



Contents lists available at ScienceDirect

Economic Analysis and Policy

journal homepage: www.elsevier.com/locate/eap

Modelling economic policy issues

Local corruption and dividend policy: Evidence from Vietnam

Quoc Trung Tran*

Foreign Trade University, Ho Chi Minh City Campus, Ho Chi Minh City, Viet Nam



ARTICLE INFO

Article history:

Received 14 September 2020

Received in revised form 17 February 2021

Accepted 18 February 2021

Available online 23 February 2021

JEL classification:

G32

G34

Keywords:

Corruption

Dividend policy

Vietnam

Emerging markets

ABSTRACT

Some prior studies show that firms in high corruption countries tend to save more cash in order to make unofficial payments. This implies that managers in a corrupt environment are more flexible to use firms' cash. Therefore, managers may take advantage of this opportunity to expropriate shareholders by restricting dividend policy. However, other studies find that shareholders may recognize this expropriation behavior and thus shareholders in countries of high corruption pressure managers to pay more dividends. In this paper, we investigate how local corruption influences dividend policy in Vietnam – an emerging market with weak corporate governance. Using a sample of 5,160 observations from firms listed in Vietnamese stock market from 2007 to 2017, we find that local corruption positively affects both the likelihood to pay dividends and payout ratio. Moreover, our research findings show that state ownership mitigates this effect and this effect is stronger in financial unconstrained firms.

© 2021 Economic Society of Australia, Queensland. Published by Elsevier B.V. All rights reserved.

1. Introduction

Corruption is one of the biggest problems in both developed and developing countries since it decreases public trust in government, results in social injustice and wastes public resources. Prior empirical studies consistently show that corruption has a negative effect on macroeconomic variables including national investment and economic growth (Mauro, 1995; Brunetti et al., 1998; Doh and Teegen, 2003; Zakharov, 2018; Lambsdorff and Cornelius, 2000). However, the relationship between corruption on corporate decisions is still a debatable topic. Wang and You (2012), Cai et al. (2004) document that corruption increases firm growth. However, Nguyen and Van Dijk (2012), Asiedu and Freeman (2009) find that corruption reduces corporate investment. Sharma and Mitra (2015) show that the relationship between corruption and firm performance is mixed.

In this paper, we investigate how local corruption affects corporate dividend policy in Vietnam due to the following reasons. First, recent studies provide controversial implications for the effect of local corruption on corporate payout policy. Thakur and Kannadhasan (2019), Tran (2019b) find that firms in high corruption countries tend to save more cash in order to pay bribes across countries. Their finding indicates that managers in high corruption countries are more flexible in corporate liquidity policy since they have to make unofficial payments. Therefore, they may take this chance to restrict dividend payment and use their firms' cash to server their own interest. However, Tran (2019c) documents that there is a positive relationship between corruption and dividend policy since shareholders recognize that managers take advantage of corrupt environment to expropriate shareholders. Xu and Li (2018) find that firms located in more corrupt regions have low levels of cash holdings in China. These debatable implications are a motivation for this paper. Second,

* Correspondence to: Foreign Trade University, Ho Chi Minh City Campus, 15 D5 Street, Ward 25, Binh Thanh District, Ho Chi Minh City, Viet Nam.

E-mail addresses: tranquocTrung.cs2@ftu.edu.vn, quocTrungftu@gmail.com.

Vietnam is a promising laboratory to examine the effect of corruption on corporate behavior. Vietnam is in a transition from a centralized economy to market economy and thus suffers from corruption severely. Corruption is now considered as “public enemy number one”.¹ Moreover, a wide range in corruption across 64 provinces in the country is also a good condition for this research. Finally, as a typical emerging market, Vietnam experiences poor corporate governance because of insufficient legislations on corporate governance (Hai and Nuno, 2008), low enforceability of corporate governance regulations (Nguyen, 2008) and lack of market transparency (Minh and Walker, 2008). The weak corporate governance environment makes shareholders have high incentives to control managers’ behavior. Therefore, they are more likely to pressure managers to pay more dividends when they face high corruption.

We use logit and tobit models to estimate the probability of dividend payment and dividend magnitude respectively. Local corruption is measured by informal payment score from Vietnam PCI database. This measure has been used commonly in many prior studies (Nguyen and Van Dijk, 2012; Bai et al., 2019; Tran, 2019a; Nam et al., 2020). With a sample of 5160 observations from 585 firms listed in Vietnamese stock market, we find that local corruption is positively related to corporate dividend policy. Besides, corruption also reduces the likelihood to omit dividends. Moreover, we continue to use an interaction between state ownership and local corruption to examine whether state ownership affects this relationship. We find that state ownership makes this relationship become weaker. In addition, we extend our research by analyzing this effect by financial constraint. After comparing regression results between low and high financial constraint groups, we find that the positive effect of local corruption on corporate payout policy is stronger (weaker) in financially unconstrained (constrained) firms.

The contribution of this research to the literature is presented as follows. First, while prior studies investigate the effect of corruption on corporate liquidity decisions with firm-level data across countries (Tran, 2019c,b), this research examines how local corruption affects corporate dividend policy in an emerging market. Second, it shows that agency cost reduction and/or sheltering assets determines corporate dividend policy. This is contrary to Thakur and Kannadhasan (2019), Tran (2019b) but consistent with Tran (2019c) and Xu and Li (2018). Third, our research shows that emerging markets are promising environment to study the relationship between corruption and corporate decisions due to their special characteristics.

The rest of this paper is structured as follows: Section 2 analyzes prior research to develop research hypotheses. Section 3 proposes both logit and tobit models to examine how local corruption influences corporate payout policy. Section 4 includes data collection and description. Section 5 reports estimation results, robustness tests and further analysis. Section 6 is conclusion.

2. Literature review and hypothesis development

Dividend puzzle is one of the most debatable topics in corporate finance (Black, 1976). Assuming that capital markets are perfect and complete, Miller and Modigliani (1961) posit that dividend policy is irrelevant. However, in the real world, corporate dividend policy is determined by several market frictions. These frictions are not only agency and asymmetric information problems within a firm but also factors of external business environment. La Porta et al. (2000b) find that firms in countries of strong shareholder protection pay more dividends. Brockman and Unlu (2009) show that firms are more likely to pay dividends when creditor rights are weak. Shao et al. (2010), Bae et al. (2012) document the role of national culture in corporate dividend policy. Farooq and Ahmed (2019) show that political uncertainty is also a determinant of payout decisions.

