Impact of ownership structure and dividend on firm performance and firm risk

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Abstract

Purpose – The purpose of this paper is to examine the influence of ownership structure and dividend payouts over firm's profitability, valuation and idiosyncratic risk. The authors further investigate if corporate performance is sector dependent.

Design/methodology/approach – The study employs signaling and bankruptcy theories to evaluate the influence of ownership structure and dividend payout over a firm's corporate performance. The authors use a panel regression approach to measure the performance of family owned firms against that of widely held firms.

Findings – The study confines to firms operating out of emerging markets. The results show that family owned firms are dominant with concentrated ownership. The management pays lower dividend leading to lower valuation and higher idiosyncratic risk. The study further illustrates that family ownership concentration and family control both influence firm performance and level of risk. The findings indicate that information asymmetry and under diversification lead to increased idiosyncratic risk, resulting in the erosion of firm's value. Results also confirm that firms paying regular dividends are less risky and, hence, command a valuation premium.

Originality/value – The evidence supports the proposition that information asymmetry plays a significant role in explaining dividend payouts pattern and related impacts on corporate performance. The originality of the paper lies in factoring idiosyncratic risk while explaining profitability and related valuation among emerging market firms.

Keywords Family firms, Idiosyncratic risk, Valuation, Ownership structure, Dividend

Paper type Research paper

1. Introduction

Dividend policy by Miller and Modigliani (1961) is based on the firms' sources and usage of funds (Residual theory). Firms with higher profits pay higher dividends and firms with higher investments have lower dividend payouts. However, as per signaling theory, investors correlate any change in the firm's dividend payout pattern with firms' health and managements' view on the firm's future profitability prospects. Dividend payouts influence firms' profitability and valuation through cash flow and/or risk level. Reduced free-cash limits agency costs (Jensen, 1986), but it also restricts firms' investment capabilities.

Dividend policy has implications for stakeholders like investors, managers and lenders. For existing shareholders, dividends are not only a means of regular income but also important in deciding the firm's valuation (Bernstein, 1998). Dividend payments may induce new equity or debt issuance targeting new investments while reducing

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agency costs through capital market monitoring (Easterbrook, 1984). Firms' policy decisions including dividends, cash position and level of risks influence firm performance, including value.

Agency theory explains the role of ownership structure over policy decisions, including dividend policy (Jensen and Meckling, 1976). In developed countries such as the USA and the UK, corporations often have dispersed ownership. In contrast, family owned firms are dominant in emerging economies like India, Korea and South American countries (Faccio and Lang, 2002). The involvement of family members in family businesses is the unique feature of family firms (Chua *et al.*, 1999). Faccio *et al.* (2001) found that firms in East Asian countries have concentrated ownership and largely are family controlled. Claessens *et al.* (2000) found that among nine East Asian countries, more than half of the firms are family controlled. Large undiversified stakes entail high risk for family owners (Andres *et al.*, 2009). Business risks affect the financing decisions and may lead to financial distress and bankruptcy (Booth *et al.*, 2001).

However, prior literature primarily focuses on studying the impact of dividend payouts and ownership structure on firm's profitability and value across developed markets. The study of dividends along with profitability, valuation and riskiness in emerging market like India still remains insufficiently investigated. In emerging markets, family firms are dominant, signaling the presence of higher corporate risk. A study on the impact of dividend payouts on profitability, valuation and firm-specific risk is one of the important contributions of this paper. The originality of the paper involves factoring in idiosyncratic risk with profitability and valuation.

The study examines the impact of dividend on firm's profitability, value and risk within one of the emerging markets, namely, India. Indian firms with strongly held family shareholding pattern are relatively young and induct family members in the firms' boards and management to exert their control in the overall decision-making process. These unique attributes strongly motivate us to explore how family led ownership affects policy decisions and overall operating efficiency, thereby affecting firm performance. Empirical validation of the various conceptual issues relating to dividend influencing corporate performance of emerging market firms requires an in-depth study. This paper fills the evident void by providing empirical evidence on the variations in dividend payouts corresponding to the firm's ownership structure *vis-à-vis* their profitability, valuation and non-systematic risks. The empirical findings of the paper have enriched the literature on the interaction between ownership specific factors and dividend payouts across sectors with firm performance. The paper provides evidence from an emerging market, which has different ownership structure than that in the USA (Faccio *et al.*, 2001; Faccio and Lang, 2002).

The findings confirm that family firms have lower profitability, lower valuation and higher non-systematic risks as compared to widely held firms. The findings further reveal that family ownership concentration tends to increase risks and lead to firm's value erosion. The evidence shows that dividend payouts help reduce a firm's riskiness enabling valuation premium. The study sample is confined to India; however, the distribution by dividend contributes to a better understanding of family firms in other emerging markets having high ownership concentration and weak corporate governance (Mitton, 2004). Furthermore, it provides insights into family ownership in the evolution of firms in emerging market economies. The findings of this study would be of importance to researchers as well as corporate managers.

The remainder of the paper proceeds as follows. Section 2 provides a brief literature review and develops the hypotheses. Section 3 highlights the sample and data characteristics. Section 4 discusses methodology and related modeling. Section 5 analyses the empirical results. Section 6 concludes the study.

2. Literature review and hypothesis development

The underlying analysis of the impact of dividend policy on firms' profitability and share price (SP) is not only limited to corporate managers but also impacts small and retail investors. The economists seek to unlock the mystery behind the firm's valuation sustaining in the capital markets. The study by Lintner (1956) is apprehensive with dividend stability and specifies that managers are hesitant to change firm's dividend policy unless they realize sustained earnings.

Gordon (1959) documented that under uncertainty, dividends are relevant because investors are risk averse and prefer the near dividends over the possible uncertain capital gains in future. Cash-flow uncertainty negatively affects dividend payouts (Chay and Suh, 2009). Gordon (1962) found dividend policy playing an imperative role in firm's market valuation that equals the present value of an infinite stream of dividend payouts. However, these classical theories are subject to criticism due to their opaque investment policy ignoring external financing.

Miller and Modigliani (1961) provided linkage between dividend policy and capital markets. Trade-off and pecking order theories explain how leverage may enhance firm's value. According to trade-off theory (Myers, 1984), a firm may raise debt only up to the point where the marginal value of tax-shields on additional debt contributes to a firm value, i.e. tax-shield is higher than possible costs of financial distress. However, trade-off theory fails to account for profitable firms having a low debt ratio. According to pecking order theory, retained earnings are preferred over debt financing. Using trade-off and pecking order theories, Fama and French (2002) documented that when investment needs are high, profitable firms are less levered and these firms have lesser long-term dividend payouts.

Trade-off and pecking order theories assume perfect alignment of interests between financial managers and shareholders, which are far from reality in practice. Information asymmetry in combination with bankruptcy theory explains how additional leverage may lead to value erosion. Thus, dividends affect the profitability and valuation through cash position and/or risk level. Researchers propose various explanations of dividend payout pattern and its impact on performance and risk including agency theory, signaling theory and bankruptcy theory.

2.1 Ownership structure and dividend decision

Agency theory defines the interacting role of ownership structure with policy decisions, including dividend decisions. This paper discusses two types of agency problems, namely, Type I: conflicts between owners and managers, and Type II: conflicts between majority and minority shareholders. Wang (2006) documents these two situations as the alignment and entrenchment theories.

