STATE-OWNED HOLDING COMPANY AND VALUE OF CASH HOLDINGS IN VIETNAM

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ABSTRACT

Ownership structure, which specifies the owners of the firm, is crucial to corporate governance as it one of the foundation explanation sources of agency conflicts. Roles and impacts of different corporate owners on corporate governance have been studied worldwide, but are not as popular for the role of a State-Owned Holding Company (SOH) as a model of state capital investment agency. This study examines the role of SOH in the management and governance of listed companies with state capital in Vietnam through cash holdings models. SOH-linked companies (SLCs) are found to hold more cash and the shareholders appreciate the cash hold by the SLCs as robust to the firms' characteristics. SOH ownership significantly increases the value of cash holding, and the better value of cash holdings in SLCs is supposed to be a result coming from good corporate governance. This study contributes to the literature of ownership structure and corporate governance and provides evidence for SOH as a positive ownership and monitoring mechanism in improving corporate governance and firm performance in companies with state-owned capital in Vietnam.

1. INTRODUCTION

A country's state is a special influential owner in a company. State ownership firms represent an important aspect of the world economy (Lin et al., 2020). Firms with state ownership have more severe agency problems (Peng et al., 2016; Chen et al., 2018; Lin et al., 2020) when they pursue various objectives beside profitability. In its operations, they may be affected by political interference and be influenced by social objectives, all of which cost its professionalism and make it ineffective and inconsistent in strategies. Besides, under weak governance control, they also operate with low transparency and accountability (Wong, 2004; Chen, 2013; Peng et al., 2016; Nurgozhayeva, 2017; Kim & Chung, 2018). As a result, countries around the world look for a model to mitigate the agency problem in firms with state capital. Privatization was commonly accepted as a suitable advance to improve performance of state capital companies in previous decades (Bortolotti et al., 2002). However, governments are found to retain large ownership in the privatized firms (Bortolotti & Faccio, 2008), therefore, agency problem in these firms has not been clearly resolved (Wang & Judge, 2012).

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There is a need to form an intermediary agent that pursues foremost a profitability objective and is exempt from other conflicting objectives – a State Owned Holding company (SOH company). An SOH is an intermediary agent that acts like a direct investment holding arm of countries' governments (Sam, 2008; Kim & Chung, 2018; Pei et al., 2019; Yu, 2019). An SOH, above all its mandates, is a strategic investor with profit maximization orientation (Sam, 2010; Kim & Chung, 2018). An SOH, first of all, is expected to act a role similar to an institutional investor and theoretically have stronger incentives to maximize firms' value. As a result, the agency problem due to conflict of interests could be overcome (Sam, 2013). In addition, beside pursuing a single objective, an SOH is accountable for its performance and under a stronger monitoring mechanism. It is expected that an SOH will also implement better governance mechanisms in its invested companies than other state own representative agencies. Acting as an institutional investor with large enough ownership, an SOH can use their rights to place pressures on managers in improving corporate governance which would lead to lower agency problems (Sam, 2013). All of the above make SOHs a potential mechanism to improve quality of corporate governance and firm performance. This study pays the first efforts in investigating the corporate governance effectiveness of SOHs, measured by value of cash holdings, in a developing economy like Vietnam.

SOEs still play an important role in the Vietnamese economy, contributing up to 20% of GDP and accounting for 60% of the total bad debt of the economy. The Government also has many plans to equitize SOEs, however, the issues related to transparency and corporate governance of SOEs and equitized SOEs still remain (Dang et el., 2021). Vietnam established the State Capital Investment Corporation (SCIC) as a State-owned Holding Company (SOH). It is expected that SCIC could bring more effectiveness in the Vietnamese context (Nguyen & Nguyen, 2020).

The agency theory suggests that poor corporate governance can weaken managers' fiduciary responsibilities and allow self-interested managers to entrench and engage in empire building (Jensen, 1986). State ownership faces the severe agency problem of cash holdings than the others because of its multiple objectives and political interference issues. Managers could utilize weak corporate governance in SOEs to pursue their own interests through cash holdings manipulation while lowering firm performance (Nguyen Thi et al., 2021). Therefore, in firms with better governance, the managerial agency problem is reduced and shareholder power is stronger in disciplining managers, as a result, and all else equal, the value of cash to shareholders will increase. Corporate governance itself is found to have a positive influence on firm value through value of excess cash (Dittmar & Mahrt-Smith, 2007; Seifert & Gonenc, 2018). Good corporate governance is demonstrated to have a positive effect on firm value by improving the value of cash holdings. This would be explored in the Vietnamese context through a new model, taking into consideration SOH ownership as a leading role. As cash is a neutral asset, the positive impact of SOH role on increasing the value of cash holding would yield evidence of the role of SOHs in improving firm value through proper corporate governance.

2. THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

2.1. *Agency Theory*

Agency theory models the relationship between the principal and the agent. Jensen and Meckling (1976) defined an agency relationship as *"a contract under which one or more persons (the*

principal(s)) engage another person (the agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent". In the context of the firm, the agent (manager) acts on behalf of the principal (shareholder) (Eisenhardt, 1989; Jensen & Meckling, 1976) leading to agency problems. From a cash holdings perspective, managers have the incentive to hoard cash flow to gain more power over the company's investment decision and might waste this cash by investing it into non-profitable projects (Jensen, 1986; Ferreira and Vilela, 2004; Martínez-Sola et al., 2018). However, a good corporate governance is demonstrated to have a positive effect on firm value by improving the value of cash holdings (Dittmar & Mahrt-Smith, 2007; Seifert & Gonenc, 2018).

