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Cash is King or Trash? The Review of Political Uncertainty and Corporate Behaviour

By *Kulnicha Meechaiyo*

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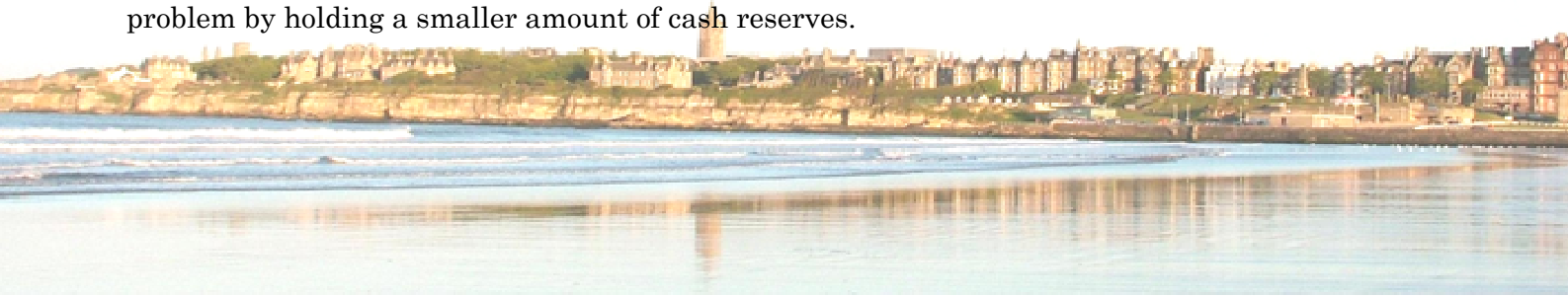

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Cash is king or trash?
The review of political uncertainty and corporate behaviour

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18 April 2024

Abstract

Using the data on national elections and a comprehensive set of corporate data, this paper examines whether political uncertainty can affect companies' cash holdings in eight Asian emerging economies from 1990 to 2018. This study focuses on two significantly different electoral systems: a presidential or legislative electoral system (Indonesia, Korea, Malaysia, the Philippines, Singapore, Thailand and Taiwan), and an assembly-elected presidential electoral system (China). The two different national electoral systems can affect corporate behaviour differently. The cash flow sensitivity of cash during election periods is assessed by estimating panel models with fixed effects. The findings show that the magnitude of cash holdings varies with the national electoral system adopted in the country and firm size. Firms residing in a country with a presidential or legislative electoral system are more sensitive to political uncertainty than those residing in a country with an assembly-elected presidential electoral system. During election periods, firms residing in a country with a presidential or legislative electoral system tend to hold more cash during election periods due to being precautionary against the uncertainty that may occur. While large firms residing in a country with an assembly-elected presidential electoral system lessen a grabbing hand problem by holding a smaller amount of cash reserves.

1. Introduction

The relationship between politics and economics has been widely explored for several decades. The electoral system can shape the future of the country. In particular, the leadership of the country can have influences on government policy and economic growth. With some uncertainty in electoral outcomes, the country might suffer from economic instability such as a reduction of public and corporate investment (Darby et al., 2004). Specific to the impacts on the private sector, political uncertainty can deter investment decisions; firms prefer to delay their investment if facing uncertain circumstances and may

change their financial strategies in the light of new financial regulations and economic policies. In other words, firms may change their business strategy in order to make themselves resilient to any uncertainty faced during election periods.

Several studies have investigated corporate cash holdings behaviour and reasons for holding cash. Although there is an opportunity cost of holding cash on the balance sheet, firms prefer to retain cash for two main reasons or benefits: (i) transaction motive and (ii) precautionary motive. Regarding the transaction motive, cash reserves is a firm's internal fund that could help save costs possibly incurred from fund raising and avoid brokerage costs and information asymmetry effects of external finance. Moreover, there is no need to liquidate assets if firms have enough cash in their balance sheet. The second reason for cash holdings is the precautionary motive. Firms hold some cash for being used in unpredictable or unforeseen circumstances, so cash reserves can act as a contingency. For this reason, firms can use their cash reserves when lacking for other financing sources. The precautionary motive is the essential underlying rationale for corporate cash holdings; firms should be prepared for the uncertainty including cash flow volatility. When firms see an investment opportunity but their cash flows are too low, their stock of cash will enable them to make the investment (Keynes, 1936; Han and Qiu, 2007). To shed light on political uncertainty, Julio and Yook (2012) point out that, for the precautionary motive, firms are likely to reduce their investment and hold more cash during an election period. They will hold cash until the uncertainty has been resolved to lessen the impact of uncertainty. Thus, this paper studies how firms in Asia deal with political uncertainty and its influences on cash holdings.

This paper bridges previous literature on political uncertainty and cash holdings. The primary goal of this paper is to investigate whether political uncertainty influences changes in corporate behaviour. The data of financial statements and elections are collected for eight Asian economies, which are China (Mainland), Indonesia, Korea, Malaysia, the Philippines, Singapore, Thailand and Taiwan (China). The analysis covers the period from 1990 to 2018.

There are three contributions of this paper to the literature. First, this paper provides the new evidence that the national election can affect corporate cash holdings in Asian companies. Unlike previous studies on uncertainty (Julio and Yook, 2012; Baker et al., 2016; Xu et al., 2016; Jens, 2017), this paper is among the first to examine whether different electoral systems have different impacts on corporate behavioural changes. In comparative terms, China is a unique country with a large size of population, and it is totally different

from its neighbours in many aspects. The political system in China has unique features because "China is a federal state in form and a unitary state in essence (Bo, 2010, p.108)" and "the legislature in China is neither one-chamber nor bicameral (Bo, 2010, p.106)". Although the National People's Congress (NPC) is dominated by the Chinese Communist Party with regard to its economic performance in the past three decades, China has become moderately more democratic. Contributing to the literature, this paper compares the effects of presidential and legislative elections and assembly-elected presidential elections on corporate behaviour.

Second, this paper builds on the extant literature of corporate cash holdings and its sensitivity to cash flow (Almeida et al., 2004) by examining whether elections influence a firm's propensity to reserve cash out of its cash inflows. To go one step further, this paper highlights the differential effect of cash flow on the magnitude of the election-year cash holdings cycle and the effects of elections on corporate behaviour. This paper documents that the impact of cash flow on cash holdings is more pronounced during election periods for the firms located in the country with a presidential and legislative electoral system. In particular, small firms are likely to hold a larger amount of cash during election periods no matter which election system is adopted in their country. In addition, large firms in the country with an assembly-elected presidential electoral system tends to hold less cash during election periods. This finding is consistent with the results reported by Xu et al. (2016) that the grabbing hand hypothesis, which argues that the government acts in their self-interest, holds in the first year of a new city government official's appointment in China, encouraging firms to hold less cash as a strategic response.

Third, this paper contributes to the discussion on the precautionary motive for cash holdings and financially constrained firms (Han and Qiu, 2007; Chen et al., 2012). This paper contributes to previous literature by delivering the empirical work that the cash flow sensitivity of cash during election periods supports the precautionary hypothesis. This paper sheds light on the financial constraint channel that the cash flow sensitivity of cash in small firms (financially constrained firms) is more salient than the sensitivity in large firms (financially unconstrained firms).

There are reasons for why the research in this paper should be conducted. To start with, this research will help firms to understand the underlying rationale for cash holdings. Next, it shows how corporate cash holdings behaviour varies with the electoral system adopted in the country.

The paper is structured as follows: Section 2 reviews the literature on political uncertainty and cash holdings. Section 3 identifies the empirical methodology of this study. Section 4 explains the data employed and reports descriptive statistics. Section 5 describes empirical results of which the robustness is tested in Section 6. Section 7 provides concluding remarks.

2. Literature review

2.1. Political uncertainty

2.1.1. Theoretical background

Politics influence economic behavior through an uncertainty. The previous studies demonstrate two main uncertainties related politics: an uncertainty from policy change (policy uncertainty) and an uncertainty from a change of national leader or national election. The political uncertainty, both from policy and national leadership changes, definitely related to future regulation for industry, monetary and trade policy, taxation and it may create awareness of the possibility of privatisation for private firms (Julio and Yook, 2012). Consequently, the political uncertainty influences corporate behaviors in order to deal with the outcomes of the uncertainty.

The majority of the literatures have concentrated on corporate investment decisions. As firms aware that there may be a change in policy and regulation which could affect their investment opportunity, thus firms are likely to postpone their investment until there is a clarity of policy implementation. The early studies of Bernanke (1983) and Bloom et al. (2007), who examine the relationship between uncertainty and investment, indicate that firms will more prudent when they face an uncertainty. They will delay and reduce their investment. Similarly, Rodrik (1991) and Pindyck and Solimano (1993) find that an uncertainty leads firms to reduce their investment expenditure.

To the best of knowledge, there are not many researches that study the relationship between the political uncertainty and corporate financing's decisions. The recent study of Pastor and Veronesi (2012) provide theoretical model on this relationship. They consider policy uncertainty and indicate that a policy change will have a negative impact on stock values because the discount rates will increase as a result of the uncertainty. Therefore, cost of capital tends to raise when there is a political uncertainty.

In the financial sector, banks are also affected by political uncertainty. Baum et al. (2010) evaluate the impacts of Turkish election cycles on the banking system, by focusing

on loan amount and loan growth. They point out that banks reduce loans around the election year. Loan growth also decreases in the year before the election; whereas, the growth rate of deposit increases in the election year and the year after the election. Their results could imply that the business sector might reduce its investment during the election period. Political uncertainty during the period of election leads firms to retain cash and banks to reduce their lending in order to lessen the effects of the uncertainty and unforeseeable circumstances.

2.1.2. Empirical evidence

The theoretical papers indicate that the political uncertainty has an influence on corporate behaviors. The political uncertainty could affect both corporate financing and investment decisions through the mechanism that it will increase the cost of capital and decrease firms' investment activities.

Regarding an increasing uncertainty caused by major economic and political shocks such as terror, war, oil and economic, there has been a growing literature which discusses the relationship between political uncertainty and economic performance. One strand of the literatures reports similar results to support the concept that the political uncertainty causes firms to decrease their investment. An early study on uncertainty of Bloom (2009) uses stock market volatility as a proxy for uncertainty at firm level. He finds that uncertainty can decrease the productivity of capital and the output level. A freeze on business activities due to uncertainty leads to a plummet in investment and employment. Recently, Julio and Yook (2012) and Jens (2017) evaluate the impacts of elections used as a proxy for political uncertainty on changes in corporate investment. They report that political uncertainty around election years lead to a decrease in corporate investment; this result is associated with the so-called political uncertainty hypothesis. Julio and Yook (2012) also suggest that increasing investment in the post-election period could not offset the reduction of investment in election years; whereas, Jens (2017) explain that the rebound of investment in the post-election period depends upon whether an incumbent is re-elected. In addition, political uncertainty has a direct influence on corporate saving decisions. Thus, firms are more likely to be more cautious when making decision on investment during elections and choose to invest when political uncertainty has been resolved.

