and Georgios Batsakis. 2018. Corporate governance and Tobin's Q as a measure of organizational performance. *British Journal of Management* 29: 171–90. [CrossRef]
Sonika, Rohit, Nicholas F. Carline, and Mark B. Shackleton. 2014. The Option and Decision to Repurchase Stock. *Financial Management* 43: 833–55. [CrossRef]
Tuugi, Chuluun, Prevost Andrew, and Puthenpurackal John. 2014. Board Ties and the Cost of Corporate Debt. *Financial Management* 43: 533–68. [CrossRef]
Ucar, Erdem. 2016. Local culture and dividends. *Financial Management* 45: 105–40. [CrossRef]
Useem, Michael. 1984. *The Inner Circle*. New York: Oxford University Press, vol. 617.
Wasserman, Stanley, and Katherine Faust. 1994. *Social Network Analysis: Methods and Applications*. Cambridge: Cambridge University Press, vol. 8.
Wintoki, M. Babajide, James S. Linck, and Jeffry M. Netter. 2012. Endogeneity and the dynamics of internal corporate governance. *Journal of Financial Economics* 105: 581–606. [CrossRef]
Woolcock, Michael. 1998. Social capital and economic development: Toward a theoretical synthesis and policy framework. *Theory and Society* 27: 151–208. [CrossRef]

Wooldridge, Jeffrey M. 2015. *Introductory Econometrics: A Modern Approach*. Toronto: Nelson Education.

Zona, Fabio, Luis R. Gomez-Mejia, and Michael C. Withers. 2018. Board interlocks and firm performance: Toward a combined agency-resource dependence perspective. *Journal of Management* 44: 589–618. [CrossRef]