2.2.   *State-Owned Holding Companies*

Wong (2004) stated that governance problems of State-owned Enterprises (SOEs) have multiple conflicting objectives, political intervention and lack of transparency. The holding structure seems to well serve the purpose of resolving the first two problems at SOEs, as the holding structure is also believed to be able to serve as a layer shielding the SOEs from politics and government intervention while transparency can be improved by opening access of ownership to the public (Wicaksono, 2008). Placing SOEs under the control of an SOH instead of the direct ownership of the state might reduce the conflict inherent in the state's roles as both shareholder and regulator (Chen, 2013).

Among SOHs, the success of Temasek Holdings has received the attention of scholars for the model (Chen, 2016; Kim & Chung, 2018). Temasek's success is achieved by maintaining high standards of corporate governance (Sam, 2008), rescued from the burden of pursuing social goals and government intervention (Kim & Chung, 2018) and autonomy of subsidiaries (Kim & Chung, 2018). An SOH, therefore, is a mechanism to bring a better corporate governance as government does not directly manage the enterprises as in the traditional model. As an active shareholder, SOHs are playing key roles in raising corporate governance standards to mitigate agency problems and allowing for more reliable long-term engagements between SOHs and SLCs.

2.3.   *Cash Holdings and Excess Cash Holdings*

Cash holding is necessary for a firm's growth and for investors (Doan, 2020). Chen and Chuang (2009) state holding cash would reduce transaction costs and avoid underinvestment in case of lack of funds. Moreover, holding cash could also reduce the uncertainty of a company's cash-flow (Chen & Chuang, 2009). There is a question regarding the optimal level of cash holdings on a corporate balance sheet (Opler et al., 1999). A company may hold excess cash for its future financial purposes or to respond to adverse risk (Ku et al., 2013).

In a trade-off model, cash holding reduces the risk of financial distress as it provides a safe replacement for unexpected expenses or in case of external financial constraints. Secondly, cash holding allows firms to pursue investments opportunities in times when external funds are not available. Finally, cash holding reduces the costs of raising external funds or liquidating current existing assets. These benefits are balanced by opportunity costs of cash holdings with lower return on assets (Ferreira & Vilela, 2004).

2.4. Ownership Structure and Value of Cash Holdings

Cash holdings are most appropriate to the study of corporate governance and agency conflicts, since the decision to deploy or accumulate cash exceeds the amount for normal business transactions is dependent upon managers' authorities with limited external supervision (Al-Najjar & Clark, 2017). Good corporate governance could protect minority shareholders from expropriation of management and as such increase the value of cash holdings (Schauten et al., 2011).

However, according to the entrenchment hypothesis, management may hold cash to pursue its own objectives at shareholders' expense and avoid market discipline (Opler et al., 1999). Jensen (1986) argues that self-interested managers are inclined to invest cash inefficiently, leading to poor performance in poor governance environment. On the other hand, successful companies with strong growth prospects hold more cash than others (Opler et al., 1999; Ferreira & Vilela, 2004; Al-Najjar & Clark, 2017). Bates et al. (2009) and Chen et al. (2018) also argued that companies hold cash as a pretention to unexpected financial crises.

Vietnamese SOEs receive strong support from the Government through the four largest state-owned banks and do not maintain a high level of cash holdings (Nguyen Thi et al., 2021). SOH is the investment arm of the government with the purpose of profit maximization. To provide support for investment opportunities, there is an expectation that SLCs will hold more cash and that SOH ownership has a positive relationship with cash holdings. The hypothesis for the relationship between ownership structure and cash holdings is:

> $H_{CH}1$: SOH Ownership is positively correlated with the firms' cash holdings.

Corporate governance is found to have an impact on corporate cash holding (Al-Najjar & Clark, 2017; Loncan, 2020). Poor corporate governance could waste cash and destroy firm value while good corporate governance could utilize cash holding to have better performance (Dittmar et al., 2003; Schauten et al., 2011). Dittmar and Mahrt-Smith (2007) and Seifert and Gonenc (2018) found that corporate governance has a substantial impact on firm value in which good governance doubles cash value compared to a poor governance firm. SOHs can fill the role to set the standard of corporate governance to monitor and evaluate the performance of SLCs (Sam, 2013). Companies related to SOHs are found to have higher quality of corporate governance (Chen, 2013; Chen, 2016). It is expected that SOHs maintain a good corporate governance and this could be demonstrated by interaction between SOH ownership and excess cash on a firm's value. Dittmar and Mahrt-Smith (2007) found that corporate governance helps to improve the value of cash holdings and increases the value of the company. The hypothesis for the relationship between ownership structure and firm value is:

> $H_{SHV}1$: SOH Ownership is positively correlated with value of cash holdings.

3.   DATA AND METHODOLOGY

3.1.   Data

Data for the variables was collected from all the firms that are listed on the Ho Chi Minh Stock Exchange (HOSE) and Hanoi Stock Exchange (HNX) before 31/12/2009, which totals 242 firms for the period of 9 years from 2009 to 2017 forming full balanced data. Data was collected from the annual reports and prospectuses of the listed companies published on HOSE and HNX along with audited financial statements provided by Tai Viet Corporation (Vietstock), Ho Chi Minh City Securities Corporation (HSC) and VietCapital Securities Joint Stock Company (VCSC). These data were verified with transactions recorded by VCCorp Corporation (CafeF) subject to compulsory information disclosure, especially for family members' ownership which are only published under each related parties' transactions. The audited financial statements data are separately provided by Vietstock, HSC and VCSC.