The recent study of Baker et al. (2015) who introduced an economic policy uncertainty (EPU) index, which will be explained in the next section, to measure the role of policy uncertainty also reports similar results to the findings of the previously mentioned studies that uncertainty leads to decreases in investment and employment, both in firm and

country levels. Meanwhile, Gulen and Ion (2015) employ the news-based index to measure political uncertainty in the US and Canada. They also discover that the degree of political uncertainty's influences on corporates relates to firm characteristics and the influences on investment can last up to eight quarters.

The literature also documents that political uncertainty can affect acquisition decisions. Recent studies present a significant effect of gubernatorial elections on mergers and acquisitions (M&A). Cao et al. (2017) investigate the relationship between cross-border acquisitions and political uncertainty which is represented by national elections in the countries of both targets and acquirers. They report a decrease in inbound cross-border acquisitions in the year before the national election of the target's country and an increase in outbound cross-border acquisition in the year before the national election of the acquirer's country. They explain that cross-border investment enables the acquirer to diversify their risk. The acquirer will not choose a target in a country that is going to have an election in order to avoid political uncertainty in the target country. This finding is similar to Chen et al. (2018) who suggest that an acquirer prefers to make a deal with a target in the non-election.

Another strand of the literatures focuses on the influence of the political uncertainty on corporate financing decisions. Their findings also show that the political uncertainty leads to a raising of the cost of financing. Pastor and Veronesi (2013) extend their study in 2012, which has been previously mentioned, and also focus on policy uncertainty. When the economy is bad, the government may introduce a new policy which has a lower cost but is more efficient to replace the current one. They document that political uncertainty causes an increase in risk premium, stock volatility and stock correlation, and the effects of political uncertainty become larger in an adverse economic environment. Therefore, the political uncertainty could lead to a lower of asset values due to an increase of discount rates. Whereas Waisman et al. (2015) explore the effect of political uncertainty on the cost of the US corporate bonds issued in the period between 1980 and 2012. They show that only political uncertainty at the national level affects the prices of bonds through increasing bond spreads; no matter whether Democrats or Republicans win the elections, the bond spreads are still high. Kelly et al. (2016) apply the model of Pastor and Veronesi (2013) to analyse the impact of political uncertainty on options markets. They find that the price of options is affected by political uncertainty and the options of which the maturity covers the period of political uncertainty will have a higher price.

Regarding the financial sector, the behaviour of banks during the election period might corresponds to the spending and investment behaviour of the business sector. Francis et al. (2014) also employ the EPU index to examine how political uncertainty affects the cost of bank loans that reflect information asymmetry between the lender and the borrower. A rise of uncertainty increases costly bank loans which affect both bank-related loan demand and supply. Particularly, firms with more sensitivity to political risk suffer from the high cost of debt since banks are more likely to issue tight loan covenants to protect themselves and reduce the possibility of defaults during the financial crisis. Thus, it not only affects bank loans, which are an essential source of finance for firms, but also influences the cost of bank loans as previously mentioned.

2.1.3. Measurement

According to the existing literatures, there are two main measures of the political uncertainty: an elections and economic policy uncertainty (EPU) index. Several literatures have used elections as a measure for the political uncertainty. The well-known literature of Julio and Yook (2012) indicates the interesting of using elections to study the effect of political uncertainty on corporate investment that national leaders normally have limited terms and new leaders might introduce new or different policies. The outcome of elections, hence, affects corporate investment decisions because it relates to an implication of future regulation, taxation, and monetary and trade policy. Furthermore, elections could dissolve the endogeneity of economic growth and political uncertainty as it is a reoccurrence event and could separate the effect of policy uncertainty from other factors. Nevertheless, the political uncertainty might not be able to measure directly by the elections and it should be noted that the political uncertainty will be high in the period before an election.

The elections have been used to study the political uncertainty in many earlier literatures. The literatures provide a similar conclusion that there is a high political uncertainty during election periods. Bernhard and Leblang (2006) examine that the volatility of exchange rates, bond yields and equity are higher during the election period. Bialkowski et al. (2008) and Boutchkova et al. (2011), who study the relationship between stock market volatility and national elections, also find similar results as Bernhard and Leblang (2006). In addition, Boutchkova et al. (2011) also report a high return volatility during election period for firms in industries that is susceptible to politics.

Recently, an index of economic policy uncertainty, so-called EPU or BBD index, has been popularly employed to measure uncertainty in the US. It was introduced by Baker et al. (2015). The index is used to measure the role of policy uncertainty, different countries

and specific policies. They apply a newspaper-based approach to gauge the EPU index; this approach calculates the index using frequency counts of three terms; uncertainty, the economy and policy. The prominent points of using the newspaper are the fact that it does exist and has been used a long time ago. It is also used around the world as well. Thus, incorporating the newspaper-based data to the computer database will provide in depth knowledge on economic and politics. The EPU index has been used in many researches on several countries, for example, Ireland (Zalla, 2016), Chile (Cerda et al., 2016) and Japan (Arbatli et al., 2019).

As this study examine eight economies in Asia which use different languages and a limitation of the EPU index that only available for large countries. Indonesia, Malaysia, the Philippines, Thailand and Taiwan (China) have not available on the EPU index. Therefore, this paper use the elections to be a proxy for political uncertainty.

2.1.4. China's Political Uncertainty

This paper considers three types of election which have been grouped into two electoral systems: a presidential and legislative electoral system (Indonesia, South Korea, Malaysia, the Philippines, Singapore, Thailand and Taiwan) and an assembly-elected presidential electoral system (China).

Unlike presidential and legislative elections, the assembly-elected presidential elections in China includes an indirect process of election to get representatives to sit in the National People's Congress (NPC). Even though China is on the path to democracy after launching village elections, which are the direct election, in 1987 (O'brien and Han, 2009) and this community-level election has been developed to a self-governance of communities. China has indirect elections which are described in the document of the National People's Congress. Deputies and the people's congresses are elected by congresses at the next lower level (The National People's Congress of the People's Republic of China, 2014).

Although China has both direct and indirect elections, the NPC has an important role in electing the President and the Vice President of the country (China Internet Information Center, 2014; Saich, 2015). This is a significant difference between the assembly-elected presidential electoral system and the presidential and legislative electoral system that leads to the difference in corporate behaviour.

Focusing on a transitional economy, An et al. (2016) discuss the relationship between corporate investment decisions and political leadership turnover at the local level

in China. They find that Chinese corporate investment also declines as a result of political turnover. Unlike other countries, China has an economic system heavily dependent upon fixed asset investment and state-owned enterprises, SOEs. The Chinese government is appointed by the Communist Party. The finding demonstrates that political turnover hinders the investment decisions of capital-intensive firms and SOEs notably. In a transitional economy like China, firms which are closed to the government are profoundly affected by political uncertainty. This concept is in line with Waisman et al. (2015) who state that the political uncertainty has a direct effect on political connections of firms which consequently affects firms' performance and firm's decision.

To illustrate how Chinese elections differ from elections in other countries, this section points out the key characteristics of China's electoral system.

A related line of research shows two main approaches to gauge political uncertainty: an index of economic policy uncertainty and national elections. Some previous studies focus on firms in one particular country (especially the US) and the others compare the impacts of political uncertainty in many countries excluding China which has a different political system. To fill this gap, this paper employs direct and indirect national elections as a proxy for political uncertainty and the sample analysed includes Chinese companies.

2.2. Corporate cash holdings

The issue of corporate cash holdings has been discussed extensively in economics and finance literature. According to previous studies, there are four motives for firms to hold cash; transaction motive, precautionary motive, tax motive and agency motive. This paper investigates the effects of political uncertainty, so the precautionary motive is the most relevant to this study. To explain more, firms hold more cash and liquid assets for precautionary reasons during election periods so that they can prepare themselves to be ready for any interesting investment opportunities which may be available after the announcement of the election results. To be able to secure future investment opportunities and to cope with unexpected expenditures, firms prefer to hold more cash and liquid assets in order to prevent cash shortage. Additionally, corporate cash holdings can help firms to better deal with adverse shocks because of costly external finance.

2.2.1. Transaction motive

Keynes (1936) defined "transaction motive" as the need of cash for personal and business transactions since firms expect to minimise the transaction cost incurred from raising cash for business. Regarding the pecking order theory, firms prefer to use their

internal funds such as retained earnings first (Myers, 1984). If firms exhaust their internal funds, they will prefer debt to equity because firms are aware of information asymmetry in equity issuance. Opler et al. (1999) indicate that the transaction cost of external funds is an important determinant of cash holdings. Since external funds is costly, firms would like to hold more cash and liquid assets rather than raising funds from external sources. Nonetheless, holding cash and liquid assets has some costs such as opportunity costs.

Opler et al. (1999) explain that the optimal amount of cash holdings is the point where the marginal cost of lack of liquid assets equals the marginal cost of holding liquid assets. Firms that are prone to a shortage of liquid assets are likely to hold more cash and liquid assets. On the transaction motive basis, a low cost of external financing, a low cost of interest rate, and a low dividend payout can lead firms to hold lower amounts of liquid assets. In addition, firms that have a plenty of assets to be sold or firms that could easily sell their assets are likely to hold fewer liquid assets. On the other hand, firms that have high inventories compared to the number of sales or firms with high cash flow volatility may hold more liquid assets. Opler et al. (1999) further explain that a costly hedging transaction also induces firms to hold more liquid assets.

2.2.2. The precautionary motive

Firms prefer to be ready for any interesting investment opportunities, so it is likely that they will hold more cash and liquid assets in order to prevent cash shortage which may impede their future investment. Information asymmetry and the agency cost of debt are the underlying reasons for precautionary holdings of cash and liquid assets. First, information asymmetry between managers and investors could increase the cost of external funds. Since investors have less information about securities than managers, investors may price the securities lower than managers. As a result, if the investment opportunity does matter to firms, managers may prefer to hold more cash and liquid assets rather than raising funds in the market in the future.

According to Opler et al. (1999), the reason for cash holdings in publicly traded U.S. firms during the period between 1971 and 1994 is strongly related to precautionary motives. They provide an evidence that in the event of excess cash, if possible, firms are likely to keep a cash holding in their balance sheet in order to make sure that they still have available funds to invest when they have a poor cash flow.