As an important factor of national institutional environment, corruption may affect corporate financial decisions. Méon and Sekkat (2005) show that corruption negatively influences corporate investment and growth. Nguyen and Van Dijk (2012) also find that corruption hampers firm growth in Vietnam. Sharma and Mitra (2015) show that a corrupt environment positively affects firms’ export performance and innovation. In addition, Goel and Hasan (2011) document that corruption increases bad loans in banking. Recently, several studies provide mixed implications in the effect of corruption on corporate dividend policy. Thakur and Kannadhasan (2019), Tran (2019b) argue that firms tend to hold more cash in order to pay bribes such as “grease money” for better public service and “protection money” for less state predation (Wei and Kaufmann, 1999). Using a sample of 4236 firms from 16 emerging countries, Thakur and Kannadhasan (2019) find that firms in high corruption countries have high cash levels. Tran (2019b) shows that corruption positively influences cash holdings and the cash flow sensitivity of cash across 46 countries. These findings imply that when firms are located in highly corrupt provinces, they are less likely to pay dividends to save cash for bribery payment (Thakur and Kannadhasan, 2019). Moreover, corruption may increase agency problem between shareholders and managers (La Porta et al., 2000a). Liu (2016) shows that firms in more corrupt regions tend to take opportunistic actions including earnings management, financial fraud and insider trading. Therefore, corporate managers in highly corrupt provinces are more flexible in liquidity policy to pay bribes and they may have high incentives to expropriate shareholders by increasing cash holdings and decreasing dividends.

However, if shareholders recognizing severe agency problem with managers’ flexibility in bribery payment in highly corrupt provinces, they have high incentives to pressure managers to disgorge cash. Tran (2019c) find a positive

¹ See World Bank Group President Jim Yong Kim’s address at World Bank on December 19, 2013 from <https://www.worldbank.org/en/news/press-release/2013/12/19/corruption-developing-countries-world-bank-group-president-kim>.

relationship between corruption and dividend policy across countries. Therefore, firms in regions of high corruption tend to save less cash. As an emerging market, Vietnam has a weak corporate governance mechanism due to three reasons: (1) conflicts and inconsistencies in legislations; (2) lack of information disclosure and transparency and (3) lack of effective sanctions for corporate governance violations (McGee, 2009; Hai and Nunoi, 2008; Nguyen, 2008; Minh and Walker, 2008; Anh and Anh). Moreover, Vietnamese stock market experiences many fluctuations from 2005 to 2017. Therefore, shareholders are more likely to force managers to pay dividends so that managers cannot take advantage of the corrupt environment to increase shareholder expropriation. In addition, firms may also restrict their dividend policy to shelter their high liquidity assets to avoid the extraction of corrupt officials (Xu and Li, 2018). We hypothesize that local corruption positively affects corporate dividend policy.

H1: Local corruption is positively related to corporate dividend policy.

3. Research models

In line with prior studies (Brockman and Unlu, 2009; Shao et al., 2010), we employ logit and tobit models to estimate the probability to pay dividends and dividend payout respectively. From econometric perspective, dividend payout ratio is left-censored since its value is zero or positive. According to Wooldridge (2010), using OLS regression for the full sample or the reduced sample with positive value only leads to biased results. Consequently, Wooldridge (2010) suggest using tobit regression instead of OLS to avoid this selection bias. We cluster standard errors in all regression models by province to mitigate within-province correlated residuals.²

$$\text{PAY}_{i,t} = \alpha + \beta_1 \text{COR}_t + \beta_2 \text{STA}_{i,t} + \beta_3 \text{CAS}_{i,t} + \beta_4 \text{ROA}_{i,t} + \beta_5 \text{LEV}_{i,t} + \beta_6 \text{TAN}_{i,t} + \beta_7 \text{SIZ}_{i,t} + \beta_8 \text{TBQ}_{i,t} + \beta_9 \text{RET}_{i,t} + \beta_9 \text{CRI}_{i,t} + \varphi \text{Industry dummies} + \eta \text{Year dummies} + \varepsilon \quad (1)$$

$$\text{DTA}_{i,t} = \alpha + \beta_1 \text{COR}_t + \beta_2 \text{STA}_{i,t} + \beta_3 \text{CAS}_{i,t} + \beta_4 \text{ROA}_{i,t} + \beta_5 \text{LEV}_{i,t} + \beta_6 \text{TAN}_{i,t} + \beta_7 \text{SIZ}_{i,t} + \beta_8 \text{TBQ}_{i,t} + \beta_9 \text{RET}_{i,t} + \beta_9 \text{CRI}_{i,t} + \varphi \text{Industry dummies} + \eta \text{Year dummies} + \varepsilon \quad (2)$$

where $X_{i,t}$ is variable X of firm i in year t . PAY is dividend payer dummy. DTA is dividends to assets ratio. COR is local corruption. Following Nguyen and Van Dijk (2012), Bai et al. (2019), Tran (2019a), Nam et al. (2020), we measure local corruption by informal payment score from Vietnam PCI database (<https://pcivietnam.vn>). Informal payment score is a sub-index of the Provincial Competitiveness Index (PCI) introduced in 2005 to measure provincial authorities' ability in creating a favorable business environment to develop the private sector. Informal payment score is calculated from business survey data collected annually in 64 provincial territories. Firms are chosen with random sampling to mirror provincial populations. Stratification is employed with firm age, legal forms of business and economic sector. There are 9 components used to calculate informal payment score.

- (1) Enterprises in our industry have to make informal payment (% of strong agreement and agreement)
- (2) We obtain expected results after making informal payment (% of strong agreement and agreement)
- (3) Rent-seeking is popular in administrative procedures for businesses (% of strong agreement and agreement)
- (4) Informal payment is acceptable (% of strong agreement and agreement)
- (5) Percentage of firms making informal payment to public officials inspecting and monitoring them (% of firms)
- (6) Percentage of firms using over 10% of revenue to make informal payment (% of firms)
- (7) Percentage of firms making informal payment in land-related administrative procedures (% of firms)
- (8) Making informal payment is mandatory to win public tender (% of strong agreement and agreement)
- (9) Percentage of firms being afraid of "justice for sale" (% of firms)

Each component score is standardized with a 10-point scale. The provincial territory with the highest percentage obtains 10 points while the lowest is 1. Informal payment score is the average of 9 standardized component scores. Informal payment score varies from 0 to 10 and its higher values imply higher corruption.