3.2.   Model and Variables

The model by Opler et al. (1999) is replicated to explore the relationship between ownership structure and corporate cash holdings with ownership structure factors that are supplemented basing on the model of Ku et al. (2013). The model of Opler et al. (1999) examined the determinants of cash holdings at optimal levels which is adopted by many studies on cash holdings, such as Ferreira and Vilela (2004), Dittmar and Mahrt-Smith (2007), Bates et al. (2009), Schauten et al. (2011), Seifert and Gonenc (2018) and Loncan (2020). This study contributes to the Vietnamese ownership structure characteristics from previous studies. A regression model to determine the nature of the relationship between ownership structure and corporate cash holdings:

$$
\begin{aligned}
\textit{Cash to Net Assets}_{j,t} = \beta_0 &+ \sum_{i=1}^{8} \beta_i \textit{Capital Structure to Net Assets}_{jt} + \\
&\sum_{i=9}^{12} \beta_i \textit{Ownership Structure}_{jt} + \sum_{k=13}^{m} \beta_k \textit{Industry}_k + \\
&\sum_{p=m+1}^{l} \beta_p \textit{Year}_p + \varepsilon_{jt}
\end{aligned} \tag{1}
$$

where $Cash_{jt}$ is the dependent variable representing cash holdings to net asset of firm j in year *t, α* is an intercept, and εjt is the error term. "*m*" and "*l*" are the numbers of industry and year, respectively. *β* is coefficient of the relationship between independent variables of the capital structure as well as ownership structure and corporate cash holdings. The sign of this coefficient would be used to test the research hypotheses.

Table 1: Variables and Definitions for Cash Holdings Model

Variable Name	Definition
Independent Variables	
Market to Book to Net Assets	The book value of assets, less the book value of equity, plus the market value of equity, divided by Net Assets.
Size	The natural logarithm of total assets
Cash Flow to Net Assets	Ratio of Cash Flow to Net Assets; Cash Flow = Earnings before interest and tax plus depreciation; Net Assets = Total Assets – Cash and Cash Equivalent
Industry Sigma	The mean of standard deviations of cash flow over net assets over 5 years, for firms in the same industry, as defined by ICB Code

Table 1: continued

Net Operating Working Capital to Net Assets	Ratio of Net Operating Working Capital to Net Asset; Net Operating Working Capital = Current Assets – Current Liabilities – Cash and Cash Equivalent; Net Assets = Total Assets – Cash and Cash Equivalent
Capital Expenditure to Net Assets	Ratio of Capital expenditure to Net assets. Capital Expenditure is Investment Cash Flow.
Leverage	Ratio of debt to net assets
Dividend Dummy	Dummy variable of dividend distribution: 1 if indicated dividend have been distributed
SOH Ownership	The percentage of company shares owned by SCIC (SOH)
Government Ownership	The percentage of company shares owned by government (exclude SCIC)
Family Ownership	The percentage of company shares owned by a family. To be considered a family firm an individual or a family must be the largest shareholder and hold at least 20% of ultimate voting rights (La Porta et al., 1999).
Foreign Ownership	The percentage of shares owned by foreign investors
Control Variables	
Industry	Industry Classification of ICB
Year	Dummy variable for year
Dependent Variable	
Cash to Net Assets	ln[(Cash)/(Total Assets – Cash and Cash Equivalent)]

Note: Author compiled.

Following Dittmar and Mahrt-Smith (2007), the investigation on the impacts of corporate governance to firm value by using excess cash is explored. The same model is explored in studies by Schauten et al. (2011), Ku et al. (2013) and Seifert and Gonenc (2018). By supplementing ownership structure into the model of Dittmar and Mahrt-Smith (2007), this study considers the value effects of different types of ownership in terms of interaction with the level of excess cash on firm value. A regression model to determine the nature of the relationship between ownership structure and firm value in terms of interaction with the level of excess cash:

$$Firm\ Value_{j,t} = \beta_0 + \sum_{i=1}^{12} \beta_i Capital\ Structure\ to\ Net\ Assets_{jt} + \beta_{13}Ownership_{jt} + \beta_{14}Excess\ Cash_{jt} + \beta_{15}Ownership_j \times Excess\ Cash_{jt} + \sum_{k=13}^{m} \beta_k Industry_k + \sum_{p=m+1}^{l} \beta_p Year_p + \varepsilon_{jt} \quad (2)$$

where *Firm Value$_{jt}$* is the dependent variable representing firm value (Market Value to Net Assets) of firm *j* in year *t, α* is an intercept, and ε_{jt} is the error term. "*m*" and "*l*" are the numbers of industry and year, respectively. *β* is coefficient of the relationship between independent variables of the ownership structure and firm performance. The sign of this coefficient would be used to test the research hypotheses.

Table 2: Variables and Definitions for Level of Excess Cash Model

Variable Name	Definition
Independent Variables	
E/NA	Earnings before Interest and Tax to Net Assets
D/NA	Dividends to Net Assets
I/NA	Interest Expense to Net Assets

Table 2: continued

NA/NA	Net Assets = Total Assets – Cash and Cash Equivalent
MV/NA	Firm's market value to Net Assets
Excess Cash	Excess Cash Ratio = the residual value of regression from model (1) above
Ownership	One of 4 ownership types including SOH Ownership, Government Ownership, Family Ownership and Foreign Ownership

Control Variables	
Industry	Industry Classification of ICB
Year	Dummy variable for year

Dependent Variables	
MV/NA	Firm's market value to Net Assets

Note: Author compiled.

Additionally, following Faulkender and Wang (2006), Dittmar and Mahrt-Smith (2007), Schauten et al. (2011), Ku et al. (2013) and Seifert and Gonenc (2018), the model on value of changes in excess cash is replicated with the purpose of examining how a change in cash holdings leads to a change in the market valuation of a company with impact of ownership structure. The model, however, is different from previous studies in which the ownership structure is supplementary into the model of Faulkender and Wang (2006) to explore the relationship between four ownership types on the value of changes in excess cash. The change in firm value is measured by the excess return applying Fama and French (1993) size and book-to-market portfolios. As with Dittmar and Mahrt-Smith (2007), the changes are controlled by firms' profitability, financial policy and investment policy regarding the argument that firm returns are impacted by idiosyncratic characteristics. The regression equation is described by following formula:

$$Excess\ Return_{,t} = \beta_0 + \sum_{i=1}^{9} \beta_i Capital\ Structure_{jt} + \beta_{10} Ownership_{jt} + \beta_{11}\ Ownership_{jt}\ x$$
$$\Delta Cash_{jt} + \sum_{k=12}^{m} \beta_k Industry_k + \sum_{p=m+1}^{l} \beta_p Year_p + \varepsilon_{jt} \qquad (3)$$

where *Excess Return$_{jt}$* is the dependent variable of firm j in year t, α is an intercept, and ε_{jt} is the error term. "*m*" and "*l*" are the numbers of industry and year, respectively. *β* is the coefficient of the relationship between independent variables of the ownership structure and firm performance. The sign of this coefficient would be used to test the research hypotheses.