Regarding the cost and benefit of cash holdings in financially constrained and unconstrained firms, the literature reports that holding cash is costly in constrained firms since these firms have to sacrifice investment projects available now for the sake of the

increasing ability to invest in future projects. Considering the level of cash on the balance sheet, Almeida et al. (2004) find that cash in constrained firms is higher than in unconstrained firms. To explain corporate liquidity, they are among the first who focus on the sensitivity of cash holdings to cash flow, which is a firm's propensity to save cash out of cash inflows, rather than cash level, which is the amount of cash in the balance sheet. They demonstrate that sensitivities of cash to cash flow are significant and positive in constrained firms, but it is insignificant in unconstrained firms. Generally, corporate cash holdings may follow the business cycle but the propensity to cash hoarding in constrained firms increases during macroeconomic shocks. There are two main reasons; future investment being more attractive than current investment and decreasing current income flows. This implies that constrained firms' cash flow sensitivities of cash have countercyclical responses to aggregate demand shocks. While they show that the sensitivity of saving to cash flow is positive, Riddick and Whited (2009) re-examining the study of Almeida et al. (2004) hold an opposite opinion because they find that a positive productivity shock urges firms to reserve more cash for future investment opportunities. Riddick and Whited (2009) also highlight that firms will hold more precautionary cash if income uncertainty is higher or if external finance is costly.

To extend the theoretical model of Opler et al. (1999) and Almeida et al. (2004), Han and Qiu (2007) investigate whether increasing volatility of uncertainty leads to an increase in corporate cash holdings. Unlike for a financially unconstrained firm, the precautionary motive of cash holding makes a financially constrained firm decrease their current investment in order to make additional future investment. This is because it is difficult for them to access external sources of fund. Bates et al. (2009) further develop the model of cash holdings introduced by Opler et al. (1999) and find that the precautionary motive can contribute to an increase in cash ratios but the increase is not explained by the agency motive. They propose that decreasing inventories, increasing corporate cash flow risk, decreasing capital expenditures and increasing R&D expenditures are four essential reasons for an increase in the cash ratio.

2.2.3. The tax motive

In addition to the transaction and precautionary motives, tax costs can explain the amount of cash holdings. Foley et al. (2007) study the relationship between taxes and cash holdings in the US multinational firms during the period between 1982 and 2004. The tax motivation associates with the repatriation of earnings in foreign subsidiaries to domestic parent firms. Multinational firms prefer to hold cash in a lower tax country; they will hold retain earnings in foreign subsidiaries when the tax rate for parent firms is higher than for

foreign subsidiaries. With high repatriation tax burdens, the cost of repatriation is greater than the cost of cash holdings. Hence, firms are more likely to hold cash aboard and avoid repatriating them to parent firms. However, Pinkowitz et al. (2013) compare the abnormal amount of cash holdings in US firms before and after the financial crisis.

2.2.4. The agency motive

Considering the agency theory, conflicts of interest between shareholders and managers produce the agency motive. Managers are more likely to hold cash than pay out dividends to shareholders or repurchase stock because increasing firm growth is associated with managers' powers and compensations. Information development and financial technology help to impede agency problems. The absence of agency problems lead to a decrease in cash hoarding and precautionary demand for cash (Jensen, 1986 and Bates et al., 2009). Dittmar et al. (2003) document that the agency problem plays an important role in determining the size of cash holdings. They suggest firms to hold more cash when they are in a country with a prominent agency problem. The underlying reason is an inability of shareholders to direct the manager to use cash for increasing shareholders' wealth. According to their findings, the agency problem also has an effect on the relationship between investment opportunities and corporate cash holdings. Thus, it seems that firms' cash holding relates to firms' corporate governance. Dittmar and Mahrt-Smith (2007) find that good corporate governance especially in terms of how firms spend their money is essential in firm value creation and cash holdings. With the monitoring of investors on the governance of firms, the pressure on the management team causes efficient uses of excess cash resources, result in an increase in firm value and high operating performance. In contrast, firms with poor governance face falling excess cash reserves and low operation performance because of either rising agency problem or a lack of operational efficiency. They also highlight that poorly governed firms suffer from the higher cost of holdings excess cash.

Another reason for precautionary cash holdings is the agency cost of debt which is a difference between interest rates charged to shareholders and investors. Since the agency cost prevents firms from accessing external funds and shareholders realise that funding shortfalls may cause a loss of great investment opportunity which can be even more costly than the agency cost, shareholders will hold more cash and liquid assets. However, as the manager is not the firm's shareholder, they may use cash reserves to achieve their own objectives which may differ from shareholders' objectives.

2.3. The relationship between cash holdings and political uncertainty

In the context of uncertainty, Baum et al. (2006) demonstrate how firms' liquid asset holdings respond to economic uncertainty in US non-financial firms during the period from 1970 to 2000. They find that volatility in macroeconomic conditions has a strong influence on the decisions of the manager in liquidity strategy such as the optimal cash holdings and corporate resource allocation. By using returns on the stock market index as a proxy for uncertainty, their results show that an increase in uncertainty leads to a decrease in the dispersion of the cash-to-asset ratio. They further indicate that a sensitivity of firms to uncertainty varies with firm's characteristics, which also affects firm's cash holdings. They discover that firms experiencing considerable growth are more sensitive to uncertainty than low-growth firms. With a high level of information asymmetry, high-growth firms prefer to hold more liquid assets. In addition, it is intuitive that financially constrained firms face a higher negative effect of uncertainty since unconstrained firms do not need to hold extra cash or liquid assets (Almeida et al., 2004). In addition, capital-intensive firms are more responsive to economic uncertainty than labour-intensive firms.

In light of the effect of national elections, Julio and Yook (2012) demonstrate that cash holdings of firms temporarily increase in the election years. Their result is consistent with the view of holding cash for the precautionary purpose. They find that firms tend to hold more cash in the election years compare to the non-election years while there is a decrease in investment in the election years. The decrease in investment in the election years has about the same amount as the increase in cash holdings in the same period. Their results suggest that political uncertainty affect the cash holding behaviour of firms. Firms appear to delay their investment and hold more cash during the election period. They will delay their investment until the uncertainty is resolved.

Xu et al. (2016) study the relationship between political uncertainty and cash holdings in China during the period from 1998 to 2014. The year 1998 was the first year of a new city government official's appointment. Political uncertainty in their study is reflected by the risk of losing political connection. In their research, the helping hand hypothesis and the grabbing hand hypothesis are applied to explain the decision of corporate cash holdings. Under the helping hand hypothesis, firms need to hold more cash during political uncertainty because of government subsidies or personal connection. In contrast, firms need to hold less cash during political uncertainty under the grabbing hand hypothesis since officials take advantage of firms for monetary compensations by using political power. The results confirm that companies facing political uncertainty hold considerably less cash if they are small or located in a city with high fiscal deficits or if

they have a smaller amount of debt. In addition, they find that firms hold a smaller amount of cash when they do not have a political connection.

This paper is closely related to Julio and Yook (2012), who investigate the effects of national elections on corporate investment and saving decisions. Unlike their study, this paper uses fixed effects regressions to estimate the difference between corporate cash holdings in economies with presidential and parliamentary electoral systems and a country with assembly-elected presidential elections such as China.

3. Empirical methodology

Corporate cash holdings and elections

Following some prior studies (Opler et al., 1999; Julio and Yook, 2012; Caprio, 2013; Xu et al., 2016), this paper employs the panel regression to examine whether firms in eight Asian emerging countries change their cash holding behaviour during election periods. With the determinants of cash holdings framework (Opler et al., 1999), models can be estimated as follow:

$$\begin{aligned}\left(\frac{Cash}{TA}\right)_{ijkt} = {} & \propto_0 + \propto_1 ElectionDummy_{jt} + \propto_2 \left(\frac{Cashflow}{TA}\right)_{ijkt} + \propto_3 Size_{ijkt} \\ & + \propto_4 \left(\frac{NWC}{TA}\right)_{ijkt} + \propto_5 \left(\frac{CAPEX}{TA}\right)_{ijkt} + \propto_6 Leverage_{ijkt} + \propto_7 Q_{ijkt} \\ & + \propto_8 \sigma(Cashflow)_{kt} + \propto_9 DividendDummy_{ijkt} + \propto_{10} AcqDummy_{ijkt} \\ & + \upsilon_i + \psi_d + \gamma_j + \mu_t \\ & + \varepsilon_{ijkt} \qquad (1)\end{aligned}$$

where the subscript i is for firm, j for country, k for industry, and t for year. The dependent variable, $\left(\frac{Cash}{TA}\right)_{ijkt}$, denotes the ratio of the total value of cash, cash equivalent and short term investment to the value of net assets for firm i in industry k of country j in year t. In this model, the value of $ElectionDummy_{jt}$ dummy variable is equal to one if the fiscal year t has an election date and zero otherwise. Other variables are $\left(\frac{Cash}{TA}\right)_{ijkt}$ representing the value of income before extraordinary items and depreciation and amortisation relative to total assets, $Size_{ijkt}$ denoting the natural logarithm value of total assets, $\left(\frac{NWC}{TA}\right)_{ijkt}$ the value of current assets less current liabilities and cash relative to total assets, $\left(\frac{CAPEX}{TA}\right)_{ijkt}$ is the ratio of capital expenditure to total assets, and $Leverage_{ijkt}$

denoting the ratio of total debt to total assets. As Tobin's Q is difficult to construct from Compustat IQ, Bakus et al. (2009) and Bose et al. (2016) use sales growth as a proxy for Tobin's Q (Q_{ijkt}). This means that listed and non-listed firms are included in the sample. Cash flow volatility, $\sigma(Cashflow)_{kt}$, is the volatility of an industry's cash flow which is the standard deviation of cash flow for each three-digit SIC over the previous 4 years. The value of $DividendDummy_{ijkt}$ dummy variable is equal to one if the firm pays dividends in year t and zero otherwise. Another dummy variable is $AcquisitionDummy_{ijkt}$; its value is equal to one if the firm has an acquisition activity in year t and zero otherwise. The firm, industry, country and year fixed effects represented by υ_i, ψ_d , γ_j and μ_t are also included. They capture the variations across countries and years and they control for any country-level changes in economic variables that can influence corporate behaviour. In addition, this paper follows Gilje et al. (2016) by adding country-and-year fixed effects in the regression. The error term, ε_{ijkt} , contains firm, country, industry specific and time.

The literature finds a positive association between cash holdings and cash flow. Higher-cash flow firms have more cash to retain, and high cash holdings could prevent them from missing investment opportunities. Regarding the financing hierarchy model, firms with high cash flows tend to increase cash reserve or liquidity assets and they are more likely to use internal finance than external finance (Myers and Majluf, 1984; Opler et al., 1999; Ozkan and Ozkan, 2004). Almeida et al. (2004) report that the precautionary motive only matters to constrained firms which face a high cost of external finance incurred from the information asymmetry between firms and investors.

Previous studies report both positive and negative effects of firm size on cash holdings. The pecking order theory suggests that a better performance of large firms leads to a higher cash reserve. Jebran et al (2019) find a positive relationship between firm size and cash reserve in pre-crisis and crisis periods. By contrast, the transaction motive and the static trade-off model suggest that larger firms prefer to have a lower cash ratio due to economies of scale in liquid assets. Also, they have a cheaper and easier access to capital markets (Keynes, 1973; Opler et al., 1999; Ahn and Chung (2015); Bigelli and Sánchez-Vidal 2012).