Type I agency problem deals with information asymmetry between owners and managers, common among widely dispersed firms (Jensen and Meckling, 1976). Berle and Means (1932) were the first to discuss issues related to the separation of ownership and control, suggesting lesser profit incentives for corporate managers. However, these conflicts are lower in family firms as ownership and management decisions are confined to selected few (Burkhart *et al.*, 2003). Richardson (2006) found that over-investment by managers is more likely when companies have a higher level of free cash. Other probable means of reducing agency problems associated with excess free cash include higher institutional shareholding, more debt (Jensen, 1986), and strong external auditing (Griffin *et al.*, 2010).

Type II agency problem depicts expropriation of minority shareholders. The entrenchment theory underlines agency problem between family and other shareholders (Ho and Kang, 2013). The controlling families have greater power to misuse the firm's value

(Easterbrook, 1984). Demsetz and Lehn (1985) mentioned that for owner–manager firms, agency problem (Type I) is low but have high expropriation of minority shareholders.

Alignment of ownership and control leads to a quicker and better decision-making process, thereby reducing unwanted costs which enhance the firms' profitability. The close surveillance by family members helps in mitigating revenue leakages (Balasubramanian and Anand, 2013). Therefore, alignment theory envisages less likelihood of manipulation in family firms compared to widely held firms.

Based on the aforesaid discussion and the related theories, we define the following hypotheses:

H1a. Family firms are more profitable compared to widely held firms.

H1b. Family ownership and firm profitability are positively related.

The entrenchment theory submits that ownership concentration creates incentives and opportunities for controlling family members to expropriate wealth from minority shareholders (Claessens *et al.*, 2000). Large owners gain full corporate control to generate private benefits (Shleifer and Vishny, 1997) leading to tunneling issues (Claessens *et al.*, 2000). Additionally, family firms are reluctant to remove incompetent family members from managerial roles and have outsiders on board, thus promoting nepotism and managerial entrenchment (Anderson and Reeb, 2003):

H2a. Family firms have lower valuation compared to widely held firms.

H2b. Family ownership and firm value are negatively related.

In family firms, family members usually have key executive roles and influence corporate strategies. Their sizeable holdings provide incentive to monitor firms' performance. Thus, greater alignment of interests empowers them to take calculated risks (Geeta and Prasanna, 2016). However, because of lower diversification, family firms have high systematic and non-systematic risks (Shleifer and Vishny, 1997). Nguyen (2011) documented that ownership concentration and non-systematic risks are positively related:

H3a. Family firms have higher non-systematic risk than to widely held firms.

H3b. Family ownership and non-systematic risk are positively related.

2.2 The signaling theory

Signaling theory refers to the market reaction to dividend announcements. According to Miller and Modigliani (1961), investors are likely to interpret a change in dividends as a change in management's views on firm's profitability. Managers are reluctant to slash dividends in-order to avoid any negative signaling to existing shareholders that might lead to decline in stock prices. Similarly, managers raise dividends only when they are confident about enhanced profitability (Lintner, 1956).

An alternative explanation why firms pay dividends, come from the free-cash-flow hypothesis (Jensen, 1986), which states dividends help mitigating agency problems. Dividends reduce the free cash available and, thus, restrict over-investment. Contrary to this, higher retention makes cheaper capital available for new profitable project. Benartzi *et al.* (1997) found that firms that decrease dividends experience significant increases in earnings growth, but dividend increase may not lead to earnings growth.

Based on signaling theory, we predict a positive relation between profitability and valuation with dividend payout:

H4. Dividend payout and firm performance are positively related.

H5. Dividend payout and firm value are positively related.

2.3 The bankruptcy theory

The bankruptcy theory focuses upon business risk affecting the financing decisions, as and when a firm fails to meet its obligations. Information asymmetry is high among family firms and so is the risk level. In general, signaling through dividends provides an indication of health (risk) of a firm based on asymmetric information. High dividends typically signal better health (reduced risk) and superior future prospects for the firm (Goddard *et al.*, 2006).

According to trade-off theory, leverage contributes to the risk level. With leverage, interest burden of a firm rises and the firm needs to be more profitable to serve the debt. Therefore, leverage (repayment of old debt and servicing of new debt) tends to increase bankruptcy risk, leading to a higher risk level. Grullon *et al.* (2002) related change in dividend payouts with firms' maturity and documented that firms that increase dividends experience a significant decline in systematic risk and vice versa. Thus, dividend payouts and risk are negatively related:

H6. Dividend and firm risk are negatively related.

2.4 Sectoral differentiation

Firm policy differs sectorally and so are the firms' profitability, valuation and associated risk. In general, industry debt ratios are low when profitability and business risks are high. Tangible assets act as collateral for debt borrowing (Scott, 1977); thus, investment in fixed assets reduce firm's risk. On the contrary, firms with high investments in intangible assets are riskier and have low debt ratios (Myers, 2001). For example, companies engaged in construction and manufacturing business have high investments in tangible assets, whereas firms operating in services sector have a higher portion of intangible assets and higher employee costs:

H7a. Firm performance differs at the sectoral level.

H7b. Firm valuation differs at the sectoral level.

H7c. Firm-specific risk differs at the sectoral level.

3. Sample and data characteristics

The study investigates the impact of ownership structure and dividends on profitability, value and idiosyncratic risks of non-financial firms listed on the National Stock Exchange of India between 2007 and 2017. Data are drawn from the Centre for Monitoring Indian Economy (CMIE). The sample excludes firms that paid no dividends for three or more consecutive years or had non-significant trade volume during the year. The final sample consists of 421 firms.

Several groups are constructed based on family ownership concentration. Family firms (FAMILY) have at least 5 percent family ownership of a firm's equity, individually or as a group and remaining are widely held firms (WIDE) (Villalonga and Amit, 2006). FAMILY consists of 252 firms (60 percent). The family controlled firms (FAMCON) are one where family ownership concentration is at least 20 percent of total equity (Faccio and Lang, 2002; Kusnadi, 2011). FAMCON consists of 162 firms (38 percent). Of the remaining 90 family firms, 89 firms have enhanced control mechanism by way of affiliated corporate ownership. The study differentiates firms into industry sectors as per CMIE industry classification. Table AI provides summary table of sectoral classification of sample firms based on family ownership concentration and sector.

The standard deviation (SD) of firm's weekly returns measures the SD (weekly). Total risk represents annualized SD of weekly return, and total variance is the square of the total risk. Volatility of stock returns measures the total risk of a firm (Nguyen, 2011):

$$\text{Total Risk} = \text{SD(weekly)} \times \text{SQRT (52)}.$$

Similarly, we calculate market risk (annualized), assuming Nifty-50 as reference, using weekly market return (Nifty-50). Systematic risk of a firm is calculated using market risk (annualized) and stock BETA (volatility of stocks return w.r.t. market return). According to Ferreira and Laux (2007), residual risk represents the firm-specific risk (idiosyncratic risk). Firm-specific risk (FirmRisk) is a measure of the risk of investing substantial wealth in a single firm (Geeta and Prasanna, 2016):

$$\text{Total Variance} = \text{Systematic Variance} + \text{Firm Specific Variance}.$$

4. Methodology and econometric model

This section discusses the methodology and econometric model used to examine the influence of ownership structure and dividend on profitability, valuation and idiosyncratic risks for the sample firms. We conduct Wald and Breusch–Pagan tests to select between pooled and panel regression. Additionally, we employ Hausman tests to select between fixed effects (FE) model and random effects model (REM). We employ REM to know the magnitude of the industry effect, effects of FAMILY and FAMCON dummies. The sub-sections provide elaborate description of the dependent and control parameters used in the model. Table I presents the definitions of the variables used in the study.