Table 3: Variables and Definitions for Change of Excess Cash Model

Variable Name	Definition
Independent Variables	
ΔC/M	Chang in Cash to Market Value of Equity
ΔE/M	Chang in EBIT to Market Value of Equity
ΔNA/M	Chang in Net Assets to Market Value of Equity
ΔI/M	Chang in Interest Expense to Market Value of Equity
ΔD/M	Chang in Dividend to Market Value of Equity
C/M	Cash to Market Value of Equity
L	Leverage = Total Debt/(Total Debt + Market Value of Equity)
NF	New Finance = Net New Equity Issues + Net New Debt Issues

Table 3: continued

Ownership	One of 4 ownership types including SOH Ownership, Government Ownership, Family Ownership and Foreign Ownership
Control Variables	
Industry	Industry Classification of ICB
Year	Dummy variable for year
Dependent Variables	
Excess Return	Annual excess returns on 25 portfolios formed on size and book-to-market ratio factors adopted Fama and French (1993) methodology.

Note: Author compiled

In Models (1), (2) and (3), year dummies are included to capture macroeconomic and time trend effects, as well as industry dummies to capture industry effects.

3.3. Methodology

The model is estimated by Feasible Generalized Least Square (FGLS), and Panel-Corrected Standard Error (PCSE) regression techniques are used to test the hypotheses. FGLS is more suitable for panel data and has more advantages than pool OLS especially in case of the presence of heteroskedasticity, serial correlation or non-zero covariance. However, FGLS assumes that the error process is known but not estimated and could lead to extreme overconfidence or underestimating variability. As a result, time-series cross-section data should be used for the lagged dependent variable or transforming the data to eliminate serial correlation of the errors using PCSE. Before regression, correlation analysis is conducted to ensure non-multicollinearity between the variables used in the model. If there is multicollinearity between independent variables, regression analysis can have severe effects on the estimated parameters and on the estimation techniques. The endogeneity problem of ownership and performance could be solved by using panel data, while Gugler and Weigan (2003) found that large shareholders are exogenous to performance.

4.   RESULTS AND DISCUCSSION

4.1. Data Description

Table 4: Descriptive statistics of observed variables

Stats	N	Mean	Median	Min	Max	Standard Deviation
SOH Ownership	2137	0.0312	0	0	0.578	0.101
Government Ownership	2137	0.243	0.192	0	0.844	0.243
Family Ownership	2137	0.0482	0	0	0.810	0.144
Foreign Ownership	2137	0.0891	0.0230	0	0.882	0.135

Descriptive statistics for independent variables show that SCIC owns an average 3.1% of companies' shares in which SCIC owns a maximum of 57.8% of shares. The government excluding SCIC owned 24.3% of companies' shares on average in which the maximum ownership is recorded at 84.4% and belongs to the oil and gas industry, which is an industry that the government controls to ensure energy security. Families own 4.8% on average, whereby maximum ownership is

recorded at 81%. However, to be considered a family company, family members must own at least 20% of company shares. The foreign investors own 8.8% of total shares.

4.2. *Regression Analysis and Hypothesis Testing*

The FGLS and PCSE are used to test the hypotheses after tests for heteroscedasticity indicate that there is evidence of heteroscedasticity in the model. PCSE regression is used to fix the problems of heteroscedasticity and autocorrelation. To be consistent with previous studies, financial companies are excluded from the samples. The results are described in Table 6.

Table 5: Independent Variables Correlation Matrix

	s_own	g_own	f_own	fr_own	mb	size	cf	in_sig	nwc	capexnet	Lev	d div
s_own	1											
g_own	-0.25***	1										
f_own	-0.0355	-0.308***	1									
fr_own	0.299***	-0.282***	0.0867***	1								
mb	0.200***	-0.0599*	-0.0321	0.161***	1							
size	0.170***	-0.131***	0.172***	0.317***	0.0483*	1						
cf	0.126***	0.0710**	-0.0231	0.180***	0.352***	0.0384	1					
in_sig	-0.0470	-0.00385	-0.0491*	-0.0302	-0.0357	0.134***	-0.120***	1				
nwc	0.0605*	-0.125***	-0.0494*	0.169***	0.125***	-0.209***	0.0973***	0.0677**	1			
capexnet	0.0277	-0.0336	0.0235	0.0571*	-0.485***	0.133***	-0.0334	0.0294	-0.0666**	1		
lev	-0.0726**	0.0910***	0.0345	-0.203***	-0.142***	0.294***	-0.231***	-0.0414	-0.644***	0.051*	1	
d div	0.115***	0.121***	-0.09***	0.161***	0.0953***	0.196***	0.340***	-0.089***	0.0410	0.0346	-0.047	1

Notes: Asterisks (***, **, and *) denote statistical significance at the 1%, 5%, and 10% levels, respectively. The independent variables have low correlations excluding that of *capexnet* and *lev*. However, the pair correlation did not reach 0.8 and still within acceptable threshold (Gujarati, 1995). *s_own* is SOH Ownership. *g_own* is Government Ownership. *f_own* is Family Ownership. *fr_own* is Foreign Ownership. *mb* is Market to Book to Net Assets. *size* is Company Size. *cf* is Cash Flow to Net Assets. *in_sig* is Industry Sigma. *nwc* is Net Operating Working Capital to Net Assets. *capexnet* is Capital Expenditure to Net Assets. *lev* is Leverage. *d_div* is Dividend Dummy.