Liquidity is measured by the amount of net working capital, which is the difference between current assets and current liabilities of the company, less cash divided by total assets. According to the trade-off theory, liquidity is negatively associated with cash holdings because liquid assets can be converted into cash easily. Several empirical studies

find the negative association between liquidity and cash holdings (Duchin, 2010; Opler, Ozkan and Ozkan, 2004; Jebran, 2019).

Capital expenditure, which drives corporate net worth and debt capacity, is expected to have a negative impact on corporate cash holdings. Firms with higher capital expenditure have lower cash demand because they prefer investment to saving, and they are less risky and more likely to use external finance (Gualriglia and Yang, 2016; Riddick and Whited, 2009; Bates et al., 2009). However, capital expenditure is positively related to cash holdings when they are a proxy for financial distress costs or investment opportunities (Bates et al., 2009).

Corporate leverage is a proxy for the ability of the firm to debt servicing. It is expected that there will be a negative relationship between leverage and cash holdings (Opler, Ozkan and Ozkan, 2004; Guney et al., 2007) However, it depends on the level of leverage. Firms with high leverage are more likely to become constrained firms and to face financial distress. For a precautionary motive, they will accumulate more cash to reduce their own insolvency risk (Han and Qiu, 2007).

The constrained firms use the profitability of future investment to shape corporate cash holdings policy; these opportunities can be measured by Tobin's Q. Sales growth, which is used as a proxy for Tobin's Q, is expected to have a positive effect in financially constrained firms and no significant impact in unconstrained firms (Almeida et al., 2004). As consistent with the finding of Im et al. (2017) that higher investment opportunities drive firms to hold higher cash balance.

Cash flow volatility indicates idiosyncratic industry risk. Firms exposed to higher cash flow risk is expected to hold more cash, consistent with the precautionary motive (Bates et al., 2009).

According to the trade-off theory, the optimal amount of cash holdings depends on the trade-off between the marginal benefits and costs of cash holdings. The minimisation of external financing and liquidation costs is a purpose of cash reserve. The relationship between cash holdings and dividend payment should therefore be negative (Opler et al., 1999). The dividend-paying firms can rely on external finance at a lower cost as they can reduce dividend payments. In contrast, Ozkan and Ozkan (2004) argue that dividend-paying firms can hold more cash than non-dividend paying firms in order to reduce a cash shortage.

The effect of acquisition on cash holdings is expected to be negative; the level of cash reserve will decrease in the year that firms make an acquisition payment (Almeida et al., 2004). However, firms with high cash balance prefer to make acquisitions (Harford, 1999). Therefore, following to Almeida et al. (2004), this paper controls for the acquisition effect.

Next, this paper augments the model of Almeida et al. (2004) with the interaction between a dummy for election and cash flow, $ElectionDummy_{jt} \times \left(\frac{Cashflow}{TA}\right)_{it}$, to explore the impact of election on the cash flow sensitivity of cash. Specifically, the study estimates the following panel model:

$$\begin{aligned}\left(\frac{Cash}{TA}\right)_{ijkt} = {} & \propto_0 + \propto_1 ElectionDummy_{jt} + \propto_2 \left(\frac{Cashflow}{TA}\right)_{ijkt} \\ & + \propto_2 ElectionDummy_{jt} \times \left(\frac{Cashflow}{TA}\right)_{ijkt} + \propto_3 Size_{ijkt} \\ & + \propto_4 \Delta\left(\frac{NWC}{TA}\right)_{ijkt} + \propto_5 \left(\frac{CAPEX}{TA}\right)_{ijkt} + \propto_6 Leverage_{ijkt} + \propto_7 Q_{ijkt} \\ & + \propto_8 \sigma(Cashflow)_{kt} + \propto_9 DividendDummy_{ijkt} + \propto_{10} AcqDummy_{ijkt} \\ & + \upsilon_i + \psi_d + \gamma_j + \mu_t \\ & + \varepsilon_{ijkt} \qquad (2)\end{aligned}$$

4. Data and descriptive statistics

4.1. Data

The paper uses the hand-collected data of political events obtained from three sources: the Database of Political Institutions from the World Bank, the Election Guide website from the International Foundation for Electoral Systems, and the Chinese Central Government's official web portal. This paper follows Julio and Yook (2012) using the elections as a proxy for political uncertainty. Changes in the leaders and policies can delay growth and investment of businesses until the uncertainty is reduced or eliminated. Due to the transaction motive, the precautionary motive, the tax motive and the agency motive, the election may lower corporate cash holdings.

The dataset includes the data of eight economies in Asia: China (Mainland), Indonesia, Korea, Malaysia, the Philippines, Singapore, Thailand and Taiwan (China). The data spans from 1990 to 2018; this period has 46 elections in total: 6 elections in China

(Mainland exclude Hong Kong, Macao and Taiwan), 3 elections in Indonesia, 6 elections in Korea, 7 elections in Malaysia, 5 elections in the Philippines, 6 elections in Singapore, 6 elections in Taiwan (China), and 8 elections in Thailand. This period of analysis is chosen because there is the process of democratisation in Taiwan: 1992 legislative Yuan election and 1996 national presidential election. Taiwan lifted the state of martial law in 1987. In the first legislator election in 1989, the Nationalist Kuomintang (KMT) was the only party involved. In 1996, it was the first time that KMT faced the competition from the Democratic Progressive Party (DPP) and New Party Independent (Tien and Chu, 1996; Central Election Commission, 2016). However, KMT won the presidential election again with 54.8% of votes.

There are three types of elections considered: presidential elections, legislative elections and assembly-elected presidential elections. This paper groups them into two electoral systems. One is a presidential and legislative electoral system which is adopted in Indonesia, South Korea, Malaysia, the Philippines, Singapore, Thailand and Taiwan. Another is an assembly-elected presidential electoral system or a hierarchical electoral system which is adopted in China.

Firm-level and country-level data are collected from Compustat IQ in Wharton Research Data Service, Bloomberg and World Bank Open Data. Some observations are excluded if they have incomplete records either for the dependent variable or explanatory variables, or negative values for cash and sales. In addition, the analysis excludes all firms with less than 3 years of consecutive observations. To control for the potential influence of outliers, the observations are winsorized at 1%. Finally, the unbalanced panel has 120,822 annual observations which are 41,274 observations in China, 5,627 observations in Indonesia, 15,364 observations in Korea, 14,509 observations in Malaysia, 2,520 observations in the Philippines, 9,643 observations in Singapore, 24,196 observations in Taiwan (China), and 7,689 observations in Thailand. Next, this paper also describes the dataset and introduces key variables in the empirical study.

4.2. Summary of Statistics

This section shows preliminary analysis descriptive statistics for cash holdings, national elections and other control variables. Political system and number of elections are presented in Table 1. Table 1 shows values for the name of country (column 1); number observations (column 2); type of Electoral systems (column 3); and number of elections from 1990 to 2018 (column 4).

[Table 1 is here]

To understand the political systems in the sample countries, Table 1 summarises the political system adopted and 47 national elections that were held during the period from 1990 to 2018. Column 2 presents the number of observations and shows that China is a majority of the sample, accounting for 34%[1] of the sample. Column 3 shows the type of elections which are classified as assembly-elected presidential, presidential, and legislative. Beck et al. (2001) propose that the system is characterised as assembly-elected presidential when in the system there are presidents, who were elected by the assembly. If they need a two-thirds vote to impeach, or are required to dissolve themselves in order to force out the executive. The dataset comprises one country with assembly-elected presidential elections, four economies with presidential elections, and three economies with legislative elections. The last column reports the number of political turnovers that is represented by the number of national elections in this period. National elections held every 4.77[2] years on average in eight economies, longer than the average election frequency in the study of Julio and Yook (2012) which is 3.8 years.

[Table 2 is here]

Table 2 provides descriptive statistics for all variables to understand firm characteristics and elections in the eight economies and it helps to clarify the estimates of models. Column 1 shows that the sample is divided into two sub-samples. The first sub-sample includes firms located in the countries with presidential or legislative elections; it comprises 79,548 observations residing in Indonesia, Korea, Malaysia, the Philippines, Singapore, Thailand and Taiwan (China). The second sub-sample includes firms located in China where there are assembly-elected presidential elections, comprising 41,274 observations. To find out whether political uncertainty affects corporate behaviour, this paper uses two dependent variables to measure corporate behaviour and also compares the effects in the two sub-samples.

The dependent variable, *Cash/Total assets*, is the ratio of cash and short-term investments to total assets. It presents how much a firm saves from today's cash flow and hold it as cash holdings (Duchin, 2010). Columns 4 and 5 in Table 2 report the mean and median values of the cash and short-term investments-to-total assets ratios in the two sub-samples. They highlight that firms in the presidential and legislative electoral system hold less cash than those in the assembly-elected presidential electoral system. The average cash

[1] Total observations are 120,822 observations and observations in China are 41,274. Thus, observations in China take 34.16% of the total observations (=41,274/120,822).
[2] There are 47 elections in eight economies from 1990 to 2018, which is 28 years. Hence, national elections in eight economies held every 4.77 years (28/(47/8)).

holdings ratio is 17% in firms located in a country with a presidential and legislative electoral system and is 20% in firms located in a country with the assembly-elected presidential electoral system, which is similar to the finding of aforementioned studies (Duchen, 2010; Gao et al.,2017). The level of cash holdings in Chinese firms is higher than those in other countries because of poor shareholder protection and political extraction. There is a positive relationship between political participation in China and cash reserve in regions with weaker institutions (Dittmar et al., 2003; Feng and Johansson, 2014; Guariglia and Yang, 2018). In addition, Lian et al. (2011) show that firms in China are precautious with their cash holdings especially during a crisis.

When firms are located in the same region and have similar characteristics, the values of some independent variables are similar such as the cash flow ratio, the capital expenditure ratio, leverage, cash flow volatility and dividend dummy variable. However, for some independent variables, there are differences between the two sub-samples. Average firm size in the first sub-sample is larger than those in the second sub-sample; in the manufacturing industry and the transportation and public industry, firms in the first sub-sample are larger than those in the second sub-sample. A higher net working capital ratio in the second sub-sample implies that firms have more funds to meet their current financial obligations. In addition, the values of Tobin's Q in both sub-samples have a right-skewed distribution. Table 2 shows that firms in the second sub-sample are more likely to acquire other firms than those in the first sub-sample because of business expansion strategies (Li and Qian, 2012).