4.1 Profitability model

The profitability models investigate the impact of ownership structure and dividend (DIV) on firm performance (PROF) using panel regression. The study employs three measures of profitability, i.e. return on assets (ROA), return on equity (ROE) and earnings per share (EPS). The model includes leverage (DE), investments (CAPEX), operating risk (RISK), liquidity measured by current ratio (CR) and firm size (SIZE) as control parameters.

The trade-off theory (Brennan and Schwartz, 1978) suggests that a firm chooses optimal debt levels that balance the tax advantages of additional debt (interest-tax shield) against the costs of possible financial distress. Investment in profitable projects enhances firms' profitability. Firms' liquidity typically measured using the current ratio is important as it helps to meet financial obligations and working capital needs of the firm. Maturity theory suggests that as firms' size increase, generally their profitabilities tend to increase and investment opportunities decline, resulting in higher free cash flows (DeAngelo *et al.*, 2006).

P1:

$$\begin{aligned}\text{PROF}_{i,t} = {} & \propto_1 + \beta_1 \text{DIV}_{i,t} + \beta_2 \text{DE}_{i,t} + \beta_3 \text{CAPEX}_{i,t} + \beta_4 \text{RISK}_{i,t} \\ & + \beta_5 \text{CR}_{i,t} + \beta_6 \text{SIZE}_{i,t} + \beta_7 \text{CORP}_{i,t} + \beta_8 \text{INS}_{i,t} + \varepsilon_{i,t}. \end{aligned} \quad (1)$$

Ownership type (OWNTYPE) is included to access the impact of family (FAMILY) and family control (FAMCON) over firms' profitability. Family firms are more levered, as family owners have tendency of retaining control (Anderson *et al.*, 2003) and debt borrowings that help to meet new investments substantially. Sectoral dummies are included to examine if performance (ROA) differs across sectors.

Functional notation(s)	Variables	Definition	References
DIV	Dividend payout	Dividend to EBIT ratio	Aivazian *et al.* (2006)
FAM	Family ownership	Aggregate equity owned by family group including concert promoters	Andres (2008) and Setia-Atmaja *et al.* (2009)
CORP	Body corporates	Equity owned by affiliated corporate bodies	Authors
INS	Institutional ownership	Equity owned by unaffiliated institution	Mulyani *et al.* (2016)
ROA	Return on assets	Ratio of EBIT to total assets	Fama and French (2000)
ROE	Return on equity	Net earnings-to-shareholders equity ratio	Aivazian *et al.* (2003)
EPS	Earnings per share	Earnings per share	Aivazian *et al.* (2003)
TQ	Tobin's *Q*	Market-to-book value ratio of firm	Lindenberg and Ross (1981)
MTB	Market-to-book ratio	Market-to-book value ratio of equity	Denis and Osobov (2008)
SP	Share valuation	Log of share price	Authors
DE	Leverage	Debt-to-equity ratio	Faccio *et al.* (2001)
RETA	Retained earnings	Retained earnings-to-TA ratio	DeAngelo *et al.* (2006)
CAPEX	Investment	Capex-to-TA ratio	Han *et al.* (1999)
BETA	Market risk	Systematic risk	Rozeff (1982)
RISK	Operating risk	SD (1st difference of Operating Income) to total assets	Jensen *et al.* (1992)
CR	Liquidity	Current ratio	Myers and Frank (2004)
SGR	Sales growth rate	Geometric mean of 3 years growth in sales	Jensen *et al.* (1992)
SIZE	Firm size	Natural logarithm of a firm's TA	Eddy and Seifert (1988)
AGE	Firm age	Natural logarithm of a firm's age since establishment	Fairchild *et al.* (2014)
FirmRisk	Idiosyncratic risk	Non-systematic risk	Authors
QR	Liquidity	Quick ratio	Francis and Stokes (1986)
WAGE	Salary and wages	Salary and wages-to-net sales ratio	Authors

Note: This table presents the definitions of the variables used in the study

Table I.
Variables definition

P2:

$$\mathrm{ROA}_{i,t} = \propto_1 + \beta_1 \mathrm{DIV}_{i,t} + \beta_2 \mathrm{DE}_{i,t} + \beta_3 \mathrm{CAPEX}_{i,t} + \beta_4 \mathrm{RISK}_{i,t} + \beta_5 \mathrm{CR}_{i,t} + \beta_6 \mathrm{SIZE}_{i,t} + \beta_7 \mathrm{OWNTYPE}_{i,t} + \sum \beta_k \times \mathrm{SECTOR}_{i,t} + \varepsilon_{i,t}. \quad (2)$$

Concentrated family holdings provide incentives for financial institutions to provide long-term debt capital. The profitability Model P3 examines the impact of family ownership concentration (FAM) on firm performance (ROA) for family and family controlled firms.

P3:

$$\mathrm{ROA}_{i,t} = \propto_1 + \beta_1 \mathrm{DIV}_{i,t} + \beta_2 \mathrm{DE}_{i,t} + \beta_3 \mathrm{CAPEX}_{i,t} + \beta_4 \mathrm{RISK}_{i,t} + \beta_5 \mathrm{CR}_{i,t} + \beta_6 \mathrm{SIZE}_{i,t} + \beta_7 \mathrm{FAM}_{i,t} + \varepsilon_{i,t}. \quad (3)$$

4.2 Valuation model

The valuation models investigate the impact of ownership structure and dividend on firm valuation using panel regression. The study employs three measures of the firm value

(VALUE), Tobin's *Q* (TQ), market-to-book value ratio (MTB) and log of SP. Similar to profitability model, study includes some control parameters.

We have already discussed impact of leverage (DE), investments (CAPEX), operating risk (RISK) and firm size (SIZE) over firms' profitability which, hence, influences the firm value. ROE is included from investors prospective. Investment in profitable projects leads to higher firm valuation. Retained earnings-to-total assets ratio (RETA) is included as retained earnings are the cheapest source of capital (pecking order theory). As market concept is inherent part of valuation, the valuation model includes systematic risk (BETA). Sales growth rate (SGR) is included to capture growth aspects in valuation (small vs big firms). Firm size (SIZE) and firm age (AGE) are included to capture firm maturity. Generally, larger and established firms command higher value.

V1:

$$\begin{aligned}\text{VALUE}_{i,t} = {} & \propto_1 + \beta_1 \text{DIV}_{i,t} + \beta_2 \text{DE}_{i,t} + \beta_3 \text{ROE}_{i,t} + \beta_4 \text{RETA}_{i,t} + \beta_5 \text{CAPEX}_{i,t} \\ & + \beta_6 \text{BETA}_{i,t} + \beta_7 \text{RISK}_{i,t} + \beta_8 \text{SGR}_{i,t} + \beta_9 \text{SIZE}_{i,t} + \beta_{10} \text{AGE}_{i,t} \\ & + \beta_{11} \text{CORP}_{i,t} + \beta_{12} \text{INS}_{i,t} + \varepsilon_{i,t}. \end{aligned} \tag{4}$$

As discussed, according to entrenchment theory, the expropriation of minority shareholders is high among family firms. Ownership dummies (OWNTYPE) are included to access the impact of family (FAMILY) and family control (FAMCON) over firms' valuation. Sectoral dummies are included to examine whether the firm value (TQ) differs across sectors.