Table 6: Impacts of Ownership Structure on Cash Holdings

Variables	FGLS Cash to Net Assets	PCSE Cash to Net Assets
SOH Ownership	1.073***	1.117***
	(0.257)	(0.371)
Government Ownership	0.255**	0.170
	(0.123)	(0.167)
Family Ownership	-0.0733	-0.174
	(0.209)	(0.294)
Foreign Ownership	0.610***	0.729***
	(0.194)	(0.274)
Market to Book	0.192***	0.183***
	(0.0424)	(0.0533)
Size	-0.175***	-0.173***
	(0.0219)	(0.0306)
Cash Flow to Net Assets	1.762***	1.606***
	(0.218)	(0.297)
Industry Sigma	3.351	1.446
	(4.922)	(7.103)
Net Operating Working Capital to Net Assets	-0.0972	-0.0704
	(0.0640)	(0.0729)
Capital Expenditure to Net Assets	0.114*	0.107
	(0.0659)	(0.0791)
Leverage	0.410***	0.309*
	(0.123)	(0.162)
Dummy Dividend	0.316***	0.393***
	(0.0608)	(0.0839)
Industry	Yes	Yes
Year	Yes	Yes
Constant	-0.292	-0.253
	(0.536)	(0.814)
Observations	1,539	1,539
Number of id	224	224

Notes: Standard errors in parentheses. Asterisks (***, **, and *) denote statistical significance at the 1%, 5%, and 10% levels, respectively. Model 1 Regression Result on Cash Holdings Model with Capital variables follow Opler et al. (1999). Variables and Definitions are described at Table 1. Sample without financial companies include 224 firms with observations in base years for Industry Sigma calculation were excluded in regression.

Regression on ownership structure and corporate cash holdings shows that SOH Ownership and Foreign Ownership have positive significant relationships with cash holdings while Government Ownership and Family Ownership do not show similar significant impacts. This means that firms controlled by SCIC and foreign investors hoard more cash and these are consistent with arguments on impacts of ownership structure on cash holdings, in which SOHs and Foreign ownerships are found to have positive relationships with firm performance (Ang & Ding, 2006; Tan et al., 2015; Kim & Chung, 2018). It is different with the argument of Nguyen Thi et al. (2021) where SOEs do not maintain a high level of cash holdings because SOHs act as an investment arm of the government for profit maximization purposes. This finding supports evidence from Opler at al. (1999), who found that firms with more opportunities hold more cash than other firms. $H_{CH}1$ is supported.

Table 7: Impacts of Ownership Structure on Value of Cash using Market Value Regressions

Variables	FGLS					PCSE				
	Market Value to Net Asset					Market Value to Net Asset				
	SOH Ownership	Government Ownership	Family Ownership	Foreign Ownership	All	SOH Ownership	Government Ownership	Family Ownership	Foreign Ownership	All
Excess Cash	0.0353***	0.0248**	0.0298***	9.11e-06	-0.00754	0.0292***	0.0412**	0.0298***	0.0193*	0.00839
	(0.00621)	(0.0106)	(0.00687)	(0.00614)	(0.0115)	(0.00905)	(0.0162)	(0.0101)	(0.0106)	(0.0183)
SOH Ownership	0.359**				0.165	0.746***				0.476*
	(0.152)				(0.126)	(0.289)				(0.267)
Excess Cash x SOH Ownership	0.371*				0.109	0.596*				0.530*
	(0.197)				(0.126)	(0.351)				(0.320)
Government Ownership		-0.109***			-0.0581*		-0.153**			-0.0783
		(0.0347)			(0.0349)		(0.0710)			(0.0722)
Excess Cash x Government Ownership		0.0202			0.0331		-0.0176			0.0308
		(0.0256)			(0.0250)		(0.0391)			(0.0405)
Family Ownership			-0.299***		-0.358***			-0.541***		-0.560***
			(0.0758)		(0.0739)			(0.118)		(0.121)
Excess Cash x Family Ownership			0.00316		0.00912			0.0142		0.0408
			(0.0377)		(0.0393)			(0.0480)		(0.0569)
Foreign Ownership				0.846***	0.950***			0.909***	0.897***	0.781***
				(0.0859)	(0.0844)			(0.197)	(0.198)	(0.187)
Excess Cash x Foreign Ownership				0.195***	0.222***				0.136	0.0850
				(0.0618)	(0.0642)				(0.146)	(0.134)
$E_{j,t}/NA_{j,t}$	0.0417	0.0174	0.0402	0.0545	0.0476	0.0417	0.0174	0.0402	0.0545	0.0476
	(0.286)	(0.286)	(0.264)	(0.263)	(0.263)	(0.286)	(0.286)	(0.264)	(0.263)	(0.263)
$dE_{j,t}/NA_{j,t}$	0.621**	0.664**	0.656***	0.646***	0.626**	0.621**	0.664**	0.656***	0.646***	0.626**
	(0.269)	(0.271)	(0.250)	(0.250)	(0.251)	(0.269)	(0.271)	(0.250)	(0.250)	(0.251)
$dE_{j,t+2}/NA_{j,t}$	-0.359*	-0.393*	-0.359*	-0.337*	-0.348*	-0.359*	-0.393*	-0.359*	-0.337*	-0.348*
	(0.198)	(0.203)	(0.185)	(0.184)	(0.184)	(0.198)	(0.203)	(0.185)	(0.184)	(0.184)