In addition, STA is state ownership. Government may need more cash to finance other financially constrained SOEs or public projects (Chen et al., 2009). Therefore, firms with high state ownership tend to pay more dividends. Besides, firms with state ownership have lower costs of external financing due to favorable treatment from the government and thus they are more likely to pay dividends. CAS is cash holdings. DeAngelo et al. (2006) posit that the effect of cash holdings on corporate payout policy is ambiguous. If cash is abundant, firms tend to pay more dividends. However, high levels of corporate cash holdings may be driven the need for future investment and firms have low incentives to pay dividends. ROA is return on assets. Firm with high profitability are more likely to distribute cash dividends (Fama and French, 2001). LEV is financial leverage. TAN is asset tangibility. SIZ is firm size. TBQ is Tobin's Q. According to pecking order theory suggested by Myers and Majluf (1984), firms prefer internal funds to external funds when they finance their investment opportunities since the latter is more costly. Therefore, firms with more investment opportunities proxied by Tobin's Q tend to pay less dividends in order to reduce external financing. Moreover, firms with low leverage, high asset tangibility and large size face lower costs of external financing; consequently, they are more likely to pay dividends. RET is retained earnings – a proxy of firm maturity. DeAngelo and DeAngelo (2006), Grullon et al. (2002) argue that when firms are mature, their investment opportunities are less available and thus they pay more dividends. CRI is crisis dummy. During the global financial crisis, firms face more external financial constraint and thus they are less likely to pay dividends. Variable definitions and expected signs are presented in Table 1.

² We also cluster standard errors in all regression models by firm and find that our findings remain unchanged.

Table 1
Variable definitions.

Variables	Names	Definitions	Expected signs
PAY	Dividend payment	1 if firms pay dividends and 0 otherwise	N/A
DTA	Dividends to assets	Cash dividends/Total assets	N/A
DTS	Dividends to sales	Cash dividends/Total sales	N/A
DTE	Dividends to earnings	Cash dividends/Net income	N/A
INT	Dividend initiation	1 if firms fail to pay dividends in year t-1 but pay dividends in year t	N/A
OMT	Dividend omission	1 if firms pay dividends in year t-1 but fail to pay dividends in year t	N/A
COR	Local corruption	Informal payment score from Vietnam PCI database	+/-
STA	State ownership	Percentage of shares held by government agencies	+
CAS	Cash holdings	(Cash + Cash equivalents + Short-term investment)/ Total assets	+/-
ROA	Return on assets	Earnings before interest and taxes/Total assets	+
LEV	Financial leverage	Total liabilities/Total assets	-
TAN	Asset tangibility	Fixed assets/Total assets	+
SIZ	Firm size	Natural logarithm of Total assets	+
TBQ	Tobin's Q	(Total equity market value + Total liabilities)/Total assets	-
RET	Retained earnings	Retained earnings/Total assets	+
CRI	Crisis dummy	1 if observations belong to the crisis period 2008–2009 and 0 otherwise	-

Table 2
Data description.

Panel A. Descriptive statistics					
Variables	N	Mean	SD	Min	Max
PAY	5160	0.754	0.431	0.000	1.000
DTA	5160	0.030	0.038	0.000	0.202
DTS	5160	0.030	0.048	0.000	0.290
DTE	4761 ^a	0.485	0.820	0.000	6.205
INT	1092	0.374	0.484	0.000	1.000
OMT	3460	0.110	0.312	0.000	1.000
COR	5160	5.716	1.038	3.530	8.940
STA	5160	0.204	0.238	0.000	0.782
CAS	5160	0.138	0.145	0.001	0.682
ROA	5160	0.077	0.083	-0.120	0.392
LEV	5160	0.497	0.226	0.043	0.913
TAN	5160	0.224	0.189	0.000	0.812
SIZ	5160	26.786	1.438	23.700	30.759
TBQ	5160	0.999	0.542	0.120	3.607
RET	5160	0.063	0.086	-0.254	0.353
CRI	5160	0.147	0.354	0.000	1.000
Panel B. Annual number of firms					
Year	N	Year	N	Year	N
2007	204	2011	488	2015	558
2008	334	2012	502	2016	567
2009	425	2013	520	2017	554
2010	461	2014	547		
Panel C. Industry Distribution					
Industry	N	Percent	Industry	N	Percent
Technology and Telecommunications	195	3.78	Health Care	209	4.05
Industrials	2465	47.77	Consumer Goods	898	17.4
Oil & Gas	56	1.09	Basic Materials	812	15.74
Consumer Services	525	10.17			

PAY is dividend payer dummy. DTA is dividends to assets ratio. DTS is dividends to sales ratio. DTE is dividends to earnings ratio. INT is dividend initiation. OMT is dividend omission. COR is local corruption. STA is state ownership. CAS is cash holdings. ROA is return on assets. LEV is financial leverage. TAN is asset tangibility. SIZ is firm size. TBQ is Tobin's Q. RET is retained earnings. CRI is crisis dummy.

^aFirms with positive net income only.

4. Research data

We collect our research data from Stoxplus database. It covers all firms listed in stock exchanges located in Ho Chi Minh City and Hanoi between 2007 and 2017. After eliminating observations with missing information and firms classified into financial and utilities industries, we obtain a final sample of 5,160 firm-years. We winsorize all research variables at 3% to control the effect of outliers.³

³ Our research findings remain stable with 5% and 10% of winsorization.

Table 3
The effect of local corruption on dividend policy.