V2:

$$\begin{aligned}\text{TQ}_{i,t} = {} & \propto_1 + \beta_1 \text{DIV}_{i,t} + \beta_2 \text{DE}_{i,t} + \beta_3 \text{ROE}_{i,t} + \beta_4 \text{RETA}_{i,t} + \beta_5 \text{CAPEX}_{i,t} \\ & + \beta_6 \text{BETA}_{i,t} + \beta_7 \text{RISK}_{i,t} + \beta_8 \text{SGR}_{i,t} + \beta_9 \text{SIZE}_{i,t} + \beta_{10} \text{AGE}_{i,t} \\ & + \beta_{11} \text{OWNTYPE}_{i,t} + \sum \beta_k \times \text{SECTOR}_{i,t} + \varepsilon_{i,t}. \end{aligned} \tag{5}$$

Family firms have excessive investment and low level of diversification and, hence, entail higher risk. The Valuation Model V3 examines the impact of FAM on firm value (TQ) for family and family controlled firms.

V3:

$$\begin{aligned}\text{TQ}_{i,t} = {} & \propto_1 + \beta_1 \text{DIV}_{i,t} + \beta_2 \text{DE}_{i,t} + \beta_3 \text{ROE}_{i,t} + \beta_4 \text{RETA}_{i,t} \\ & + \beta_5 \text{CAPEX}_{i,t} + \beta_6 \text{BETA}_{i,t} + \beta_7 \text{RISK}_{i,t} + \beta_8 \text{SGR}_{i,t} \\ & + \beta_9 \text{SIZE}_{i,t} + \beta_{10} \text{AGE}_{i,t} + \beta_{11} \text{FAM}_{i,t} + \varepsilon_{i,t}. \end{aligned} \tag{6}$$

4.3 Risk model

The risk models investigate the impact of ownership structure and dividend on idiosyncratic risk (FirmRisk) using panel regression. As per the bankruptcy theory, the level of risk affects financing decisions of a firm.

The risk model includes leverage (DE), operating risk (RISK) and market risk (BETA), liquidity measured by quick ratio (QR), firm value (MTB), wage (WAGE), profitability (ROA) and firm size (SIZE) as control parameters. Trade-off theory talks about balancing benefits and costs associated with debt financing (Myers, 1984). RISK and BETA capture volatility of firms' earnings and returns in relation to market, respectively. QR captures short-term financial liquidity (Francis and Stokes, 1986). MTB and ROA measure firms' valuation and profitability, respectively. SIZE and WAGE capture the size effect of a firm

and employee costs pressure on FirmRisk, respectively. The large firms are more diversified and, hence, less prone to bankruptcy (Titman and Wessels, 1988).

R1:

$$\begin{aligned}\text{FirmRisk}_{i,t} = {} & \propto_0 + \beta_1 \text{DIV}_{i,t} + \beta_2 \text{DE}_{i,t} + \beta_3 \text{RISK}_{i,t} + \beta_4 \text{BETA}_{i,t} \\ & + \beta_5 \text{QR}_{i,t} + \beta_6 \text{MTB}_{i,t} + \beta_7 \text{ROA}_{i,t} + \beta_8 \text{WAGE}_{i,t} \\ & + \beta_9 \text{SIZE}_{i,t} + \beta_{10} \text{CORP}_{i,t} + \beta_{11} \text{INS}_{i,t} + \varepsilon_{i,t}. \end{aligned} \tag{7}$$

Ownership dummies (OWNTYPE) are included to access the impact of family and family control over Firm Risk. Sectoral dummies are included to examine if firm-specific risk differs across sectors.

R2:

$$\begin{aligned}\text{FirmRisk}_{i,t} = {} & \propto_0 + \beta_1 \text{DIV}_{i,t} + \beta_2 \text{DE}_{i,t} + \beta_3 \text{RISK}_{i,t} + \beta_4 \text{BETA}_{i,t} \\ & + \beta_5 \text{QR}_{i,t} + \beta_6 \text{MTB}_{i,t} + \beta_7 \text{ROA}_{i,t} + \beta_8 \text{WAGE}_{i,t} + \beta_9 \text{SIZE}_{i,t} \\ & + \beta_{10} \text{OWNTYPE}_{i,t} + \sum \beta_k \times \text{SECTOR}_{i,t} + \varepsilon_{i,t}. \end{aligned} \tag{8}$$

The risk model R3 examines the impact of FAM on firm-specific risk for family and family controlled firms.

R3:

$$\begin{aligned}\text{FirmRisk}_{i,t} = {} & \propto_0 + \beta_1 \text{DIV}_{i,t} + \beta_2 \text{DE}_{i,t} + \beta_3 \text{RISK}_{i,t} + \beta_4 \text{BETA}_{i,t} \\ & + \beta_5 \text{QR}_{i,t} + \beta_6 \text{MTB}_{i,t} + \beta_7 \text{ROA}_{i,t} + \beta_8 \text{WAGE}_{i,t} \\ & + \beta_9 \text{SIZE}_{i,t} + \beta_{10} \text{FAM}_{i,t} + \varepsilon_{i,t}. \end{aligned} \tag{9}$$

5. Results and analysis

5.1 Summary statistics

Table II provides descriptive statistics of the key parameters for aggregate, widely held, family and family controlled firms based on annual data from 2007 through 2017. The average ROA are 13.77, 12.83 and 12.68 percent for widely held, family and family controlled firms, respectively. Furthermore, profitability measured by ROE and EPS shows similar trend for sample group firms. Profitability is statistically different and lower (Mean *t*-tests) for family and family controlled firms compared to widely held firms. These findings are contrary to *H1a*, which suggests higher profitability because of ownership–management alignment. The average firm values measured by Tobin's *Q* are 3.07, 2.16 and 1.97 for widely held, family and family controlled firms, respectively. Firm value, measured by MTB ratio and log SP, depicts similar nature for sample group firms. These findings support *H2a*, which suggests that higher information asymmetry erodes the firm value.

The average dividend payouts are 17.61, 14.26 and 12.77 percent for widely held, family, and family controlled firms, respectively. The average debt-equity ratios are 55.62, 74.51 and 68.88 percent for widely held, family and family controlled firms, respectively. These pieces of evidence suggest that family firms have lower dividend payout but high leverage compared to widely held firms, suggesting expropriation of minority shareholders by majority shareholders. Mulyani *et al.* (2016) observed similar trend for family firms of Indonesia.

Table II.
Variables: descriptive statistics

Variable	Aggregate (421)		WIDE (169)		FAMILY (252)		FAMCON (162)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
ROA	0.1320	0.0875	0.1377	0.0900	0.1283***	0.0856	0.1268***	0.0779
ROE	0.1738	0.1585	0.1883	0.1607	0.1641***	0.1564	0.1626***	0.1195
EPS	32.5645	158.9610	33.4798	47.8242	31.9507	201.7090	21.2708***	33.5766
TQ	2.5240	3.2999	3.0698	4.1247	2.1580***	2.5405	1.9657***	2.3149
MTB	2.8534	3.7537	3.3968	4.5433	2.4890***	3.0614	2.2601***	2.8652
SP	2.1052	0.6219	2.2918	0.6039	1.9801***	0.6022	1.9151***	0.5937
DIV	0.1560	0.2462	0.1761	0.2605	0.1426***	0.2353	0.1277***	0.1302
DE	0.6693	1.0669	0.5562	0.8523	0.7451***	1.1835	0.6888***	0.8410
RETA	0.3834	0.1923	0.3890	0.1838	0.3796	0.1977	0.3931	0.2043
CAPEX	0.0503	0.0683	0.0489	0.0577	0.0512	0.0745	0.0488	0.0747
FirmRisk	37.9826	19.1654	34.4162	18.4822	40.3742***	19.2470	41.5779***	20.3216
BETA	1.0076	0.3527	0.9963	0.3436	1.0152	0.3585	1.0168	0.3585
RISK	3.5866	3.3757	3.7150	3.2347	3.5005**	3.4651	3.6886	3.8583
CR	1.8613	2.8079	1.6748	2.2687	1.9864***	3.1118	2.2381***	3.7598
QR	1.2462	2.0713	1.1890	1.6164	1.2846	2.3265	1.4290***	2.7869
SGR	0.1358	0.2054	0.1296	0.1937	0.1400	0.2128	0.1415	0.2397
WAGE	0.1154	0.1420	0.1068	0.1093	0.1212***	0.1600	0.1227***	0.1742
SIZE	7.1309	1.4217	7.6439	1.4844	6.7869***	1.2669	6.6117***	1.2266
AGE	3.5548	0.5202	3.7077	0.5298	3.4522***	0.4876	3.3698***	0.4411
FAM	19.6107	22.7428	0.9087	1.7484	32.1530***	21.6835	43.8190***	17.7133
CORP	34.3697	23.5524	51.7737	16.6343	22.6979***	20.0461	14.1274***	16.1735
INS	15.6669	13.9027	19.0545	14.3364	13.3951***	13.1258	11.2455***	11.2534