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Table 7: continued

$D_{j,t}/NA_{j,t}$	-0.553	-0.408	-0.339	-0.408	-0.450	-0.553	-0.408	-0.339	-0.408	-0.450
	(0.633)	(0.651)	(0.584)	(0.584)	(0.574)	(0.633)	(0.651)	(0.584)	(0.584)	(0.574)
$dD_{j,t}/NA_{j,t}$	2.801***	2.821***	2.355***	2.294***	2.417***	2.801***	2.821***	2.355***	2.294***	2.417***
	(0.684)	(0.711)	(0.634)	(0.638)	(0.617)	(0.684)	(0.711)	(0.634)	(0.638)	(0.617)
$dD_{j,t+2}/NA_{j,t}$	0.476	0.604	0.524	0.440	0.533	0.476	0.604	0.524	0.440	0.533
	(0.453)	(0.476)	(0.423)	(0.424)	(0.409)	(0.453)	(0.476)	(0.423)	(0.424)	(0.409)
$I_{j,t}/NA_{j,t}$	-0.227	0.130	-0.0122	-0.185	-0.232	-0.227	0.130	-0.0122	-0.185	-0.232
	(0.826)	(0.821)	(0.760)	(0.743)	(0.761)	(0.826)	(0.821)	(0.760)	(0.743)	(0.761)
$dI_{j,t}/NA_{j,t}$	-0.802	-1.433**	-1.103*	-1.022	-0.658	-0.802	-1.433**	-1.103*	-1.022	-0.658
	(0.654)	(0.695)	(0.641)	(0.657)	(0.621)	(0.654)	(0.695)	(0.641)	(0.657)	(0.621)
$dI_{j,t+2}/NA_{j,t}$	0.269	-0.203	-0.232	-0.246	0.194	0.269	-0.203	-0.232	-0.246	0.194
	(0.678)	(0.700)	(0.649)	(0.651)	(0.627)	(0.678)	(0.700)	(0.649)	(0.651)	(0.627)
$dNA_{j,t}/NA_{j,t}$	0.00198	-0.0132	-0.0397	-0.0491	-0.0375	0.00198	-0.0132	-0.0397	-0.0491	-0.0375
	(0.0379)	(0.0378)	(0.0358)	(0.0356)	(0.0349)	(0.0379)	(0.0378)	(0.0358)	(0.0356)	(0.0349)
$dNA_{j,t+2}/NA_{j,t}$	0.0367	0.0402	0.0549**	0.0585**	0.0439*	0.0367	0.0402	0.0549**	0.0585**	0.0439*
	(0.0255)	(0.0275)	(0.0254)	(0.0259)	(0.0243)	(0.0255)	(0.0275)	(0.0254)	(0.0259)	(0.0243)
$dMV_{j,t+2}/NA_{j,t}$	-0.0264	-0.0248	-0.0457	-0.0488	-0.0453	-0.0264	-0.0248	-0.0457	-0.0488	-0.0453
	(0.0417)	(0.0435)	(0.0396)	(0.0401)	(0.0384)	(0.0417)	(0.0435)	(0.0396)	(0.0401)	(0.0384)
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.243***	0.303***	0.294***	0.246***	0.281***	0.188***	0.253***	0.205***	0.190***	0.233***
	(0.0296)	(0.0330)	(0.0316)	(0.0318)	(0.0324)	(0.0579)	(0.0621)	(0.0579)	(0.0587)	(0.0631)
Observations	735	735	735	735	735	735	735	735	735	735
Number of id	220	220	220	220	220	220	220	220	220	220

Notes: Standard errors in parentheses. Asterisks (***, **, and *) denote statistical significance at the 1%, 5%, and 10% levels, respectively. The dependent variable for the regressions is the market value of the firm in year t, MV_t. For each independent variable X (E, D, I, NA, MV), X_t is the level from year $t-1$ to t, divided by the level of net assets in year t; dX_t is the change in the level of X from year $t-2$ to year t, divided by net assets in year t $((X_t - X_{t-2})/NA_t)$; dX_{t+2} is the change in the level of X from year $t+2$ to year t, divided by net assets in year t $((X_{t+2} - X_t)/NA_t)$. NA is Net Assets. E = operating profit, earnings before interest and tax. D = dividends payouts. I = Interest Expense. Excess Cash is Cash at time t minus optimal cash from model 1. Sample without financial companies include 220 non-financial firms with observations in base years for variables calculation were excluded in regressions.

Model 2 examines whether the level of excess cash leads to a change in firm market value; the results are described as in Table 7. Excess cash is found to have a positive relationship with firm market value. This is consistent with the findings of Dittmar and Mahrt-Smith (2007) and Schauten et al. (2011). The results show that SOH Ownership and Foreign Ownership have positive relationships with the ratio of market value. Specifically, SOH Ownership significantly increases the value of cash holdings: the coefficient of the interaction variable between excess cash and this type of ownership are consistently positive and significant. The result indicates that the value of excess cash is statistically and economically significantly greater if the firm is managed by an SOH. These findings are consistently aligned with the previous findings of the cash holding model in which SOH Ownership is found to have positive relationships with cash holding. It demonstrates that good performance companies not only hold more cash but also this excess cash has greater value. The findings consolidate the results of Dittmar and Mahrt-Smith (2007) and Schauten et al. (2011) who found good corporate governance has a positive impact on firm value through its impact on cash. $H_{SHV}1$ is supported. Government Ownership has a negative relationship with firm market value; the coefficient on the interaction variable between excess cash and Government Ownership is negative in FGLS regressions. This indicates that the value of excess cash is statistically and economically significantly lower if the firm is related to state ownership (but not by SCIC).

The control variables are, following Dittmar and Mahrt-Smith (2007), to control for firms' specific characteristics that may affect investor's expectation on future cash flows which in turn affect firm value. These include past changes, future changes, and current levels of Earnings (E), Dividends (D), Interest Expenses (I), as well as past and future changes in Assets (NA) and future changes in Market Value (MV) (Dittmar & Mahrt-Smith, 2007). The results are consistent with Dittmar and Mahrt-Smith (2007) in Dividends, Net Assets, Interest Expenses and Earnings. Schauten et al. (2011) also found positive relationships between future changes of Dividend as well as Assets and firm market value while future change of market value has a negative impact to firm market value.