Variables	Dependent variable is PAY	Dependent variable is DTA	Dependent variable is DSA	Dependent variable is DTE
Intercept	−7.619*** (−4.83)	0.013 (0.51)	−0.149*** (−4.90)	0.263 (0.64)
COR	0.148** (2.04)	0.003*** (3.04)	0.003** (2.09)	0.046* (1.73)
STA	2.748*** (7.66)	0.025*** (6.38)	0.020*** (2.94)	0.610*** (6.45)
CAS	2.096*** (5.83)	0.025*** (3.39)	0.059*** (4.27)	0.565*** (4.42)
ROA	5.941*** (4.27)	0.268*** (15.56)	0.156*** (7.39)	−2.960*** (−7.67)
LEV	1.489*** (3.43)	−0.010 (−1.39)	−0.037*** (−3.03)	0.106 (0.59)
TAN	0.527 (0.99)	0.009 (1.29)	0.027** (2.06)	0.312 (1.52)
SIZ	0.186*** (3.69)	−0.001 (−1.52)	0.005*** (3.61)	−0.022* (−1.74)
TBQ	0.102 (0.99)	0.005*** (2.63)	0.008*** (2.69)	0.109*** (3.95)
RET	6.638*** (6.69)	0.031 (1.36)	0.081*** (2.73)	1.587*** (2.81)
CRI	0.478** (2.26)	−0.008** (−2.35)	0.003 (0.67)	−0.043 (−0.90)
Wald-chi ²	1097.96***			
F-statistics		228.28***	69.88***	51.26***
Industry dummies	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Clustered by province	Yes	Yes	Yes	Yes
Left-censored		1269	1269	1057
No. of observations	5160	5160	5160	4761

PAY is dividend payer dummy. DTA is dividends to assets ratio. DTS is dividends to sales ratio. DTE is dividends to earnings ratio. COR is local corruption. STA is state ownership. CAS is cash holdings. ROA is return on assets. LEV is financial leverage. TAN is asset tangibility. SIZ is firm size. TBQ is Tobin's Q. RET is retained earnings. CRI is crisis dummy.

*Significant at 10%.

**Significant at 5%.

***Significant at 1%.

Table 2 presents data description. Panel A show a summary of research variables. There are 75,4% dividend payers over the research period. Dividends to assets ratio ranges from 0 to 0.202. Its mean and standard deviation are 0.03 and 0.038 respectively. On average, dividends are equivalent to about 3% of sales revenue and firms use 48.5% of their net income to distribute dividends. Besides, Panel B reports the annual number of observations by year. Over the period 2007–2009 despite the global financial crisis, the number of listed firms increases sharply since many firms complete their listing procedures prepared in the booming period 2006–2007. After 2009, this figure rises slightly. Furthermore, Panel C reports that Industrials constitutes the largest proportion of firm-years in the sample with 47.77%, followed by Consumer goods (17.4%) and Basic materials (15.74%). Oil and Gas is the smallest industry with only 1.09%.

5. Research results

5.1. The effect of local corruption on dividend policy

Table 3 shows estimation results of logit and tobit models to investigate how local corruption affects the likelihood of dividend payment and payout ratio respectively. Besides, we also present regression results for alternative measures of dividend payout ratio such as dividends to sales and dividends to earnings. We find that local corruption is positively related to both the probability to pay and dividend magnitude. These findings are consistent with the agency problem mitigation mechanism (Tran, 2019c) and the asset sheltering mechanism (Xu and Li, 2018). Firms in highly corrupt provinces tend to save more cash in order to make unofficial payments and managers are more flexible to use firms' cash. Therefore, managers may take advantage of this opportunity to expropriate shareholders by restricting dividend policy. However, shareholders recognizing this expropriation behavior pressure managers to pay more dividends in order to reduce agency problem since Vietnam has a weak corporate governance mechanism. Moreover, firms in high corruption provinces pay more dividends to avoid the risk of their profits being extracted.

Moreover, we find that cash holdings are positively associated with dividend policy. When firms have abundant cash, they are more likely to pay dividends in order to reduce agency problem between corporate managers and shareholders

Table 4
Robustness checks with fractional logit regression.

Variables	Dependent variable is DTA	Dependent variable is DSA	Dependent variable is DTE
Intercept	−2.183*** (−6.35)	−6.572*** (−13.51)	−1.151*** (−2.60)
COR	0.048** (2.41)	0.029** (2.42)	0.081*** (2.97)
STA	0.512*** (7.84)	0.149* (1.68)	1.080*** (12.93)
CAS	0.256** (2.13)	1.058*** (7.06)	0.709*** (4.60)
ROA	5.272*** (18.70)	2.578*** (6.89)	1.149*** (3.00)
LEV	−0.846*** (−9.68)	−1.733*** (−13.71)	0.611*** (5.24)
TAN	0.260*** (3.09)	0.772*** (6.21)	0.140 (1.26)
SIZ	−0.074*** (−6.08)	0.100*** (5.83)	−0.044*** (−2.86)
TBQ	0.049* (1.69)	0.132*** (3.53)	−0.034 (−0.85)
RET	0.615** (2.33)	0.993*** (3.13)	2.194*** (6.67)
CRI	−0.283*** (−4.03)	0.015 (0.16)	−0.193** (−2.13)
Wald-chi ²	3,159.08***	2,002.16***	499.03***
Industry dummies	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
No. of observations	5160	5160	4547

DTA is dividends to assets ratio. DTS is dividends to sales ratio. DTE is dividends to earnings ratio. COR is local corruption. STA is state ownership. CAS is cash holdings. ROA is return on assets. LEV is financial leverage. TAN is asset tangibility. SIZ is firm size. TBQ is Tobin's Q. RET is retained earnings. CRI is crisis dummy.

*Significant at 10%.

**Significant at 5%.

***Significant at 1%.

Table 5
Marginal analysis.

Variables	Dependent variable is PAY	Dependent variable is DTA
COR	0.022** (2.10)	0.003*** (3.04)
STA	0.401*** (7.97)	0.025*** (6.38)
CAS	0.306*** (5.52)	0.025*** (3.39)
ROA	0.867*** (4.73)	0.268*** (15.56)
LEV	0.217*** (3.42)	−0.010 (−1.39)
TAN	0.077 (0.98)	0.009 (1.29)
SIZ	0.027*** (3.93)	−0.001 (−1.52)
TBQ	0.015 (0.97)	0.005*** (2.63)
RET	0.968*** (6.31)	0.031 (1.36)
CRI	0.070** (2.31)	−0.008** (−2.35)
No. of observations	5160	5160

(Jensen and Meckling, 1976). Besides, there is a positive relationship between state ownership and dividend policy. This can be explained that firms with high state ownership may have lower costs of credit due to government support and they tend to pay more dividends (Myers and Majluf, 1984). Consistent with Fama and French (2001), we document that firm profitability is positively related to both the probability of dividend payment and payout ratio (i.e. dividends to assets and

Table 6
The effects of local corruption on dividend initiation and omission.