Using the three-digit SIC level, there are 120,822 observations which are 709 observations in Crop and animal production, hunting and related service activities (SIC 01), 355 observations in Forestry and logging (SIC 02), 131 observations in Mining of metal ores (SIC 07), 123 observations in Other mining and quarrying (SIC 08), 142 observations in Mining support service activities (SIC 09), 888 observations in Manufacture of food product (SIC 10), 836 observations in Manufacture of tobacco products (SIC 12), 992 observations in Manufacture of textiles (SIC 13), 95 observations in Manufacture of wearing apparel (SIC 14), 1,768 observations in Manufacture of leather and related products (SIC 15), 1,787 observations in Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials (SIC 16), 408 observations in Manufacture of paper and paper products (SIC 17), 6,289 observations in Manufacture of chemicals and chemical products (SIC 20), 133 observations in Manufacture of basic pharmaceutical products and pharmaceutical preparations (SIC 21), 2,710 observations in Manufacture of rubber and plastic products

(SIC 22), 1,690 observations in Manufacture of other non-metallic mineral products (SIC 23), 1,055 observations in Manufacture of basic metals (SIC 24), 771 observations in Manufacture of fabricated metal products, except machinery and equipment (SIC 25), 1,996 observations in Manufacture of computer, electronic and optical products (SIC 26), 1,196 observations in Manufacture of electrical equipment (SIC 27), 12,013 observations in Manufacture of machinery and equipment n.e.c. (SIC 28), 735 observations in Manufacture of motor vehicles, trailers and semi-trailers (SIC 29), 3,013 observations in Manufacture of other transport equipment (SIC 30), 321 observations in Manufacture of furniture (SIC 31), 3,340 observations in Other manufacturing (SIC 32), 5,762 observations in Repair and installation of machinery and equipment (SIC 33), 12,543 observations in Electricity, gas, steam and air conditioning supply (SIC 35), 19,032 observations in Water collection, treatment and supply (SIC 36), 4,699 observations in Sewerage (SIC 37), 2,575 observations in Waste collection, treatment and disposal activities; materials recovery (SIC 38), 948 observations in Remediation activities and other waste management services (SIC 39), 458 observations in Construction of buildings (SIC 41), 587 observations in Civil engineering (SIC 42), 1,710 observations in Specialised construction activities (SIC 44), 727 observations in Wholesale and retail trade and repair of motor vehicles and motorcycles (SIC 45), 6 observations in Wholesale trade, except of motor vehicles and motorcycles (SIC 46), 1,538 observations in Retail trade, except of motor vehicles and motorcycles (SIC 47), 4,929 observations in Land transport and transport via pipelines (SIC 49), 4,074 observations in Water transport (SIC 50), 1,519 Air transport (SIC 51), 71 Warehousing and support activities for transportation (SIC 52), 1,414 observations in Postal and courier activities (SIC 53), 788 observations in Accommodation (SIC 55), 435 observations in Food and beverage service activities (SIC 56), 515 observations in Publishing activities (SIC 58), 871 observations in Motion picture, video and television programme production, sound recording and music publishing activities (SIC 59), 12 observations in Financial service activities, except insurance and pension funding (SIC 64), 65 observations in Insurance, reinsurance and pension funding, except compulsory social security (SIC 65), 53 observations in Activities auxiliary to financial services and insurance activities (SIC 67), 1,165 observations in Activities of head offices; management consultancy activities (SIC 70), 58 observations in Scientific research and development (SIC 72), 5,527 observations in Advertising and market research (SIC 73), 45 observations in Veterinary activities (SIC 75), 56 observations in Rental and leasing activities (SIC 76), 549 observations in Employment activities (SIC 78), 608 observations in Travel agency, tour operator and other reservation service and related activities (SIC 79), 675 observations in Security and investigation activities (SIC 80), 305 observations in Office administrative,

office support and other business support activities (SIC 82), 31 observations in Public administration and defence; compulsory social security (SIC 84), 2 observations in Human health activities (SIC 86), 1,697 observations in Residential care activities (SIC 87), 37 observations in Creative, arts and entertainment activities (SIC 89), and 1,240 observations in Activities of extraterritorial organisations and bodies (SIC 99).

[Table 3 is here]

Next, Table 3 illustrates how firm characteristics vary with firm size. On average over the period from 1990 to 2019, the ratio of cash and short term investment to total assets in large firms is lower than the ratio in small firms for both sub-samples. For firms in the presidential and legislative electoral system, an average cash holdings ratio is 0.15 in large firms and 0.18 in small firms. In the assembly-elected presidential electoral system, large firms have an average cash holdings ratio of 0.18 which is lower than the ratio in small firms (0.22). A positively skewed distribution[3] implies that a majority of firms in each sub-sample holds a cash ratio lower than the average.

Turning to the main variable of interest in this paper, the election dummy variable, Table 3 shows that there are 22% firms in the first sub-sample. Considering the second sub-sample, 13% (17%) of observations for large (small) firms are in election years. It can be seen that elections in a country with a presidential and legislative electoral system are held less often than elections in a country with an assembly-elected presidential electoral system.

The mean and median values of the cash flow ratio are insignificantly different. The mean and median values in the first sub-sample are in the range between 0.05 and 0.06. The cash flow ratio in the second sub-sample has a mean and a median of 0.06 in large firms and 0.07 in small firms. Likewise, means and medians of cash flow volatility are equal. On the other hand, the net working capital ratio, the capital expenditure ratio, leverage and the Q value all are positively skewed.

With regard to dividend payment, there are 38% (34%) of large (small) firms in the first sub-sample and 46% (32%) of large (small) firms in the second sub-sample paying dividend. This shows that large firms are more likely to pay a dividend to shareholders. Table 3 also shows that small firms in the first (second) sub-sample involve in more (fewer) acquisition activities than large firms; 6% (11%) of large (small) firms in the first sub-sample and 17% (5%) of large (small) firms in the second sub-sample acquire other firms.

[3] The mean is higher than the median

To test the equality of mean values, the p-values of the t-test between small and large firms within the electoral system are less than 0.01. In addition, the p-values of the t-test for the same size firms across the electoral system are zero except cash flow (0.0028). This concludes that there is the difference in the mean values of the variables statistically.

[Table 4 is here]

The mean value of corporate cash holdings around elections has been shown in Table 4. Considering cash holdings in two sub-samples, the average cash holdings, which is measured by the ratio of cash to total assets, are 0.165 for the first sub-sample and 0.202 for the second sub-sample in non-election years, and 0.170 for the first sub-sample and 0.187 for the second sub-sample in election years. Comparing cash holdings in election and non-election years, the statistics show that there are a 3.03%[4] higher in cash holdings within the first sub-sample in election years and a 7.43%[5] reduction in the second sub-sample. These differences in cash holdings between non-election and election years point out that firms residing in a country with a presidential or legislative electoral system hold more cash during election periods, but firms residing in a country with an assembly-elected presidential electoral system hold less cash during election periods. These show that firms residing in a country having presidential and legislative elections become more cautionary in cash management during election periods, indicating that they are more sensitive to political uncertainty than those residing in a country with an assembly-elected presidential electoral system. A reason for the higher sensitivity observed in the first sub-sample can be that elections in presidential and legislative electoral systems can bring changes to countries. By contrast, a decrease in cash holdings during election periods of those residing in a country with an assembly-elected presidential election supports the grabbing hand hypothesis which suggests that firms predict the politicians winning the future election will take cash from them (Xu et al.,2016).

Panel B reports the averages of the cash holdings ratio around the elections for both large and small firms in the two different electoral systems. In election years, the mean value of cash holdings in large firms (small firms) residing in a country with a presidential and legislative electoral system increases by 3.92%[6] (2.26%) compared to in non-election years. In contrast, the average cash holdings ratio in non-election years is 0.223 (0.184) in

[4] This is the difference between the mean of cash holdings in election years and that in non-election years divided by the mean of cash holdings in non-election years [(0.170-0.165)/0.165].
[5] Similar to the footnote 4, 7.43% = [(0.187-0.202)/0.202].
[6] According to Julio and Yook (2011), this paper measures by using the mean of cash holdings ratio in election years less the mean of cash holdings ratio in non-election years, and over the mean of cash holdings ratio in non-election years (=(0.159-0.153)/0.153).

large (small) firms in China. This ratio plunges by 10.33% (7.17%) to 0.165 (0.207) in large (small) firms in election years. This finding suggests that the grabbing hand hypothesis holds in China.

5. Empirical results

Political uncertainty and cash holdings

This section examines the relationship between cash holdings and elections and investigates whether this relationship varies with electoral systems. According to prior studies, political uncertainty motivates firms to reserve more cash. Moreover, firms in an assembly-elected presidential electoral system are expected to be less sensitive to political uncertainty than firms in a presidential and legislative electoral system. Even though the Chinese Communist Party (CCP) has a power to maintain its monopoly at provincial and country levels, it is undeniable that their work has contributed to the rapid economic growth of China over the past three decades (Bo, 1996; 2010). Furthermore, the section following Almeida et al. (2004) examines the cash flow sensitivity of cash to understand how firms' cash balance varies with cash flow.

[Table 5 is here]

Table 5 reports the estimation of Equation 1. The coefficients for firms residing in countries with presidential and legislative electoral systems (the first sub-sample) are shown in columns 1 and 2. Columns 3 and 4 report the results for firms residing in a country with an assembly-elected presidential electoral system (the second sub-sample). For the first sub-sample, after controlling for the effects of firm characteristics, the coefficient for *Election Year Dummy* is positive (0.020) and significant at the 1% significance level (see Column 1); the cash ratio in election years increases by 12.12%[7] relative to the average cash ratio in non-election year. By contrast, an insignificant coefficient for *Election Year Dummy* in column 3 shows that there is no significant association between political uncertainty caused by elections and changes in corporate cash holdings in a country with an assembly-elected presidential election.

With regard to the cash flow sensitivity of cash, coefficients for *cash flow to total assets* are significant and positive in all sub-samples, implying that firms tend to reserve more cash when cash flows are higher. A one-standard deviation increase in the cash flow-

[7] This magnitude is calculated by the coefficient for the election year dummy variable divided by the mean value of cash holdings in non-election years (0.020/0.165).

to-total assets ratio is associated with an increase of 0.29%[8] in the cash ratio in both sub-samples. These results are in line with the findings reported in prior studies (Almeida et al., 2004) that constrained firms facing negative shocks will increase their propensity to hold cash.

Columns 2 and 4 of Table 5 include the interaction between the election dummy variable and the cash flow ratio to assess the sensitivity of cash to accumulated cash flow during election periods. In particular, this result reinforces the cash flow sensitivity of cash. Column 2 presents that the interaction between the election year dummy variable and the ratio of cash flow-to-total assets has a positive and significant coefficient, indicating that the effect of cash flow on cash holdings is more pronounced during election periods. Coefficients indicates that if firms in a country with a presidential and legislative electoral system have an increase in the cash flow ratio in election years, their cash holdings will increase by 11.97%[9]. For example, a one-standard deviation increase in cash flow leads to an average increase of 14.49%[10] in cash holdings in an election year. It confirms that the marginal propensity to accumulate cash in firms residing in a country with presidential and legislative elections tend to be higher during election years. On the other hand, the negative and insignificant coefficient for the interaction between the election year dummy variable and the ratio of cash flow to total assets in Column 4 confirms that cash holdings in these firms are not significantly influenced by uncertainty caused by elections. As expected, the precautionary motive in firms residing in a country with a presidential and legislative electoral system can explain differences in the degree of the sensitivity of cash holdings to cash flow between non-election years and election years. Since firms are motivated to hold more cash from cash inflow during political uncertainty as a buffer against the uncertainty (Phan et al, 2019). In contrast, firms residing in a country with an assembly-elected presidential electoral system have lower precautionary saving motive because assembly-elected presidential election outcomes can be predicted before election outcomes are concluded.