Last but not least, excess cash is found to have positive relationship with firm excess return in Model 3. This is consistent with the finding of Dittmar and Mahrt-Smith (2007). Changes in cash are found to have positive impacts on changes in firm value. Specifically, SOH Ownership, family ownership and Foreign Ownership significantly increase the value of cash holdings: the coefficient on the interaction variable between change of excess cash and these types of ownership are consistently positive and significant. The result indicates that the value of excess cash is statistically and economically significantly greater if the firm is managed by SCIC, family or foreign investor. It demonstrates that good performance companies not only hold more cash but also this excess cash has greater value. The findings consolidate the results of Dittmar and Mahrt-Smith (2007) and Schauten et al. (2011) who found good corporate governance has a positive impact on firm value through its impact on cash. $H_{SHV}1$ is supported.

Control variables are replicated according to Faulkender and Wang (2006), Dittmar and Mahrt-Smith (2007) and Schauten et al. (2011). This is controlled for firm characteristics which could be correlated with both excess returns and cash holdings due to changes in profitability (E_{jt}), Investment (NA_{jt}), and financing (I_{jt}, D_{jt}, L_{jt}, and NF_{jt}). The findings are consistent with Dittmar and Mahrt-Smith (2007) and Schauten et al. (2011) on interactions between the changes in cash with lagged cash and leverage.

Table 8: Impacts of Ownership Structure on Value of Cash using Excess Return Regressions

Variables	FGLS Excess Return					PCSE Excess Return				
	SOH Ownership	Government Ownership	Family Ownership	Foreign Ownership	All	SOH Ownership	Government Ownership	Family Ownership	Foreign Ownership	All
ΔCash/ME	0.392**	0.501***	0.396**	0.178	0.0892	0.688***	0.688***	0.670***	0.366	0.283
	(0.172)	(0.172)	(0.165)	(0.187)	(0.202)	(0.244)	(0.245)	(0.244)	(0.273)	(0.284)
SOH Ownership *x* *ΔCash/ME*	0.671				0.808	1.237				1.485*
	(0.748)				(0.748)	(0.828)				(0.819)
SOH Ownership	0.0602				0.0891	-0.00668				0.00970
	(0.0906)				(0.0837)	(0.106)				(0.111)
Government Ownership *x* *ΔCash/ME*		-0.0979			0.230					0.381
		(0.177)			(0.186)					(0.236)
Government Ownership		0.0272			0.0163		0.0331			0.00888
		(0.0244)			(0.0329)		(0.0477)			(0.0511)
Family Ownership *x* *ΔCash/ME*			0.796		0.493			1.215		1.067
			(0.568)		(0.564)			(0.769)		(0.810)
Family Ownership			-0.105*		-0.0944*			-0.0836		-0.0835
			(0.0554)		(0.0523)			(0.0856)		(0.0866)
Foreign Ownership *x* *ΔCash/ME*				2.647***	2.893***				2.592***	2.541***
				(0.635)	(0.663)				(0.801)	(0.831)
Foreign Ownership				-0.0603	-0.0803				-0.0932	-0.0933
				(0.0631)	(0.0609)				(0.0834)	(0.0867)
ΔEarnings/ME	0.464***	0.602***	0.493***	0.475***	0.486***	0.406***	0.413***	0.414***	0.417***	0.411***

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
	(0.0458)	(0.0453)	(0.0458)	(0.0468)	(0.0467)	(0.0698)	(0.0699)	(0.0698)	(0.0689)	(0.0683)
ΔNet Assets/ME	0.0115	0.0192***	0.0123	0.0128*	0.0144*	0.0180*	0.0189*	0.0182*	0.0196*	0.0198*
	(0.00772)	(0.00678)	(0.00753)	(0.00772)	(0.00764)	(0.0103)	(0.0103)	(0.0103)	(0.0103)	(0.0102)
ΔInterest/ME	-0.317***	-0.427***	-0.332***	-0.331***	-0.338***	-0.328**	-0.337**	-0.328**	-0.340**	-0.338**
	(0.100)	(0.103)	(0.0993)	(0.104)	(0.103)	(0.155)	(0.156)	(0.157)	(0.155)	(0.153)
ΔDividend/ME	0.243**	0.397***	0.298**	0.250**	0.313**	0.178	0.173	0.177	0.169	0.184
	(0.123)	(0.130)	(0.125)	(0.123)	(0.126)	(0.178)	(0.178)	(0.179)	(0.178)	(0.178)
Lagged Cash/ME	0.370***	0.243***	0.332***	0.342***	0.313***	0.398***	0.390***	0.394***	0.380***	0.373***
	(0.0500)	(0.0366)	(0.0466)	(0.0483)	(0.0463)	(0.0610)	(0.0609)	(0.0611)	(0.0604)	(0.0613)
Leverage	-0.281***	-0.210***	-0.250***	-0.278***	-0.247***	-0.315***	-0.319***	-0.310***	-0.323***	-0.311***
	(0.0358)	(0.0249)	(0.0329)	(0.0351)	(0.0338)	(0.0476)	(0.0468)	(0.0475)	(0.0488)	(0.0498)
New Finance/ME	-0.00578*	-0.00872***	-0.00632**	-0.00600**	-0.00644**	-0.00694**	-0.00705**	-0.00704**	-0.00711**	-0.00705**
	(0.00305)	(0.00265)	(0.00304)	(0.00302)	(0.00301)	(0.00318)	(0.00316)	(0.00318)	(0.00315)	(0.00316)
Lagged Cash/ME x ΔCash/ME	0.0128	-0.00843	0.0297	0.000984	0.0102	-0.0569	-0.0509	-0.0360	-0.0293	-0.0228
	(0.0677)	(0.0607)	(0.0677)	(0.0650)	(0.0679)	(0.0828)	(0.0824)	(0.0830)	(0.0803)	(0.0810)
Leverage x ΔCash/ME	-0.222	-0.382*	-0.274	-0.0795	-0.109	-0.531*	-0.523	-0.527	-0.273	-0.368
	(0.226)	(0.220)	(0.220)	(0.236)	(0.248)	(0.321)	(0.322)	(0.321)	(0.339)	(0.339)
Industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.0950***	0.0425	0.0827**	0.102***	0.0875**	0.141***	0.128***	0.137***	0.148***	0.144***
	(0.0349)	(0.0331)	(0.0326)	(0.0342)	(0.0349)	(0.0456)	(0.0486)	(0.0451)	(0.0460)	(0.0504)
Observations	1,440	1,440	1,440	1,440	1,440	1,447	1,447	1,447	1,447	1,447
Number of id	220	220	220	220	220	220	220	220	220	220