Variables	Dependent variable is INT	Dependent variable is OMT
Intercept	−4.301* (−1.77)	4.689*** (3.22)
COR	0.019 (0.19)	−0.157** (−2.27)
STA	0.567*** (4.40)	−1.011*** (−6.22)
CAS	1.472** (2.49)	−2.597*** (−5.66)
ROA	4.310*** (2.74)	−10.783*** (−9.18)
LEV	1.954*** (4.95)	−1.264*** (−2.76)
TAN	0.717 (1.28)	−0.274 (−0.63)
SIZ	0.062 (0.82)	−0.137** (−2.50)
TBQ	−0.030 (−0.19)	0.089 (0.35)
RET	6.672*** (5.36)	−0.254 (−0.28)
CRI	1.159*** (2.89)	0.293 (1.22)
Wald-chi ²	901.10**	529.35***
Industry dummies	Yes	Yes
Year dummies	Yes	Yes
Clustered by province	Yes	Yes
No. of observations	1092	3460

INT is dividend initiation. OMT is dividend omission. COR is local corruption. STA is state ownership. CAS is cash holdings. ROA is return on assets. LEV is financial leverage. TAN is asset tangibility. SIZ is firm size. TBQ is Tobin's Q. RET is retained earnings. CRI is crisis dummy.

*Significant at 10%.

**Significant at 5%.

***Significant at 1%.

dividends to sales). The negative association between profitability and dividends to earnings ratio is just a mathematic problem⁴ and thus it fails to affect the robustness of our results.

According to Ramalho et al. (2011), Kieschnick and McCullough (2003), fractional logit regression may be better than tobit regression to estimate a dependent variable varying from 0 to 1. Consequently, we present results of fractional logit regression as robustness checks. Table 4 shows that local corruption also positively affects all measures of dividend payout ratio.

Moreover, we present marginal analysis for both logit and tobit regression to show the magnitude of the effects of local corruption on dividend decisions. Table 5 reports that if local corruption index increases by 1 point, the probability of dividend payment increases by 0.022 and dividend to total assets ratio increases by 0.003. These findings imply that the marginal effect of local corruption index on the probability of dividend payment is rather small but the marginal effect of local corruption index on dividend magnitude is considerable. The increase of 0.003 in dividend to total assets ratio is equivalent to 10% of its average level (0.030) as shown in Panel A of Table 2. Therefore, we conclude that local corruption plays an important role in firms' dividend magnitude. These understandings help managers, investors and policy makers in their decision making process.

5.2. Additional analysis

5.2.1. The effects of local corruption on dividend initiation and omission

Following Brockman and Unlu (2009), Shao et al. (2013), we extend our research by examining how local corruption affects dividend initiation and omission. We replace dividend payment (PAY) in Eq. (1) by dividend initiation (INT) and dividend omission (OMT). Then, we estimate the two new equations with the samples of firm-years for which dividend initiation and omission are possible (Shao et al., 2013). Logit regression results in Table 6 show that local corruption decreases the likelihood of dividend omission. This finding is consistent with the positive effect of local corruption on dividend policy. However, there is no significant evidence for the relationship between local corruption and dividend initiation.

⁴ Net income is present in the formula to calculate both firm profitability and dividends to earnings ratio but it affects them in opposite directions.

Table 7
The role of state ownership.

Variables	Dependent variable is PAY	Dependent variable is DTA	Dependent variable is PAY	Dependent variable is DTA
Intercept	−8.120*** (−4.84)	0.001 (0.05)	−6.952*** (−4.12)	0.014 (0.54)
COR*STA	−0.577** (−1.98)	−0.010*** (−3.01)		
COR*SOE			−0.177* (−1.75)	−0.004*** (−3.29)
COR	0.231** (2.11)	0.005*** (3.45)	0.177** (2.05)	0.004*** (3.30)
SOE			2.139*** (3.05)	0.033*** (4.61)
STA	5.977*** (3.53)	0.082*** (4.29)		
CAS	2.029*** (5.52)	0.024*** (3.34)	2.261*** (6.19)	0.026*** (3.33)
ROA	5.951*** (4.24)	0.268*** (15.52)	5.929*** (4.36)	0.269*** (14.51)
LEV	1.472*** (3.49)	−0.011 (−1.52)	1.585*** (3.38)	−0.009 (−1.17)
TAN	0.188*** (3.70)	−0.001 (−1.53)	0.155*** (3.07)	−0.002* (−1.73)
SIZ	0.100 (0.95)	0.005*** (2.62)	0.253** (2.17)	0.007*** (3.60)
TBQ	0.509 (0.96)	0.009 (1.22)	0.529 (0.96)	0.010 (1.33)
RET	6.753*** (6.46)	0.033 (1.41)	6.415*** (6.11)	0.028 (1.15)
CRI	0.477** (2.24)	−0.008** (−2.34)	0.416** (2.12)	−0.009** (−2.53)
Wald-chi ²	1280.55***			
F-statistics		272.78***	67.88***	54.09***
Industry dummies	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
Clustered by province	Yes	Yes	Yes	Yes
Left-censored		1269		1269
No. of observations	5160	5160	5160	5160

PAY is dividend payer dummy. DTA is dividends to assets ratio. DTS is dividends to sales ratio. DTE is dividends to earnings ratio. COR is local corruption. STA is state ownership. SOE is a dummy assigned 1 for state-owned enterprises and 0 otherwise. CAS is cash holdings. ROA is return on assets. LEV is financial leverage. TAN is asset tangibility. SIZ is firm size. TBQ is Tobin's Q. RET is retained earnings. CRI is crisis dummy.

*Significant at 10%.