Notes: This table provides the descriptive statistics of key parameters for aggregate, widely held, family and family controlled firms. ROA, return on assets; ROE, return on equity; EPS, earnings per share indicate the profitability of firm. TQ, Tobin's *Q*; MTB, market-to-book ratio; SP, log of share price depict valuation of the firm. DIV, DE, RETA and CAPEX indicate dividend payout, debt-equity ratio, retained earnings-to-assets ratio and CAPEX-to-assets ratio, respectively. FirmRisk, BETA, RISK, CR and QR specify non-systematic risk, market risk, operating risk, current ratio and quick ratio, respectively. SGR and WAGE symbolize growth in net sales and wage-to-sales ratio, respectively. SIZE and AGE denote firm size and age, respectively. FAM, CORP and INS represent ownership proportion held by the family, corporate and institutional investors group, respectively. SD is the standard deviation. Table I explains each variable. **,***Significant at the 5 and 1 percent levels, respectively, for FAMILY and FAMCON w.r.t. WIDE firms

The average FirmRisk are 34.42, 40.37 and 41.58 percent for widely held, family and family controlled firms, respectively. These results confirm that family firms have higher idiosyncratic risks *vis-à-vis* widely held firms, which are consistent with *H3a*.

Firms' liquidity (CR and QR) and WAGE are higher for family controlled firms compared to WIDE firms. Firm size and firm age are lower for family firms compared to widely held firms. These pieces of evidence show enhanced profitability (economy of scale) and ownership diffusion with maturity. Other parameters like retained earnings, CAPEX, market BETA, operating risk (RISK) and sales growth (SGR) are not statistically different for the sample groups.

5.2 Empirical findings

Firm performance and value. This section provides regression estimates of impact of ownership structure and dividend payouts on firm performance and value for sample Indian firms. The study employs multiple panel regressions estimation using three measures of profitability (ROA, ROE and EPS) and three measures of valuation (Tobin's *Q*, MTB and log of SP) as dependent variable.

Table III reports results of Profitability Model P1 (Equation (1)) from FE panel regression at aggregate level. The results reveal that dividends negatively influence all profitability measures (ROA, ROE and EPS). Negative influence of dividends on profitability fails to support *H4*, which suggests "dividend payout" as a signaling mechanism for a better firm profitability. On further examining, we observed increase in annual dividend negatively influences annual increase in the firm's cash flow. It suggests that higher dividends reduce the free cash flow to firm (resulting in cash crunch), leading to reduced profitability.

Table IV reports the results of Valuation Model V1 (Equation (4)) from FE panel regression. The results reveal that dividends positively influence all the valuation

	ROA		ROE		EPS	
Dependent variable	Coefficient	*t*-ratio	Coefficient	*t*-ratio	Coefficient	*t*-ratio
Intercept	0.2424***	12.1244	0.5730***	16.3732	−167.2060***	−5.0563
DIV	−0.0279***	−5.8585	−0.0371***	−4.4417	−15.5997**	−1.9784
DE	−0.0076***	−5.7074	−0.0627***	−27.0398	−3.9752*	−1.8155
CAPEX	0.0115	0.7003	0.0562*	1.9514	5.1463	0.1891
RISK	0.0014***	3.1577	−0.0017**	−2.2206	2.4848***	3.4781
CR	−0.0003	−0.4606	−0.0035***	−3.6488	0.4345	0.4834
SIZE	−0.0186***	−6.7688	−0.0500***	−10.4091	26.2902***	5.7912
CORP	0.0003**	2.3567	0.0003	1.0477	−0.0222	−0.0970
INS	0.0010***	5.0133	0.0004	1.1387	0.5218	1.6160
R^2 (%)	50.83		54.11		59.24	
F-test	F(8, 3781) = 19.89		F(8, 3781) = 111.61		F(8, 3781) = 6.60	
p-value	< 0.0001		< 0.0001		< 0.0001	
Observations	4,210		4,210		4,210	

Notes: This table presents the regression estimates where coefficients are estimated by fitting the Profitability Model P1 (Equation (1)) for aggregate sample firms.

P1:

$$\mathrm{PROF}_{i,t} = \propto_1 + \beta_1 \mathrm{DIV}_{i,t} + \beta_2 \mathrm{DE}_{i,t} + \beta_3 \mathrm{CAPEX}_{i,t} + \beta_4 \mathrm{RISK}_{i,t} + \beta_5 \mathrm{CR}_{i,t} + \beta_6 \mathrm{SIZE}_{i,t} + \beta_7 \mathrm{CORP}_{i,t} + \beta_8 \mathrm{INS}_{i,t} + \varepsilon_{i,t},$$

where PROF indicates profitability (ROA, ROE and EPS). DIV, DE, and CAPEX represent dividend payout, debt-equity ratio and CAPEX-to-TA ratio, respectively. RISK, CR and SIZE denote the operating risk, current ratio and firm size, respectively. CORP and INS symbolize proportion of equity shares held by the ownership group. Table I defines each variable. *,**,***Significant at the 10, 5 and 1 percent levels, respectively

Table III. Ownership structure and dividend: firm performance

Table IV.
Ownership concentration and dividend: firm value

Dependent variable	TQ Coefficient	TQ *t*-ratio	MTB Coefficient	MTB *t*-ratio	SP Coefficient	SP *t*-ratio
Intercept	−12.6156***	−12.5627	−16.4137***	−13.1743	−3.1814***	−21.5308
DIV	0.3905***	3.2655	0.7457***	5.0269	0.0367**	2.0859
DE	0.0845**	2.2154	0.3311***	6.9948	−0.0219***	−3.8998
ROE	2.6421***	11.0882	4.3122***	14.5870	0.3984***	11.3623
RETA	0.5993*	1.7137	−0.0900	−0.2075	0.7373***	14.3276
CAPEX	−0.6577	−1.5965	−1.1586**	−2.2670	−0.1949***	−3.2153
BETA	−0.3135**	−2.2360	−0.2262	−1.3001	0.0533***	2.5819
RISK	0.0303***	2.6602	0.0345**	2.4406	0.0007	0.4072
SGR	0.4509***	2.9902	0.3821**	2.0422	0.1432***	6.4538
SIZE	0.8126***	7.8353	0.7219***	5.6104	0.3909***	25.6142
AGE	2.1847***	5.4284	3.3358***	6.6808	0.4959***	8.3749
CORP	0.0095***	2.7398	0.0089**	2.0803	0.0033***	6.5090
INS	0.0400***	8.0413	0.0646***	10.4805	0.0137***	18.6730
R^2 (%)	78.45		74.36		86.86	
F-test	F(12, 3777) = 47.48		F(12, 3777) = 52.13		F(12, 3777) = 338.36	
p-value	< 0.0001		< 0.0001		< 0.0001	
Observations	4,210		4,210		4,210	