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[8] This paper follows the calculation in the study of Phan et al. (2019). An increase of 0.2% is obtained from multiplying the coefficient for the ratio of cash flow to total assets with the standard deviation of the cash flow-to-total assets ratio. That is, a one-standard deviation increase in the cash flow-to-total asset ratio is associated with a growth of 0.286% [0.026×0.11] in cash balance in both sub-samples.

[9] Following Julio and Yook (2012), an increase of 12.03% is obtained from the sum between the product of the coefficient for the interaction between the cash flow ratio and the election dummy variable and the mean value of cash holdings and the coefficient for the election dummy variable, which is then divided by the mean value of cash holdings [((0.029×0.05)+0.019)/0.17].

[10] The sum between the mean of cash flow ratio (0.05) and its standard deviation (0.11) is multiplied by the coefficient for the interaction (0.029). Then, the coefficient for the election dummy variable (0.020) is added. Then, the total is divided by the mean of cash holdings (0.17). Thus, 14.49% comes from [((0.05+0.11)× /0.17].

Moreover, Table 5 reports a negative and significant effect of *firm size* on cash holdings. A one-standard deviation increase in size above its sample mean is associated with 0.022[11] and 0.013[12] percentage-point reductions in the cash ratio (see Columns 1 and 3). The result implies that firms will retain less cash when they become larger, consistent with the static trade-off theory that larger firms have a low probability of bankruptcy and are more diversified, less volatile and less vulnerable to financial distress so they can have smaller cash balance (Opler et al, 1999; Ferreira and Vilela, 2004; Al-Najjar and Belghitar, 2011).

The impact of *liquidity ratio* on the cash holdings is negative and statistically significant in both sub-samples because net working capital substitutes liquid assets and it is an internal source of finance. Because financially constrained firms will hold cash reserve for the need of future investment (Arslan et al., 2006), capital expenditure and acquisition activity have negative impacts on cash holdings as expected. The coefficients for the *capital expenditure ratio* in both sub-samples are significant and have the values in the range between –0.341 and –0.308, presenting that capital expenditure has a negative impact on corporate cash holdings. Moreover, the results point out that the economic effects of the precautionary motive on cash holdings are stronger than the investment channel (Phan et al., 2019). The coefficient *for the acquisition dummy variable* is negative and statistically significant at the 1% significance level in the second sub-sample but it is insignificant in the first sub-sample. Thus, firms in an assembly-elected presidential electoral system reduce the level of cash balance when they involve in an acquisition; whereas, in the presidential and legislative electoral system there is no significant difference in cash holdings between firms involving and not involving in an acquisition.

The effects of *leverage on the cash ratio* are negative as expected because leverage reflects the firm's ability to service their own debt and higher financial leverage can increase the likelihood of financial distress. The results support the trade-off theory that firms with high leverage use excess cash to reduce the level of debt. In other words, excess cash can be used to alleviate financial distress. (Ozkan and Ozkan, 2004; Al-Najjar and Belghitar, 2011). An increase in leverage by one standard deviation is related to a decline of 0.049% and 0.046%[13] in the cash ratio. The coefficients for *Tobin's Q* are positive and

[11] It is the product of coefficient for firm size (-0.007) and a standard deviation of firm size (3.19) (Phan et al.,2019).
[12] Similar to Footnote 15, this is a product of the coefficient for firm size (-0.009) and a standard deviation of firm size (1.39).
[13] They are the coefficients for the "leverage" variable multiplied by the standard deviation of leverage in each sub-sample, i.e. (-0.247x0.20) in the first sub-sample and (-0.271x0.17) in the second sub-sample.

significant, indicating that firms with high sales growth are more likely to have a large cash balance because of their expectation of future growth (Han and Qiu, 2007). Coefficients for *cash flow volatility* are positive and statistically significant. As a precautionary measure, firms in the industry with high idiosyncratic risk will reserve more cash. A one-standard deviation increase in cash flow volatility is associated with growth in the cash ratio of 0.784% in firms in a presidential and legislative electoral system and 1.205%[14] in firms in an assembly-elected presidential electoral system. Surprisingly, coefficients for the *dividend dummy variable* in both sub-samples are positive and significant, implying that firms with dividend payment are more likely to hold excess cash. To discuss more in-depth, this paper divides sub-samples into four groups, as can be seen in Table 6.

[Table 6 is here]

In Table 6, the sample is split into large firms and small firms; the size of firm is classified by the median of firm size (real value) in each of the original two sub-samples. To calculate the median values, this paper separates across economies and allows to switch size categories over time. The results for large firms are shown in columns 1 to 4 and the results for small firms are shown in columns 5 to 8. The results for firms residing in a country with a presidential and legislative electoral system are reported in columns 1-2 and 5-6, while columns 3-4 and 7-8 report the results for firms residing in a country with an assembly-elected presidential electoral system. Faulkender (2002) documents that information asymmetry and costs of financial distress are key determinants of cash holdings in small firms. More precisely, the level of cash holdings in small firms is greater than in large firms due to economies of scale and a restricted access to external funds. The means of cash holdings ratio are 0.15 for large firms and 0.18 for small firms in the presidential and legislative electoral system, and are 0.18 for large firms and 0.22 for small firms in the assembly-elected presidential electoral system.

Table 6 confirms a positive and statistically significant effect of election uncertainty on cash holdings in firms in the presidential and legislative electoral system. The coefficient for the interaction between the election dummy variable and the cash flow ratio reported in columns 2 and 6 are statistically significant, indicating that in election years firms increase the propensity to reserve cash. More specifically, the coefficients for the interaction term imply that when firms residing in a country with a presidential and legislative electoral system and experience higher cash flow in election years, they will

[14] They are the product of the coefficient for cash flow volatility and the standard deviation of cash flow volatility, i.e. 0.779x0.01 in the first sub-sample and 1.205x0.01 in the second sub-sample.

increase the amount of cash reserve (by 10.35% for large firms and 12.86 %[15] for small firms). This result suggests that small firms residing in a country with a presidential and legislative electoral system are more likely to reserve cash from their cash flow than large firms because of precautionary reasons (Martinez-Carrascal, 2010).

In contrast, the coefficient for the election dummy variable is insignificant for the sub-sample of which firms are in an assembly-elected presidential electoral system. Interestingly, the coefficient for the cash flow ratio is positive and significant, supporting the pecking order theory that firms generating more cash flow from operation prefer to reserve a higher level of cash for future investment and precautionary motive with the exception of large firms residing in a country with an assembly-elected presidential electoral system. However, the coefficient for the cash flow ratio is positive (0.026) and significant at 10% level after adding the interaction term which has a negative and significant coefficient (-0.083). These results imply that cash holdings in large firms residing in China, on average, is not influenced by election but they would rather utilise cash flow to make investment in election years (Bao et al., 2012; Jebran et al., 2019). Xu et al. (2016) explain the helping and the grabbing hand hypotheses in China that officials help firms to seek for non-monetary compensations such as personal connection, political ties and political advancement opportunities, or they may look for monetary compensation by using their political power to take advantage from firms. As the compensation of Chinese officials is relatively lower than compensation to officials in other countries and the private industry in China, officials look for alternative compensation in monetary and non-monetary forms. The negative coefficient for the interaction term between the election dummy variable and the cash flow ratio in column 4 supports the study of Stulz (2005), Caprio et al (2013), Feng and Johansson (2014) and Xu et al. (2016) that firms in China will reserve less cash when they face political uncertainty. As cash and short-term investment are assets that can be the target of political extraction. To minimise political extraction, firms with financial instability keep small cash balance when facing political uncertainty. Firms with strong twin agency conflicts, which are associated with corporate insiders and state rulers, are more likely to hold smaller cash balance during political uncertainty periods too. This finding implies that twin agency conflicts bring about a strategic precautionary response of firms because they believe in a grabbing hand from newly appointed officials.

[15] It is the product of the coefficient for an interaction and the mean of cash flow ratio in large firms, plus the coefficient for the election dummy variable, and then divided by the mean of cash holdings in large firms.

Table 6 shows that coefficients for the dividend dummy variable are negative and statistically significant as can be seen in columns 1 and 2 and they are positive and statistically significant in columns 3 – 8. In contrast, small firms may reduce their dividend payment when they face cash shortage (see columns 5-6). If firms have to pay dividends, they will accumulate a large amount of excess cash to avoid cash shortage so that they can continue paying dividend and protect their own reputation among investors (Ferreira and Vilela, 2004; Saddour, 2006; Al-Najjar and Belghitar, 2011). Sher (2014) explains that dividend payments come from corporate cash holdings and they cause a short-term decline in cash holdings. Nevertheless, dividend payments generate liquidity and cash stock in the long run. For firms in the assembly-elected presidential electoral system of which results are shown in columns 3-4 and 7-8, the positive coefficients are statistically significant, proposing that dividend-paying firms in China hold less cash. Opler et al. (1999) and Wang (2009) explain that the level of cash holdings is significantly related with the level of financial access limitation; companies with a limited access to financial resources hold more cash than those without limitation in financial access. Under some restrictions such as the mandatory dividend policy in China, firms rely more on internal cash flow for financing. In the nutshell, dividend-paying firms in China need to reserve more cash due to the obligation to dividend pay-out.

6. Additional test and Robustness check

6.1. Alternative measures of cash holdings and addressing corporate tax issue

This section tests for the robustness of the results shown in Section 5. To confirm that the baseline results do not suffer from heterogeneity and the use of cash holdings' definition introduced by Palazzo (2012), the cash holdings variable is changed from the cash and short-term investment-to-total assets ratio to the cash-to-assets ratio.

In addition, corporate tax variable is added as another control variable. The literature documents that corporate tax affects the decision of corporates on cash holdings. If firms suffer from higher tax rates or repatriation tax, they are more likely to hold a large amount of cash rather than liquidate their assets (Hartzell et al, 2006; Foley et al., 2007; Anjum and Malik, 2013). For example, a firm affiliating in a country with a lower tax rate and a higher repatriation tax are unwilling to bring foreign profit back to domestic (Sanchez and Yurdagul, 2013). This section employs the data on corporate tax rates over the period from 2003 to 2018 (KPMG, 2020) which can capture how fiscal policy influences cash

holdings. Tax, as measured by income tax rates for each country in any given years, is expected to have a negative relationship with cash holdings.