Notes: Standard errors in parentheses. Asterisks (***, **, and *) denote statistical significance at the 1%, 5%, and 10% levels. The dependent variable for the regressions is excess return the firm in year t relative to the Fama and French (1993) 25 size and book-to-market portfolios. ΔX indicates a change in X from year $t-1$ to t. Independent variables are normalized by the market value of equity (ME) of the firm at the beginning of the year. Lagged Cash $(C_{j,t-1})$ = Cash at time $t-1$. Earnings (E_{jt}) = Earning before Interest and Tax from year $t-1$ to t. Net Assets (NA_{jt}) is Net Asset at time t. Interest (I_{jt}) = Interest Expense from year $t-1$ to t. Dividend (D_{jt})= Dividend Payout from year $t-1$ to t. Leverage (L_{jt}) = $Debt_{jt}/(Deb_{jt}+M_{jt})$ = leverage at time t. $Detb_{jt}$ = *Short term debt $_{jt}$ + Long term debt $_{jt}$*. New Finance (NF_{jt}) = New Finance from year $t-1$ to t = Net New Equity Issues + Net New Debt Issues. Sample without financial companies include 220 non-financial firms with observations in base years for variables calculation were excluded in regressions.

5.   CONCLUSION

From a cash holdings perspective, regression on ownership structure and corporate cash holdings shows that SOH Ownership and Foreign Ownership have positive significant relationships with cash holdings. In a Vietnamese context, Doan (2020) found a positive relationship between cash holdings and firm performance. This finding supports evidence from Opler at al. (1999) in which firms that do well tend to hold more cash than predicted regarding cash holdings, which allows firms to pursue investments opportunities and reduces the risk of financial distress following the trade-off model and precaution motive (Ferreira & Vilela, 2004; Martínez-Sola et al., 2018). Nguyen Thi et al. (2021) suggested that Vietnamese state-related firms do not hold large cash holdings in terms of Government strong support and, therefore, the positive relationship between SOH Ownership and cash holdings ascertains the role of SOH as an active investor and is a model to help mitigate the conflicting roles of traditional state-capital firms.

SOH Ownership, and Foreign Ownership specifically, significantly increases the value of cash holdings. The value of excess cash is statistically and economically significantly greater if the firm is managed by SCIC or foreign investors. Previous regressions show that SOHs & Foreign Ownership have positive impacts on firm performance (Nguyen & Nguyen, 2020) and beyond this, the study found that companies owned by SOHs and foreign investors not only hold more cash but also this excess cash has greater value. It supposes a relationship between SOH Ownership and good corporate governance following the results of Dittmar and Mahrt-Smith (2007); Schauten et al. (2011); and Seifert and Gonenc (2018), who found that good corporate governance has a positive impact on firm value through its impact on cash. This indicates that a better shareholder value of cash in SLCs is revealed to come from better corporate governance. This finding also contributes another empirical outcome to the literature and provides potential evidence for SOH as a mechanism in improving corporate governance standards and the roles of SOHs and foreign investors should be taken into consideration both at country level and regional level.

This study contributes empirical evidence towards having more understanding of cash policy, trade-off model and precaution motive. Like Opler et al. (1999), Ferreira and Vilela (2004) and Martínez-Sola et al. (2018) whose studies support the trade-off model, SOHs and Foreign Ownerships favour the arguments that successful companies tend to hoard more cash. This result is aligned with the precautionary motive to hold the cash of businesses given that firms hold cash as a precaution to cover unforeseen potential necessities (Opler et al., 1999; Ferreira & Vilela, 2004; Martínez-Sola et al., 2018). Besides, it also provides another empirical result to support the transaction motive, assuming that companies hold cash for operating expenses to meet payment responsibilities (Opler et al., 1999; Bates et al., 2009).

The results expand the empirical literature on the impact of cash holding on firm value in the context of emerging economies. This study provides additional insights to other studies on cash holdings in Vietnam in which the SOH ownership is a separate factor from the traditional type of state ownership. This also contributes to the literature of corporate governance structure and cash holdings through the impact of SOH ownership structure. The positive correlation between the SOH and value of cash suggests that SOH is effective even in an underdeveloped corporate governance environment like Vietnam. This offers more insights into the SOH model and strengthens the role of the SOH in the existing literature, and could be used as a reference for

scholars in other countries to further examine the role of SOH, especially in the conditions of an emerging market.

This study provides policy makers, regulators and investors with empirical evidence showing how different forms of ownership affect the value of cash holdings. This shall help policy makers to formulate appropriate corporate governance policies where an SOH model can be encouraged and replicated because of its suitability in mitigating problems that exist in SOEs. SOHs can also suggest a different approach to the privatization process.

There are some limitations. This study is one of first attempt to examine the impact of SOHs on the value of cash holdings in a Vietnamese context. The effective role of SOH should be comprehensively explored by future studies. Secondly, missing data might partially influence the conclusions, and additional studies are needed to confirm the results.

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