**Significant at 5%.

***Significant at 1%.

5.2.2. The role of state ownership

Xu and Li (2018) find that state-owned enterprises (SOEs) are less likely to shelter their cash than non-SOEs when they face local corruption. Therefore, we investigate how state ownership affects the relationship between local corruption and dividend policy. We add an interactive term between local corruption and state ownership to Eq. (1) and Eq. (2). Table 7 shows that state ownership mitigates the effect of local corruption on dividend policy. This finding implies that firms with high state ownership are less affected by local corruption. Moreover, we also use a dummy assigned 1 for state-owned enterprises (SOEs) and 0 otherwise to replace state ownership. SOEs are defined as firms with state ownership higher than 50% - the proportion of shares that Vietnamese government holds when it intends to strictly control a privatized firm in recent years. In addition, this proportion is also consistent with the Law on Enterprise issued in June 2020. We find that our key regression results are stable.

5.2.3. The role of financial constraint

According to Almeida et al. (2004), corporate liquidity policy relies on financial constraint. Consequently, we analyze the relationship between local corruption and dividend policy by firm-specific financial constraint. We divide the full sample into two groups of financially constrained and unconstrained firms. Observations are deemed as financially constrained (unconstrained) in year t if (1) their Kaplan and Zingales (1997) index/financial leverage/Whited and Wu (2006) index is lower (higher) than the low (high) 30th percentile. The we run both logit and tobit regression for each sub-sample. Table 8 shows that the effect of local corruption on corporate dividend is higher in financially unconstrained firms. Firms with high financial constraint are more willing to pay dividends in order to shelter their cash since they are able to raise external funds for their investment.

Table 8
The role of financial leverage.

Variables	Financial constraint is measured by KZ				Financial constraint is measured by LEV				Financial constraint is measured by WW			
	PAY		DTA		PAY		DTA		PAY		DTA	
	Low KZ	High KZ	Low KZ	High KZ	Low LEV	High LEV	Low LEV	High LEV	Low WW	High WW	Low WW	High WW
Intercept	-5.358*	-12.780***	0.107***	-0.021**	-7.535***	-5.039**	-0.034	0.059***	-5.790***	5.513	0.011	0.141**
	(-1.89)	(-9.21)	(3.30)	(-2.43)	(-2.62)	(-2.39)	(-0.71)	(3.88)	(-2.92)	(1.49)	(0.27)	(2.07)
COR	0.793***	0.009	0.005**	0.000	0.272**	0.109	0.005***	0.001	0.235*	0.146*	0.004*	0.003
	(4.78)	(0.09)	(3.54)	(-0.54)	(2.09)	(0.93)	(2.62)	(1.41)	(1.82)	(1.65)	(1.79)	(1.42)
STA	6.499***	2.261***	0.012	0.015***	2.738***	2.362***	0.041***	0.011***	4.056***	2.385***	0.035***	0.034***
	(13.52)	(5.66)	(1.54)	(5.30)	(6.92)	(5.37)	(5.81)	(3.83)	(7.56)	(5.21)	(5.95)	(4.13)
CAS	-0.910*	1.960**	-0.009	0.024**	3.370***	0.171	0.052***	0.000	1.977**	0.953	0.034**	0.011
	(-1.71)	(2.50)	(-1.01)	(2.55)	(4.83)	(0.29)	(2.97)	(0.04)	(2.18)	(1.42)	(2.44)	(0.82)
ROA	3.045	-0.347	0.301***	0.011	6.532***	-0.731	0.305***	0.123***	3.232	5.022***	0.240***	0.296***
	(1.28)	(-0.17)	(8.72)	(0.84)	(4.46)	(-0.28)	(14.35)	(2.70)	(1.05)	(3.58)	(6.13)	(11.30)
LEV	2.358***	4.333***	-0.019	0.026***	1.581*	0.923	0.020	-0.040***	1.865**	0.892	-0.010	-0.005
	(5.67)	(9.67)	(-1.46)	(10.36)	(1.90)	(0.81)	(1.09)	(-4.31)	(2.22)	(1.22)	(-0.82)	(-0.37)
TAN	9.615***	1.454**	0.086**	0.011***	1.009	0.467	0.025	0.002	0.339	-0.152	0.006	0.005
	(5.57)	(4.47)	(7.19)	(5.94)	(1.07)	(0.82)	(1.28)	(0.56)	(0.65)	(-0.20)	(0.63)	(0.36)
SIZ	-0.018	0.309***	-0.004**	0.000	0.147	0.116*	-0.001	-0.001***	0.099	-0.323**	-0.002	-0.007***
	(-0.23)	(5.20)	(-3.56)	(-0.70)	(1.39)	(1.79)	(-0.53)	(-2.91)	(1.18)	(-2.49)	(-0.96)	(-2.83)
TBQ	0.271	-0.267	0.006*	-0.002	0.263	0.409	0.004	0.003	0.134	0.245	0.007**	0.005
	(1.20)	(-0.90)	(2.39)	(-0.97)	(1.40)	(1.21)	(1.01)	(0.54)	(0.79)	(1.60)	(2.05)	(1.42)
RET	9.035***	8.200***	-0.028	0.060***	5.260***	13.620***	0.035	0.059***	5.523***	6.448***	0.013	0.039
	(7.65)	(5.64)	(-1.05)	(4.71)	(3.30)	(6.72)	(1.15)	(2.71)	(2.84)	(4.79)	(0.34)	(1.28)
CRI	0.895***	0.678**	-0.018***	0.004**	-0.059	0.831***	-0.018***	0.000	0.410	0.144	-0.012***	-0.010
	(5.75)	(2.55)	(-3.76)	(2.43)	(-0.25)	(2.78)	(-4.31)	(0.17)	(1.40)	(0.42)	(-3.10)	(-1.50)
Wald-chi ²	25914.03***	1462.66***			22334.1***	864.73***			544.17***	1926.32***		
F-statistics			570.47***	89.12***			90.23***	63.60***			436.54***	3558.38***
Industry dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustered by province	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Left-censored			766	766			345	345			631	631
No. of observations	1581	1581	1581	1581	1555	1555	1555	1555	1510	1654	1510	1654

PAY is dividend payer dummy. DTA is dividends to assets ratio. DTS is dividends to sales ratio. DTE is dividends to earnings ratio. COR is local corruption. STA is state ownership. SOE is state-owned enterprises. CAS is cash holdings. ROA is return on assets. LEV is financial leverage. TAN is asset tangibility. SIZ is firm size. TBQ is Tobin's Q. RET is retained earnings. CRI is crisis dummy.