[Table 7 is here]

The results in Table 7 are consistent with the aforementioned finding in Table 5. Firms in a presidential and legislative electoral system is more precautionary than those in an assembly-elected presidential electoral system and thus hold a larger cash balance. It is expected that the impact of elections on cash holdings remains positive and statistically significant in a presidential and legislative electoral system and insignificant in an assembly-elected presidential electoral system. Specifically, the coefficient for the interaction between the election year dummy variable and the cash flow ratio is statistically significant in both sub-samples. This confirms that firms in a presidential and legislative electoral system hold more cash when there is an increase in cash flow during election periods, whereas firms in an assembly-elected presidential electoral system react to political uncertainty by holding smaller cash balances. This finding supports the grabbing hand hypothesis of Xu et al. (2016) that new officials will extract resources from firms for their personal benefits. Hence, firms in an assembly-elected presidential electoral system are less likely to reserve cash during election periods. As expected, an increase in taxes is negatively associated with the accumulation of cash holdings in firms within a presidential and legislative electoral system. Simone et al. (2019) explain that firms tend to maximize tax benefits, and the growth of excess global cash is driven by changes in foreign cash. In contrast, the positive relationship between cash holdings and taxes in China can be explained by tax aggressiveness, which refers to a company's attempt to reduce its tax bill through aggressive tax planning and avoidance actions (Chen et al., 2006).

[Table 8 is here]

The results in Table 8 are different from the results in Table 6. When considering large firms and small firms separately, the interaction effect is different between large and small firms in an assembly-elected presidential electoral system. However, Table 8 reports that results continue to be statistically significant after changing definition of cash holdings and adding corporate tax. Therefore, the main findings are robust.

7. Concluding remarks

Political uncertainty can be represented by economic policy uncertainty which is based on newspapers coverage frequency (Baker et al., 2016) and the electoral uncertainty. Flourish literature on political uncertainty and cash holdings has mainly considered how political uncertainty in the context of economic policy uncertainty influences cash holdings (Demir and Ersan, 2017; Duong et al., 2017; Phan et al., 2019). Following prior studies (e.g. Julio and Yook, 2012; Xu et al., 2016; Bircan and Saka, 2018), this paper employs national election as a proxy of political uncertainty to explore whether political uncertainty can cause corporates to change their cash holdings by using the data of eight countries which are China, Indonesia, Korea, Malaysia, the Philippines, Singapore, Taiwan (China) and Thailand. The data analysed covers the period from 1990 to 2018. Therefore, the main contributions of this paper extend the literature on political uncertainty and corporate cash holdings.

This paper, for the first time, compares the impacts of national elections on corporate behaviour in China and in other countries. In line with existing studies on the effects of elections (e.g. Julio and Yook, 2012) especially on the cash flow sensitivity of cash (Almeida et al., 2004), results indicate that levels of cash holdings in firms residing in Indonesia, Korea, Malaysia, the Philippines, Singapore, Taiwan (China) and Thailand are more sensitive to national elections than those in China. The uncertainty of election outcomes in China is relatively less than in other sample countries. Without political uncertainty, results support the study of Almeida et al. (2004) that a financially constrained firm tends to reserve more cash from its cash flow. In addition, the empirical findings show that firms residing in Indonesia, Korea, Malaysia, the Philippines, Singapore, Taiwan and Thailand hold a larger cash balance during election periods as a precaution against uncertainty. In contrast, large firms in China alleviate a grabbing hand problem by lowering the cash-to-cash flow ratio during election periods.

To sum up, this paper provides shreds of evidence that the impacts of political uncertainty on corporate behaviour vary with the electoral system adopted in the country. In other words, firms will use a precautionary measure such as holding more cash when they face higher uncertainty.

8. Tables

Table 1: Political systems and election types

The table presents political system and number of elections for eight economies between 1990 and 2018

Country	Number of observations	Type of Electoral systems	Number of Elections
China (Mainland)	41,274	Assembly-Elected Presidential	6
Indonesia	5,627	Presidential	3
South Korea	15,364	Presidential	6
Malaysia	14,509	Legislative	7
Philippines	2,520	Presidential	5
Singapore	9,643	Legislative	6
Taiwan (China)	24,196	Presidential	6
Thailand	7,689	Legislative	8

Table 2: Summary of statistics for all variables by type of electoral systems

The table presents number of observations, mean, standard deviation, minimum, maximum, 25th percentile, median and 75th percentile for firm characteristics in two types of elections.

Type of Electoral systems	Variables	Obs.	Mean	Median	Min	Max	St.dev
Presidential and Legislative	Cash/Total assets	79,548	0.17	0.12	0.00	0.71	0.15
	Election Year Dummy	79,548	0.22	0.00	0.00	1.00	0.42
	Cash flow/Total assets	79,548	0.05	0.06	-0.45	0.32	0.11
	Size	79,548	8.61	7.99	3.09	15.98	3.19
	Net working capital/Total assets	79,548	0.68	0.66	0.09	1.68	0.34
	Capital expenditure/Total assets	79,548	0.05	0.03	0.00	0.30	0.06
	Leverage	79,548	0.24	0.21	0.00	0.87	0.20
	Q	79,548	0.12	0.06	-0.73	2.88	0.45
	Cash flow volatility	79,548	0.03	0.03	0.01	0.28	0.01
	Dividend Dummy	79,548	0.36	0.00	0.00	1.00	0.48
	Acquisition Dummy	79,548	0.09	0.00	0.00	1.00	0.28
Assembly-Elected Presidential	Cash/Total assets	41,274	0.20	0.16	0.00	0.71	0.14
	Election Year Dummy	41,274	0.15	0.00	0.00	1.00	0.36
	Cash flow/Total assets	41,274	0.07	0.06	-0.45	0.32	0.08
	Size	41,274	7.74	7.60	3.09	14.70	1.39
	Net working capital/Total assets	41,274	0.73	0.71	0.09	1.68	0.32
	Capital expenditure/Total assets	41,274	0.06	0.04	0.00	0.30	0.06
	Leverage	41,274	0.20	0.18	0.00	0.87	0.17
	Q	41,274	0.21	0.13	-0.73	2.88	0.45
	Cash flow volatility	41,274	0.03	0.03	0.01	0.20	0.01
	Dividend Dummy	41,274	0.39	0.00	0.00	1.00	0.49
	Acquisition Dummy	41,274	0.12	0.00	0.00	1.00	0.32

Table 3: Summary of statistics for all variables by electoral systems and firm size

The table presents descriptive statistics for large and small firms in two different types of elections.

Firm Size	Type of Electoral systems	Variable	Obs.	Mean	Median	Min	Max	St.dev
Large firms	Presidential and Legislative	Cash/Total assets	40,171	0.15	0.12	0.00	0.71	0.13
		Election Year Dummy	40,171	0.22	0.00	0.00	1.00	0.41
		Cash flow/Total assets	40,171	0.06	0.06	-0.45	0.32	0.09
		Size	40,171	11.17	11.11	7.96	15.98	2.28
		Net working capital/Total assets	40,171	0.67	0.65	0.09	1.68	0.32
		Capital expenditure/Total assets	40,171	0.05	0.03	0.00	0.30	0.05
		Leverage	40,171	0.27	0.26	0.00	0.87	0.20
		Q	40,171	0.13	0.06	-0.73	2.88	0.41
		Cash flow volatility	40,171	0.03	0.03	0.01	0.22	0.01
		Dividend Dummy	40,171	0.38	0.00	0.00	1.00	0.48
		Acquisition Dummy	40,171	0.06	0.00	0.00	1.00	0.24
Large firms	Assembly-Elected Presidential	Cash/Total assets	21,933	0.18	0.15	0.00	0.71	0.13
		Election Year Dummy	21,933	0.13	0.00	0.00	1.00	0.34
		Cash flow/Total assets	21,933	0.06	0.06	-0.45	0.32	0.06
		Size	21,933	8.73	8.43	7.50	14.70	1.07
		Net working capital/Total assets	21,933	0.73	0.71	0.09	1.68	0.32
		Capital expenditure/Total assets	21,933	0.06	0.04	0.00	0.30	0.05
		Leverage	21,933	0.23	0.22	0.00	0.87	0.17
		Q	21,933	0.22	0.14	-0.73	2.88	0.46
		Cash flow volatility	21,933	0.03	0.03	0.01	0.19	0.01
		Dividend Dummy	21,933	0.46	0.00	0.00	1.00	0.50
		Acquisition Dummy	21,933	0.17	0.00	0.00	1.00	0.38
Small firms	Presidential and Legislative	Cash/Total assets	39,377	0.18	0.13	0.00	0.71	0.16
		Election Year Dummy	39,377	0.22	0.00	0.00	1.00	0.42
		Cash flow/Total assets	39,377	0.05	0.06	-0.45	0.32	0.12
		Size	39,377	6.00	6.26	3.09	7.95	1.34
		Net working capital/Total assets	39,377	0.70	0.66	0.09	1.68	0.35
		Capital expenditure/Total assets	39,377	0.04	0.02	0.00	0.90	0.06
		Leverage	39,377	0.20	0.16	0.00	0.87	0.19
		Q	39,377	0.11	0.04	-0.73	2.88	0.48
		Cash flow volatility	39,377	0.03	0.03	0.01	0.28	0.01
		Dividend Dummy	39,377	0.34	0.00	0.00	1.00	0.48
		Acquisition Dummy	39,377	0.11	0.00	0.00	1.00	0.32
Small firms	Assembly-Elected Presidential	Cash/Total assets	19,341	0.22	0.18	0.00	0.71	0.16
		Election Year Dummy	19,341	0.17	0.00	0.00	1.00	0.38
		Cash flow/Total assets	19,341	0.07	0.07	-0.48	0.32	0.09
		Size	19,341	6.62	6.76	3.10	7.49	0.66
		Net working capital/Total assets	19,341	0.74	0.72	0.09	1.68	0.32
		Capital expenditure/Total assets	19,341	0.06	0.04	0.00	0.30	0.06
		Leverage	19,341	0.17	0.13	0.00	0.87	0.17
		Q	19,341	0.19	0.13	-0.73	2.88	0.44
		Cash flow volatility	19,341	0.03	0.03	0.01	0.20	0.01
		Dividend Dummy	19,341	0.32	0.00	0.00	1.00	0.46
		Acquisition Dummy	19,341	0.05	0.00	0.00	1.00	0.22

Table 4: Means of cash holdings by electoral systems and firm size

Panel A presents summary of statistics for cash holdings of firms residing in two different types of elections in both election years and non-election years. Panel B presents a summary of statistics for cash holdings of large and small firms residing in two different types of electoral systems in both election years and non-election years.