Notes: This table presents the regression estimates where coefficients are estimated by fitting the Valuation Model V1 (Equation (4)) for aggregate sample firms.
V1:

$$\mathrm{VALUE}_{i,t} = \propto_1 + \beta_1 \mathrm{DIV}_{i,t} + \beta_2 \mathrm{DE}_{i,t} + \beta_3 \mathrm{ROE}_{i,t} + \beta_4 \mathrm{RETA}_{i,t} + \beta_5 \mathrm{CAPEX}_{i,t} + \beta_6 \mathrm{BETA}_{i,t} + \beta_7 \mathrm{RISK}_{i,t} + \beta_8 \mathrm{SGR}_{i,t} + \beta_9 \mathrm{SIZE}_{i,t} + \beta_{10} \mathrm{AGE}_{i,t} + \beta_{11} \mathrm{CORP}_{i,t} + \beta_{12} \mathrm{INS}_{i,t} + \varepsilon_{i,t},$$

where, VALUE indicates firm value (TQ, MTB and SP). DIV, DE, ROE, RETA and CAPEX represent dividend payout, debt-equity ratio, return on equity, retained earnings-to-TA ratio and CAPEX-to-TA ratio, respectively. BETA, RISK, SGR, SIZE and AGE denote the market risk, operating risk, sales growth, firm size and firm age, respectively. CORP and INS symbolize proportion of equity shares held by the ownership group. Table I defines each variable. *,**,***Significant at the 10, 5 and 1 percent levels, respectively

parameters (TQ, MTB and SP), which is consistent with signaling hypothesis and supports *H5*.

Tables V and VI relate ownership type (based on family ownership concentration) and sectoral association with firm performance and value, respectively. The regression estimates show that family and family control parameters negatively influence firms' profitability, which is contrary to *H1a*, which proposes higher profitability because of ownership–management alignment. The rejection of the hypothesis suggests that owner and manager may not be competent. However, insignificant coefficients of these parameters for the valuation model (Table VI) provide no evidence for *H2a*, which suggests high information asymmetry erodes the firm value. CHEM, DUR and SERV sector firms show enhanced profitability. Furthermore, the DUR and SERV sector firms show a higher firm value measured by Tobin's *Q*. These pieces of evidence show that firms' profitability and valuation differ at the sectoral level, thus supporting *H7a* and *H7b*.

Table VII relates dividends and family ownership concentration (FAM) with firm performance for family and family controlled firms using FE panel regression. Negative influence of dividend on profitability is contrary to *H4*, suggesting higher dividends may lead to cash crunch among these firms. Furthermore, FAM is not significant for both the groups. However, positive influence of dividend on valuation supports *H5* (Table VIII). Furthermore, results show that coefficients of FAM are not significant for both the groups for profitability and valuation model.

	ROA		ROA	
Dependent variable	Coefficient	*z*-ratio	Coefficient	*z*-ratio
Intercept	0.1506***	10.1113	0.1497***	10.3844
DIV	−0.0199***	−4.1972	−0.0200***	−4.2287
DE	−0.0109***	−8.6657	−0.0111***	−8.7477
CAPEX	0.0074	0.4532	0.0071	0.4311
RISK	0.0015***	3.7748	0.0016***	3.8278
CR	−0.0002	−0.4625	−0.0002	−0.4003
SIZE	−0.0029*	−1.7543	−0.0029*	−1.7953
FAMILY	−0.0103*	−1.8505	–	–
FAMCON	–	–	−0.0117**	−2.1086
CHEM	0.0184**	2.1727	0.0182**	2.1468
CONS	5.11 e^{-05}	0.0054	−0.0006	−0.0602
DUR	0.0276***	2.7818	0.0274***	2.7648
MACH	0.0111	1.2989	0.0107	1.2581
SERV	0.0242***	2.7998	0.0235***	2.7173
Observations	4,210		4,210	

Notes: This table presents the regression estimates where coefficients are estimated by fitting the Profitability Model P2 (Equation (2)) for aggregate sample firms.
P2:

$$\mathrm{ROA}_{i,t} = \propto_1 + \beta_1 \mathrm{DIV}_{i,t} + \beta_2 \mathrm{DE}_{i,t} + \beta_3 \mathrm{CAPEX}_{i,t} + \beta_4 \mathrm{RISK}_{i,t} + \beta_5 \mathrm{CR}_{i,t} + \beta_6 \mathrm{SIZE}_{i,t} + \beta_7 \mathrm{OWNTYPE}_{i,t} + \sum \beta_k \times \mathrm{SECTOR}_{i,t} + \varepsilon_{i,t},$$

where ROA indicates profitability. DIV, DE and CAPEX represent dividend payout, debt-equity ratio and CAPEX-to-TA ratio, respectively. RISK, CR and SIZE denote the operating risk, current ratio and firm size, respectively. OWNTYPE (dummy) symbolizes family (FAMILY) or family controlled (FAMCON) firms. SECTOR (dummy matrix) symbolizes specific sectors. Table I defines each variable. *,**,***Significant at the 10, 5 and 1 percent levels, respectively

Table V.
Ownership type and firm performance

Dependent variable	TQ Coefficient	TQ *z*-ratio	TQ Coefficient	TQ *z*-ratio
Intercept	−8.4168***	−11.0393	−8.3955***	−11.0970
DIV	0.5233***	4.2868	0.5239***	4.2913
DE	0.0706*	1.8339	0.0711*	1.8470
ROE	2.9495***	12.3210	2.9504***	12.3222
RETA	1.5464***	4.9228	1.5395***	4.8887
CAPEX	−0.5017	−1.1938	−0.4985	−1.1864
BETA	−0.5455***	−4.1376	−0.5455***	−4.1375
RISK	0.0162	1.4307	0.0161	1.4196
SGR	0.3492**	2.2801	0.3484**	2.2750
SIZE	0.8209***	13.5565	0.8193***	13.5883
AGE	1.0011***	5.0968	1.0078***	5.0872
FAMILY	0.1618	0.7035	–	–
FAMCON	–	–	0.1567	0.6724
CHEM	0.5682	1.6078	0.5725	1.6206
CONS	0.1129	0.2856	0.1227	0.3106
DUR	2.0174***	4.8758	2.0190***	4.8800
MACH	0.5805	1.6395	0.5848*	1.6511
SERV	1.1186***	3.0478	1.1314***	3.0798
Observations	4,210		4,210	

Notes: This table presents the regression estimates where coefficients are estimated by fitting the Valuation Model V2 (Equation (5)) for aggregate sample firms.