*Significant at 10%.

**Significant at 5%.

***Significant at 1%.

6. Conclusion

Prior studies show mixed implications for the effect of local corruption on corporate dividend policy. In this paper, we investigate how local corruption influences dividend policy in an emerging market. With a sample of 5,160 observations from firms listed in Vietnamese stock market from 2007 to 2017, we find that local corruption positively affects both the likelihood to pay dividends and payout ratio. This implies that managers in a highly corrupt provinces are more flexible to use firms' cash due to unofficial payments and thus they may take advantage of this opportunity to expropriate shareholders. However, when shareholders recognize this expropriation behavior, they tend to pressure managers to pay more dividends. In Vietnam, weak corporate governance environment makes shareholders have higher incentives to control managers and thus high local corruption leads to high dividend payment. Moreover, firms may also shelter their cash through dividend payment to avoid government extraction in highly corrupt provinces. Our research findings also show that state ownership mitigates the positive effect of local corruption on corporate dividend policy and this effect is stronger in financially unconstrained firms. These understandings help policy makers in their decisions to control corruption and improve corporate governance in emerging markets.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgment

This research is funded by Foreign Trade University, Viet Nam under research program number FTURP01-2020-07.

References

- Almeida, H., Campello, M., Weisbach, M.S., 2004. The cash flow sensitivity of cash. *J. Finance* 59 (4), 1777–1804.
- Anh, P.D., Anh, H.T.P., 2020. Does corporate governance structure matter for firm financial performance? A system GMM panel analysis for Vietnam. *J. Int. Econom. Manag.* 20 (1), 1–17.
- Asiedu, E., Freeman, J., 2009. The effect of corruption on investment growth: Evidence from firms in Latin America, Sub-Saharan Africa, and transition countries. *Rev. Dev. Econ.* 13 (2), 200–214.
- Bae, S.C., Chang, K., Kang, E., 2012. Culture, corporate governance, and dividend policy: International evidence. *J. Financ. Res.* 35 (2), 289–316. <http://dx.doi.org/10.1111/j.1475-6803.2012.01318.x>.
- Bai, J., Jayachandran, S., Malesky, E.J., Olken, B.A., 2019. Firm growth and corruption: Empirical evidence from Vietnam. *Econ. J.* 129 (618), 651–677. <http://dx.doi.org/10.1111/econj.12560>.
- Black, F., 1976. The dividend puzzle. *J. Portf. Manag.* 2 (2), 5–8.
- Brockman, P., Unlu, E., 2009. Dividend policy, creditor rights, and the agency costs of debt. *J. Financ. Econ.* 92 (2), 276–299. <http://dx.doi.org/10.1016/j.jfineco.2008.03.007>.
- Brunetti, A., Kisunko, G., Weder, B., 1998. Credibility of rules and economic growth: Evidence from a worldwide survey of the private sector. *World Bank Econ. Rev.* 12 (3), 353–384.
- Cai, H., Fang, H., Xu, L.C., 2004. Eat, drink, firms and government: An investigation of corruption from entertainment expenditures of Chinese firms.
- Chen, D., Jian, M., Xu, M., 2009. Dividends for tunneling in a regulated economy: The case of China. *Pac.-Basin Finance J.* 17 (2), 209–223. <http://dx.doi.org/10.1016/j.pacfin.2008.05.002>.
- DeAngelo, H., DeAngelo, L., 2006. The irrelevance of the MM dividend irrelevance theorem. *J. Financ. Econ.* 79 (2), 293–315. <http://dx.doi.org/10.1016/j.jfineco.2005.03.003>.
- DeAngelo, H., DeAngelo, L., Stulz, R.M., 2006. Dividend policy and the earned/contributed capital mix: a test of the life-cycle theory. *J. Financ. Econ.* 81 (2), 227–254. <http://dx.doi.org/10.1016/j.jfineco.2005.07.005>.
- Doh, J.P., Teegen, H.J., 2003. Private telecommunications investment in emerging economies: Comparing the latin American and Asian experience. *Manag. Res.* 1 (1), 9–26.
- Fama, E.F., French, K.R., 2001. Disappearing dividends: changing firm characteristics or lower propensity to pay? *J. Financ. Econ.* 60 (1), 3–43. [http://dx.doi.org/10.1016/S0304-405X\(01\)00038-1](http://dx.doi.org/10.1016/S0304-405X(01)00038-1).
- Farooq, O., Ahmed, N., 2019. Dividend policy and political uncertainty: Evidence from the US presidential elections. *Res. Int. Bus. Finance* 48, 201–209. <http://dx.doi.org/10.1016/j.ribaf.2019.01.003>.
- Goel, R.K., Hasan, I., 2011. Economy-wide corruption and bad loans in banking: international evidence. *Appl. Financial Econ.* 21 (7), 455–461. <http://dx.doi.org/10.1080/09603107.2010.532112>.
- Grullon, G., Michaely, R., Swaminathan, B., 2002. Are dividend changes a sign of firm maturity? *J. Bus.* 75 (3), 387–424, Available at: <http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=6953810&lang=fr&site=ehost-live>.
- Hai, B.X., Nuno, C., 2008. Corporate governance in Vietnam: A system in transition. *Hitotsubashi J. Commer. Manag.* 42 (1(42)), 45–65.
- Jensen, M.C., Meckling, W.H., 1976. Theory of the firm: Managerial behavior, agency costs and ownership structure. *J. Financ. Econ.* 3 (4), 305–360. [http://dx.doi.org/10.1016/0304-405X\(76\)90026-X](http://dx.doi.org/10.1016/0304-405X(76)90026-X).
- Kaplan, S.N., Zingales, L., 1997. Do investment-cash flow sensitivities provide useful measures of financing constraints? *Q. J. Econ.* 112 (1), 169–215.
- Kieschnick, R., McCullough, B.D., 2003. Regression analysis of variates observed on (0, 1): percentages, proportions and fractions. *Stat. Model.* 3 (3), 193–213. <http://dx.doi.org/10.1191/1471082X03st0530a>.
- La Porta, R., Lopez-de-Silanes, F., Shleifer, A., Vishny, R., 2000a. Investor protection and corporate governance. *J. Financ. Econ.* 58 (1–2), 3–27. [http://dx.doi.org/10.1016/S0304-405X\(00\)00065-9](http://dx.doi.org/10.1016/S0304-405X(00)00065-9).
- La Porta, R., Lopez-De-Silanes, F., Shleifer, A., Vishny, R.W., 2000b. Agency problems and dividend policies around the world. *J. Finance* 55 (1), 1–33, Available at: <http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=2816929&lang=fr&site=ehost-live>.
- Lambsdorff, J.G., Cornelius, P., 2000. Corruption, Foreign Investment and Growth. *The Africa Competitiveness Report*, 2001, pp. 70–78.
- Liu, X., 2016. Corruption culture and corporate misconduct. *J. Financ. Econ.* 122 (2), 307–327. <http://dx.doi.org/10.1016/j.jfineco.2016.06.005>.