Panel A: Means cash holdings in election years vs non election years

	Presidential and Legislative				Assembly-Elected Presidential			
	Obs	Mean	Median	Std.dev	Obs	Mean	Median	Std.dev
Non election years	61,956	0.165	0.121	0.147	35,035	0.202	0.164	0.145
Election years	17,592	0.170	0.122	0.150	6,239	0.187	0.153	0.135
Difference		-0.005				0.015		
Diff (t stat)		-3.66				7.62		

Panel B: Means cash holdings in election year vs non election years

Large firms								
	Presidential and Legislative				Assembly-Elected Presidential			
	Obs	Mean	Median	Std.dev	Obs	Mean	Median	Std.dev
Non election years	31,525	0.153	0.115	0.133	18,981	0.184	0.151	0.128
Election years	8,646	0.159	0.117	0.136	2,952	0.165	0.137	0.116
Difference		-0.006				0.019		
Diff (t stat)		-3.56				7.64		
Small firms								
	Presidential and Legislative				Assembly-Elected Presidential			
	Obs	Mean	Median	Std.dev	Obs	Mean	Median	Std.dev
Non election years	30,431	0.177	0.129	0.160	16,054	0.223	0.184	0.159
Election years	8,946	0.181	0.127	0.162	3,287	0.207	0.171	0.147
Difference		-0.004				0.016		
Diff (t stat)		-1.98				5.49		

Table 5: Cash holdings model: sub-samples by electoral systems

The table presents the results of an OLS regression which estimates the cash flow sensitivity of cash during election periods in presidential and legislative sub-sample and assembly-elected presidential sub- sample. Country and year fixed effects are included in all specification. The parentheses show standard errors. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Dependent variable: The ratio of cash to total assets				
	Presidential and Legislative		Assembly-Elected Presidential	
	(1)	(2)	(3)	(4)
Election Year Dummy	0.020***	0.019***	-0.000	0.001
	(0.00)	(0.00)	(0.00)	(0.00)
Cash flow/Total assets	0.026***	0.020***	0.026***	0.028***
	(0.00)	(0.01)	(0.01)	(0.01)
Election Year Dummy × Cash flow/Total assets		0.029***		-0.023
		(0.01)		(0.02)
Size	-0.007***	-0.007***	-0.009***	-0.009***
	(0.00)	(0.00)	(0.00)	(0.00)
Net working capital/Total assets	-0.086***	-0.086***	-0.111***	-0.111***
	(0.00)	(0.00)	(0.00)	(0.00)
Capital expenditure/Total assets	-0.312***	-0.312***	-0.341***	-0.341***
	(0.01)	(0.01)	(0.01)	(0.01)
Leverage	-0.247***	-0.247***	-0.271***	-0.271***
	(0.00)	(0.00)	(0.00)	(0.00)
Q	0.004***	0.004***	0.008***	0.008***
	(0.00)	(0.00)	(0.00)	(0.00)
Cash flow volatility	0.779***	0.779***	1.205***	1.205***
	(0.03)	(0.03)	(0.05)	(0.05)
Dividend Dummy	0.002**	0.003**	0.025***	0.025***
	(0.00)	(0.00)	(0.00)	(0.00)
Acquisition Dummy	0.001	0.001	-0.017***	-0.017***
	(0.00)	(0.00)	(0.00)	(0.00)
Constant	0.334***	0.335***	0.374***	0.374***
	(0.00)	(0.00)	(0.01)	(0.01)
Observations	79,548	79,548	41,274	41,274
Adjusted R-Squared	0.271	0.271	0.306	0.306
Fixed Effects	Yes	Yes	Yes	Yes

Table 6: Cash holdings model: by electoral systems and firm size

The table presents the results of an OLS regression which estimates the cash flow sensitivity of cash in large and small firms in presidential and legislative sub-sample and assembly-elected presidential electoral systems. Country and year fixed effects are included in all specifications. The parentheses show standard errors. ***, **, and * indicate the significance of coefficients at the 1%, 5%, and 10% significance level, respectively.

Dependent variable: The ratio of cash to total assets								
	Large firms				Small firms			
	Presidential and Legislative		Assembly-Elected Presidential		Presidential and Legislative		Assembly-Elected Presidential	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Election Year Dummy	0.016***	0.013**	-0.003	0.002	0.023***	0.022***	-0.006	-0.006
	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Cash flow/Total assets	0.058***	0.051***	0.017	0.026*	0.029***	0.024***	0.038***	0.037***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Election Year Dummy Cash flow/Total assets		0.042***		-0.083**		0.023*		0.007
		(0.02)		(0.04)		(0.01)		(0.03)
Size	-0.007***	-0.007***	-0.003***	-0.003***	-0.019***	-0.019***	-0.014***	-0.014***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Net working capital/Total assets	-0.071***	-0.071***	-0.059***	-0.059***	-0.098***	-0.098***	-0.185***	-0.185***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Capital expenditure/Total assets	-0.293***	-0.293***	-0.257***	-0.257***	-0.337***	-0.337***	-0.439***	-0.439***
	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)	(0.02)	(0.02)
Leverage	-0.231***	-0.231***	-0.279***	-0.279***	-0.247***	-0.247***	-0.205***	-0.205***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Q	0.004***	0.004***	0.006***	0.006***	0.001	0.001	0.012***	0.012***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Cash flow volatility	0.756***	0.756***	1.466***	1.466***	0.698***	0.698***	0.933***	0.933***
	(0.05)	(0.05)	(0.06)	(0.06)	(0.04)	(0.04)	(0.07)	(0.07)
Dividend Dummy	-0.010***	-0.010***	0.013***	0.013***	0.015***	0.015***	0.037***	0.037***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Acquisition Dummy	0.009***	0.009***	-0.011***	-0.011***	-0.002	-0.002	-0.031***	-0.031***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Constant	0.319***	0.320***	0.274***	0.273***	0.396***	0.396***	0.469***	0.469***
	(0.02)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Observations	40,171	40,171	21,933	21,933	39,377	39,377	19,341	19,341
Adjusted R-Squared	0.243	0.243	0.262	0.262	0.293	0.293	0.351	0.351
Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Table 7: Cash holdings model (Robustness): by electoral systems

The table presents the results of an OLS regression which estimates the cash flow sensitivity of cash during election periods in presidential and legislative sub-sample and assembly-elected presidential sub-sample. Country and year fixed effects are included in all specification. The parentheses show standard errors. ***, **, and * indicate significance at the 1%, 5%, and 10% level, respectively.

Dependent variable: The ratio of cash to total assets				
	Presidential and Legislative		Assembly-Elected Presidential	
	(1)	(2)	(3)	(4)
Election Year Dummy	0.009***	0.008**	-0.004	-0.002
	(0.00)	(0.00)	(0.00)	(0.00)
Cash flow/Total assets	0.064***	0.061***	0.051***	0.061***
	(0.00)	(0.00)	(0.01)	(0.01)
Election Year Dummy × Cash flow/Total assets		0.015*		-0.031*
		(0.01)		(0.02)
Size	-0.006***	-0.006***	-0.007***	-0.007***
	(0.00)	(0.00)	(0.00)	(0.00)
Net working capital/Total assets	-0.028***	-0.029***	-0.083***	-0.083***
	(0.00)	(0.00)	(0.00)	(0.00)
Capital expenditure/Total assets	-0.101***	-0.101***	-0.273***	-0.274***
	(0.01)	(0.01)	(0.01)	(0.01)
Leverage	-0.178***	-0.178***	-0.233***	-0.233***
	(0.00)	(0.00)	(0.00)	(0.00)
Q	0.004***	0.004***	0.007***	0.007***
	(0.00)	(0.00)	(0.00)	(0.00)
Cash flow volatility	0.497***	0.497***	1.041***	1.040***
	(0.03)	(0.03)	(0.05)	(0.05)
Dividend Dummy	0.001	0.001	0.008***	0.008***
	(0.00)	(0.00)	(0.00)	(0.00)
Acquisition Dummy	0.005***	0.005***	-0.010***	-0.009***
	(0.00)	(0.00)	(0.00)	(0.00)
Tax	-0.005***	-0.005***	0.002***	0.002***
	(0.00)	(0.00)	(0.00)	(0.00)
Constant	0.323***	0.323***	0.239***	0.239***
	(0.02)	(0.02)	(0.01)	(0.01)
Observations	67,948	67,948	37,432	37,432
Adjusted R-Squared	0.211	0.211	0.258	0.258
Fixed Effects	Yes	Yes	Yes	Yes

Table 8: Cash holdings model (Robustness): by electoral systems and firm size

The table presents the results of an OLS regression which estimates the cash flow sensitivity of cash in large and small firms in presidential and legislative sub-sample and assembly-elected presidential electoral systems. Country and year fixed effects are included in all specifications. The parentheses show standard errors. ***, **, and * indicate the significance of coefficients at the 1%, 5%, and 10% significance level, respectively.

Dependent variable: The ratio of cash to total assets								
	Large firms				Small firms			
	Presidential and Legislative		Assembly-Elected Presidential		Presidential and Legislative		Assembly-Elected Presidential	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Election Year Dummy	0.010**	0.008*	-0.004	-0.007**	0.013**	0.010*	-0.003	-0.000
	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Cash flow/Total assets	0.089***	0.084***	0.024*	0.011	0.076***	0.064***	0.059***	0.074***
	(0.01)	(0.01)	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.01)
Election Year Dummy × Cash flow/Total assets		0.027**		0.031		0.064***		-0.060***
		(0.01)		(0.02)		(0.01)		(0.02)
Size		-0.003***	-0.003***	-0.002**	-0.002**	-0.013***	-0.013***	-0.014***
		(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Net working capital/Total assets	-0.015***	-0.015***	-0.035***	-0.035***	-0.033***	-0.034***	-0.152***	-0.152***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Capital expenditure/Total assets	-0.056***	-0.057***	-0.198***	-0.197***	-0.134***	-0.135***	-0.364***	-0.365***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)
Leverage	-0.153***	-0.153***	-0.222***	-0.222***	-0.186***	-0.187***	-0.205***	-0.205***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.01)
Q	0.002**	0.002**	0.006***	0.006***	0.003**	0.003**	0.009***	0.009***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Cash flow volatility	0.498***	0.498***	1.112***	1.114***	0.408***	0.406***	0.920***	0.918***
	(0.04)	(0.04)	(0.06)	(0.06)	(0.04)	(0.04)	(0.07)	(0.07)
Dividend Dummy	-0.012***	-0.012***	0.000	0.000	0.014***	0.014***	0.020***	0.020***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Acquisition Dummy	0.007***	0.007***	-0.007***	-0.007***	0.004**	0.004**	-0.020***	-0.020***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Tax	-0.002*	-0.002*	0.001*	0.001*	-0.007***	-0.007***	0.005***	0.005***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Constant	0.225***	0.225***	0.190***	0.190***	0.396***	0.396***	0.266***	0.265***
	(0.03)	(0.03)	(0.02)	(0.02)	(0.04)	(0.04)	(0.03)	(0.03)
Observations	35,243	35,243	20,705	20,705	32,705	32,705	16,727	16,727
Adjusted R-Squared	0.186	0.186	0.198	0.198	0.231	0.231	0.303	0.303
Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

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