V2:

$$TQ_{i,t} = \propto_1 + \beta_1 DIV_{i,t} + \beta_2 DE_{i,t} + \beta_3 ROE_{i,t} + \beta_4 RETA_{i,t} + \beta_5 CAPEX_{i,t} + \beta_6 BETA_{i,t} + \beta_7 RISK_{i,t} + \beta_8 SGR_{i,t} + \beta_9 SIZE_{i,t} + \beta_{10} AGE_{i,t} + \beta_{11} OWNTYPE_{i,t} + \sum \beta_k \times SECTOR_{i,t} + \varepsilon_{i,t},$$

where TQ indicates firm value. DIV, DE, ROE, RETA and CAPEX represent dividend payout, debt-equity ratio, return on equity, retained earnings-to-TA ratio and CAPEX-to-TA ratio, respectively. BETA, RISK, SGR and SIZE denote the market risk, operating risk, sales growth and firm size, respectively. OWNTYPE (dummy) symbolizes family (FAMILY) or family controlled (FAMCON) firms. SECTOR (dummy matrix) symbolizes specific sectors. Table I defines each variable. *,**,***Significant at the 10, 5 and 1 percent levels, respectively

Table VI.
Ownership type and firm valuation

Firm risk. Table IX reports the effect of dividend and ownership concentration on FirmRisk from panel regression for the sample firms at the aggregate level. The FE estimates (R1) show that the coefficient of dividend is not significant. However, the RE estimates (R2) reveal that dividend negatively influences the firm-specific risk, which is consisted with our *H6*. These findings support uncertainty and signaling theory, where dividend is preferred over uncertain capital gain and high dividend signals superior health (low risk) of a firm. Positive influence of FAMILY and FAMCON dummies over FirmRisk indicates that family firms and family controlled firms have high firm-specific risk, which supports *H3a*. The service sector dummy shows positive association with FirmRisk; however, coefficients of other sector dummies are not significant. This finding supports *H7c*.

Table X reports influence of dividend and ownership concentration on FirmRisk from panel regression for family and family controlled firms. The results reveal that FAM negatively influences FirmRisk for family controlled firms (significant at only 10 percent for family firms), which is contrary to *H3b*. The finding suggests that low owner-manager agency problem among family controlled firms may lead to reduction in FirmRisk. The negative relation between FAM and FirmRisk indicates the probable reduction of owner–manager agency problem that contribute to declining of FirmRisk.

Dependent variable	Family firms ROA Coefficient	*t*-ratio	Family controlled firms ROA Coefficient	*t*-ratio
Intercept	0.1940***	7.5875	0.1719***	6.1195
DIV	−0.0309***	−4.5796	−0.0675***	−4.5248
DE	−0.0085***	−5.3151	−0.0209***	−5.8809
CAPEX	0.0153	0.7514	0.0161	0.7370
RISK	0.0005	0.8407	−0.0003	−0.5396
CR	−0.0006	−0.9218	−0.0019***	−3.0999
SIZE	−0.0073**	−2.0368	−0.0028	−0.7177
FAM	−0.0002	−1.1352	2.79 e^{-05}	0.1573
R^2 (%)	43.89		48.66	
F-test	$F(7, 2261) = 8.11146$		$F(7, 1451) = 8.5754$	
p-value	< 0.0001		< 0.0001	
Observations	2,520		1,620	

Notes: This table presents the regression estimates where coefficients are estimated by fitting the Profitability Model P3 (Equation (3)) for family and family controlled firms.

P3:

$$\mathrm{ROA}_{i,t} = \propto_1 + \beta_1 \mathrm{DIV}_{i,t} + \beta_2 \mathrm{DE}_{i,t} + \beta_3 \mathrm{CAPEX}_{i,t} + \beta_4 \mathrm{RISK}_{i,t} + \beta_5 \mathrm{CR}_{i,t} + \beta_6 \mathrm{SIZE}_{i,t} + \beta_7 \mathrm{FAM}_{i,t} + \varepsilon_{i,t},$$

where ROA indicates profitability. DIV, DE and CAPEX represent dividend payout, debt-equity ratio and CAPEX-to-TA ratio, respectively. RISK and CR depict operating risk and liquidity of firms, respectively. SIZE denotes firm size. FAM specifies family ownership concentration. Table I defines each variable. *,**,***Significant at the 10, 5 and 1 percent levels, respectively

Table VII. Family ownership, dividend and firm performance

Dependent variable	Family firms TQ Coefficient	*t*-ratio	Family controlled firms TQ Coefficient	*t*-ratio
Intercept	−8.4291***	−8.1257	−7.8935***	−6.7192
DIV	0.2910**	2.0757	0.6653*	1.8925
DE	0.1017**	2.4396	−0.0363	−0.3781
ROE	1.9983***	7.5857	3.2244***	8.3739
RETA	3.3106***	7.9827	3.4750***	6.6773
CAPEX	−1.3790***	−3.2721	−1.0187**	−1.9986
BETA	−0.5222***	−3.5918	−0.3742**	−2.2077
RISK	0.0220*	1.7806	0.0294**	2.1868
SGR	0.6349***	3.9222	0.6952***	4.0004
SIZE	1.2064***	10.5635	1.5424***	10.8139
AGE	0.3383	0.7678	−0.6236	−1.1944
FAM	−0.0011	−0.3062	0.0008	0.1986
R^2 (%)	72.80		68.86	
F-test	$F(11, 2257) = 40.8289$		$F(11, 1447) = 36.0893$	
p-value	< 0.0001		< 0.0001	
Observations	2,520		1,620	

Notes: This table presents the regression estimates where coefficients are estimated by fitting the Valuation Model V3 (Equation (6)) for family and family controlled firms.

V3:

$$\mathrm{TQ}_{i,t} = \propto_1 + \beta_1 \mathrm{DIV}_{i,t} + \beta_2 \mathrm{DE}_{i,t} + \beta_3 \mathrm{ROE}_{i,t} + \beta_4 \mathrm{RETA}_{i,t} + \beta_5 \mathrm{CAPEX}_{i,t} + \beta_6 \mathrm{BETA}_{i,t} + \beta_7 \mathrm{RISK}_{i,t} + \beta_8 \mathrm{SGR}_{i,t} + \beta_9 \mathrm{SIZE}_{i,t} + \beta_{10} \mathrm{AGE}_{i,t} + \beta_{11} \mathrm{FAM}_{i,t} + \varepsilon_{i,t},$$

where TQ indicates firm value. DIV, DE, ROE, RETA and CAPEX represent dividend payout, debt-equity ratio, return on equity, retained earnings-to-TA ratio and CAPEX-to-TA ratio, respectively. BETA, RISK and SGR depict market risk, operating risk and sales growth, respectively. SIZE, AGE and FAM denote firm size, firm age and family ownership concentration, respectively. Table I defines each variable. *,**,***Significant at the 10, 5 and 1 percent levels, respectively

Table VIII. Family ownership, dividend and firm value

Table IX. Ownership structure, dividend and FirmRisk

	Model R1		Model R2		Model R2	
	Coefficient	*t*-ratio	Coefficient	*z*	Coefficient	*z*
Intercept	93.6014***	16.7689	46.1006***	20.3784	46.5675***	21.0001
DIV	−0.3765	−0.2919	−3.5490***	−2.9897	−3.3729***	−2.8362
DE	1.7712***	4.9662	2.2138***	7.6793	2.3058***	8.0267
RISK	0.2359**	2.0268	0.4624***	5.2601	0.4426***	5.0534
BETA	−0.0783	−0.0533	7.9514***	8.7264	7.9655***	8.7347
QR	0.1037	0.5433	0.1938	1.3392	0.1687	1.1635
MTB	0.4447***	3.1949	−0.1181	−1.2870	−0.1169	−1.2731
ROA	13.6647***	3.0474	−0.0102	−0.0027	0.2755	0.0731
WAGE	−2.9505	−0.7066	−2.3675	−0.9866	−2.3134	−0.9630
SIZE	−8.2671***	−10.5853	−2.8429***	−12.3643	−2.8557***	−12.4744
CORP	−0.0197	−0.5317	–	–	–	–
INS	−0.0475	−0.8864	–	–	–	–
FAMILY	–	–	2.6332***	4.1029	–	–
FAMCON	–	–	–	–	2.7182***	4.2259
CHEM	–	–	0.2849	0.2928	0.3725	0.3824
CONS	–	–	−0.3538	−0.3292	−0.1699	−0.1578
DUR	–	–	0.5292	0.4652	0.5739	0.5036
MECH	–	–	−1.6257*	−1.6818	−1.5262	−1.5748
SERV	–	–	3.2424***	3.0426	3.4684***	3.2507
Observations	4,210		4,210		4,210	

Notes: This table presents the panel regression estimates for Risk Models (R1 and R2), where coefficients are estimated by fitting Equations (7) and (8) for the sample firms at aggregate level.