- Mauro, P., 1995. Corruption and growth. *Q. J. Econ.* 110 (3), 681–712.
- McGee, R.W., 2009. An overview of corporate governance practices in Vietnam. In: McGee, R.W. (Ed.), *Corporate Governance in Developing Economies: Country Studies of Africa, Asia and Latin America*. Springer US, Boston, MA, pp. 235–238.
- Méon, P.-G., Sekkat, K., 2005. Does corruption grease or sand the wheels of growth? *Public Choice* 122 (1), 69–97. <http://dx.doi.org/10.1007/s11127-005-3988-0>.
- Miller, M.H., Modigliani, F., 1961. Dividend policy, growth, and the valuation of shares. In: Vane, H.R., Mulhearn, C. (Eds.), *Harry M. Markowitz, Merton H. Miller, William F. Sharpe, Robert C. Merton and Myrin S. Scholes: Elgar Reference Collection*. In: *Pioneering Papers of the Nobel Memorial Laureates in Economics*, vol. 2, Elgar, Cheltenham, U.K., Northampton, Mass., pp. 113–135.
- Minh, T.L., Walker, G., 2008. Corporate governance of listed companies in Vietnam. *Bond L. Rev.* 20, i.
- Myers, S.C., Majluf, N.S., 1984. Corporate financing and investment decisions when firms have information that investors do not have. *J. Financ. Econ.* 13 (2), 187–221. [http://dx.doi.org/10.1016/0304-405X\(84\)90023-0](http://dx.doi.org/10.1016/0304-405X(84)90023-0).
- Nam, V.H., Nguyen, M.N., Nguyen, D.A., Luu, H.N., 2020. The impact of corruption on the performance of newly established enterprises: Empirical evidence from a transition economy. *Borsa Istanbul Rev.* <http://dx.doi.org/10.1016/j.bir.2020.05.006>.
- Nguyen, D., 2008. *Corporate Governance in Vietnam: Regulations, Practices and Problems*. Central Institute for Economic Management, pp. 1–69.
- Nguyen, T.T., Van Dijk, M.A., 2012. Corruption, growth, and governance: Private vs. state-owned firms in Vietnam. *Bank. Financ.* 36 (11), 2935–2948.
- Ramalho, E.A., Ramalho, J.J.S., Murteira, J.M.R., 2011. Alternative estimating and testing empirical strategies for fractional regression models. *J. Econ. Surv.* 25 (1), 19–68. <http://dx.doi.org/10.1111/j.1467-6419.2009.00602.x>.
- Shao, L., Kwok, C.C.Y., Guedhami, O., 2010. National culture and dividend policy. *J. Int. Bus. Stud.* 41 (8), 1391–1414. <http://dx.doi.org/10.1057/jibs.2009.74>.
- Shao, L., Kwok, C.C.Y., Guedhami, O., 2013. Dividend policy: Balancing shareholders' and creditors' interests. *J. Financ. Res.* 36 (1), 43–66. <http://dx.doi.org/10.1111/j.1475-6803.2013.12002.x>.
- Sharma, C., Mitra, A., 2015. Corruption, governance and firm performance: Evidence from Indian enterprises. *J. Policy Model.* 37 (5), 835–851. <http://dx.doi.org/10.1016/j.jpolmod.2015.05.001>.
- Thakur, B.P.S., Kannadhasan, M., 2019. Corruption and cash holdings: Evidence from emerging market economies. *Emerg. Mark. Rev.* 38, 1–17. <http://dx.doi.org/10.1016/j.ememar.2018.11.008>.
- Tran, H.T., 2019a. Institutional quality and market selection in the transition to market economy. *J. Bus. Ventur.* 34 (5), 105890. <http://dx.doi.org/10.1016/j.jbusvent.2018.07.001>.
- Tran, Q.T., 2019b. Corruption and corporate cash holdings: international evidence. *J. Multinat. Financ. Manag.* 100611. <http://dx.doi.org/10.1016/j.mulfin.2019.100611>.
- Tran, Q.T., 2019c. Corruption, agency costs and dividend policy: International evidence. *Q. Rev. Econ. Finance* <http://dx.doi.org/10.1016/j.qref.2019.09.010>.
- Wang, Y., You, J., 2012. Corruption and firm growth: Evidence from China. *China Econ. Rev.* 23 (2), 415–433.
- Wei, S.-J., Kaufmann, D., 1999. *Does Grease Money Speed Up the Wheels of Commerce?* The World Bank.
- Whited, T.M., Wu, G., 2006. Financial constraints risk. *Rev. Financ. Stud.* 19 (2), 531–559. <http://dx.doi.org/10.1093/rfs/hhj012>.
- Wooldridge, J.M., 2010. *Econometric Analysis of Cross Section and Panel Data*, tenth ed. MIT Press, Cambridge.
- Xu, X., Li, Y., 2018. Local corruption and corporate cash holdings: Sheltering assets or agency conflict? *China J. Account. Res.* 11 (4), 307–324. <http://dx.doi.org/10.1016/j.cjar.2018.05.001>.
- Zakharov, N., 2018. Does corruption hinder investment? Evidence from Russian regions. *Eur. J. Political Econ.* <http://dx.doi.org/10.1016/j.ejpoleco.2018.06.005>.