R1:

$$\text{FirmRisk}_{i,t} = \propto_0 + \beta_1 \text{DIV}_{i,t} + \beta_2 \text{DE}_{i,t} + \beta_3 \text{RISK}_{i,t} + \beta_4 \text{BETA}_{i,t} + \beta_5 \text{QR}_{i,t} + \beta_6 \text{MTB}_{i,t} + \beta_7 \text{ROA}_{i,t} + \beta_8 \text{WAGE}_{i,t} + \beta_9 \text{SIZE}_{i,t} + \beta_{10} \text{CORP}_{i,t} + \beta_{11} \text{INS}_{i,t} + \varepsilon_{i,t},$$

R2:

$$\text{FirmRisk}_{i,t} = \propto_0 + \beta_1 \text{DIV}_{i,t} + \beta_2 \text{DE}_{i,t} + \beta_3 \text{RISK}_{i,t} + \beta_4 \text{BETA}_{i,t} + \beta_5 \text{QR}_{i,t} + \beta_6 \text{MTB}_{i,t} + \beta_7 \text{ROA}_{i,t} + \beta_8 \text{WAGE}_{i,t} + \beta_9 \text{SIZE}_{i,t} + \beta_{10} \text{OWNTYPE}_{i,t} + \sum \beta_k \times \text{SECTOR}_{i,t} + \varepsilon_{i,t},$$

where FirmRisk indicates non-systematic risks of a firm. DIV and DE represent dividend payout and debt-equity ratio respectively. RISK, BETA and QR specify operating risk, market risk and quick ratio, respectively. MTB and ROA denote valuation measured by market-to-book ratio and return on assets, respectively. WAGE and SIZE symbolize salary and wages-to-sales ratio and firm size, respectively. CORP and INS represents proportion of equity shares held by the ownership group, respectively. OWNTYPE (dummy) represents family (FAMILY) and family controlled (FAMCON) firms. SECTOR (dummy matrix) symbolizes specific sectors. Table I defines each variable. *,**,***Significant at the 10, 5 and 1 percent levels, respectively

	Family firms		Family controlled firms	
	Coefficient	*t*-ratio	Coefficient	*t*-ratio
Intercept	94.8199***	13.7650	104.9800***	11.1733
DIV	−1.3779	−0.7729	−9.6674*	−1.8542
DE	1.9161***	4.6052	4.5409***	3.9720
RISK	0.1952	1.3256	0.2482	1.4298
BETA	0.7953	0.4523	−0.6514	−0.2933
QR	0.3668*	1.6784	0.5210**	2.1796
MTB	0.5966***	2.8692	1.0791***	3.7494
ROA	20.1265***	3.5727	23.8245***	2.7119
WAGE	−1.6791	−0.3754	−1.8639	−0.3755
SIZE	−8.6803***	−8.6542	−9.9478***	−7.2192
FAM	−0.0839*	−1.8501	−0.1385**	−2.4469
R^2 (%)	25.34		24.24	
F-test	$F(10, 2258) = 13.1207$		$F(10, 1448) = 10.6597$	
p-value	< 0.0001		< 0.0001	
Observations	2,520		1,620	

Notes: This table presents the panel regression estimates for Risk Model (R3), where the coefficients are estimated by fitting the Equation (9) for family and family controlled firms.
R3:

$$\text{FirmRisk}_{i,t} = \propto_0 + \beta_1 \text{DIV}_{i,t} + \beta_2 \text{DE}_{i,t} + \beta_3 \text{RISK}_{i,t} + \beta_4 \text{BETA}_{i,t} + \beta_5 \text{QR}_{i,t} + \beta_6 \text{MTB} + \beta_7 \text{ROA}_{i,t} + \beta_8 \text{WAGE}_{i,t} + \beta_9 \text{SIZE}_{i,t} + \beta_{10} \text{FAM}_{i,t} + \varepsilon_{i,t},$$

where FirmRisk indicates non-systematic risks of a firm. DIV and DE represent dividend payout and debt-equity ratio, respectively. RISK, BETA and QR specify operating risk, market risk and quick ratio, respectively. MTB and ROA denote valuation measured by market-to-book ratio and return on assets, respectively. WAGE and SIZE symbolize salary and wages-to-sales ratio and firm size, respectively. FAM represents family ownership concentration. Table I defines each variable. *,**,***Significance at the 10, 5 and 1 percent levels, respectively

Table X.
Family ownership dividend and FirmRisk

5.3 Robustness test[1]

The study employs three measures for both profitability (ROA, ROE and EPS) and firm value (Tobin's *Q*, MTB and log SP). Different measures of profitability and firm valuation offer consistent estimates for ownership structure and dividend payout. Furthermore, the study examines the influence of ownership structure and dividend payout on profitability, value and firm-specific risk using panel data of FY2010–2012 period at the aggregate level and time-period offers consistent estimates for the probing variables.

6. Conclusions

The study employs panel estimation approach to examine the impact of dividend payouts on firm performance in a setting dominated by family controlled firms. The study uses 4,210 firm-years of data between 2007 and 2017. It attempts to explain the impact of ownership structure and dividend payout on corporate performance including profitability, valuation and non-systematic risk with the help of agency, signaling and bankruptcy theories.

The evidence supports the proposition that in an emerging market like India, information asymmetries play a leading role in explaining the behavior of dividend payouts and their impacts on corporate performance. Higher dividends may affect cash position of a firm but help in reducing information asymmetry. The analysis confirms that dividend signals better health (reduced risk) and enhances the value of the firm. These pieces of evidence support signaling theory and are consistent with the findings of Rozeff (1982) and Jensen (1986).

Furthermore, evidence pieces show that reduced risk positively contributes to leverage, which supports the bankruptcy theory. Sectoral evidence pieces show that profitability, valuation and risk differ across sectors.

The pieces of evidence confirm family ownership concentration affecting policy decisions, specially the ownership control, directly or by enhanced control mechanism. The negative relation between family and family control dummies with firms' profitability indicates the lack of competence among managers. The negative relation between dividends and profitability suggests higher dividends may bring in cash crunch, leading to decline in firms' profitability.

The study provides several important contributions to the existing literature. As researchers continue to explore the severity of agency problems, our analysis shows influential role of ownership structure and dividends on firm's performance, particularly among firms operating majorly out of emerging markets. As family firms are dominant in the emerging markets and have high risk level due to ownership concentration, a study on the impact of dividend payouts on profitability, valuation and idiosyncratic risk is one of the important contributions of this paper. The originality of the paper lies in factoring idiosyncratic risk while explaining profitability and related valuation among emerging market firms.

Note

1. The panel regression estimates for FY2010–2012 are not included because of space constraints (may be shared on request).

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Appendix

Sector	Notation	All firms	WIDE	FAMILY	FAMCON
Chemicals	CHEM	82	31	51	34
Construction	CONS	54	21	33	20
Consumer Durables	DUR	47	21	26	17
Machinery and transport equipment	MACH	81	35	46	29
Services	SERV	77	28	49	30
Others	OTH	80	33	47	32
Total		421	169	252	162

Note: This table presents sectoral composition of sample firms and their ownership type based on family ownership concentration

Table AI.
Composition: sectoral and ownership type

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