DOES BUSINESS STRATEGY MATTER FOR FIRMS' CASH HOLDINGS?

Assoc.Prof.PhD. Doan Ngoc Phi Anh*
Assoc.Prof.PhD. Nguyen Thi Thieu Quang* - Corresponding author
Prof.PhD. Truong Ba Thanh* - Assoc.Prof.PhD. Dang Huu Man*

Abstract: ***This research investigates the impact of business strategy on firm's cash holdings to explain the rise of cash holdings among the U.S firms since 1970s. The study adopts Miles and Snow (1978 and 2003) business strategy classifications and employs multiple robust regressions on a sample of 233,532 firm-year observations during the period 1950-2023. Selection bias and endogeneity issues are considered in delivering the results. The finding shows that business strategy has significant impact on firm's cash holdings. Specifically, prospector type firms maintain relatively larger cash holdings compared to other business strategy types which are consistent with both their focus on innovation and investment and reduced emphasis on efficient operation and management. Our study contributes incrementally to the literature on the determinants of cash holdings at the firm level and provides insights into the firm's decision-making process related to cash holdings.***

• Keywords: *business strategy; cash holdings; propensity score matching; endogeneity.*

JEL codes: G32; G34; L20

Date of receipt: 25th Feb., 2026
Date of receipt revision: 20th Mar., 2026
Date of delivery revision: 04th Mar., 2026
Date of approval: 26th Mar., 2026
DOI: https://doi.org/10.71374/jfar.v26.i2.24

1. Introduction

Effective cash management is crucial for corporations to optimize financial performance and shareholder value. An adequate cash reserve helps ensuring a firm's liquidity, supporting future investment opportunities, and meeting shareholders' income expectations. However, excessive cash holdings may be detrimental due to its opportunity costs and lower-return investments (Usman, 2022). Consequently, a significant body of literature has emerged, exploring the determinants of firms' cash holdings.

Recent research has increasingly emphasized the role of business strategy in the firm's decision making (Navissi et al. 2017), investment efficiency (Cao et al., 2022), and ultimately, firm performance (Dang et al., 2022). Additionally, there is evidence that links a firm's business strategy with annual report readability (Lim et al., 2018), financial report irregularities (Bentley et al., 2013), and internal governance (Bentley-Goode et al., 2017). These factors reflect the level of a firm's investment activities and growth opportunities, cash flow risk, information asymmetry, corporate governance, and uncertainty, which have all been associated with a firm's cash holding level.

Recently, Magerakis and Tzelepis (2020) identified a significant relationship between business strategy and cash reserves. Their findings suggest that prospectors, characterized by a focus on innovation and market expansion, tend to maintain higher levels of cash compared to defenders, who prioritize operational efficiency and stability. Thus, this study explores the role of business strategy in explaining the increasing level of cash holdings observed among U.S firms after the 1970s.

Utilizing robust econometric modelling techniques on a sample of more than 230,000 observations of US non-financial firms during the period 1950-2023, this study found a positive association between business strategy type and cash holdings. This finding holds after controlling for firm and year fixed effects to account for time-invariant firm-specific omitted variables issue, using alternative measures of cash holdings, addressing selection bias and endogeneity concerns. The result confirms the *precautionary motivation* for firms' cash holdings suggested by the literature.

The study is significant in several ways. First, it considers the firm's cash holdings over quite a long period of more than 70 years. This time frame enables us to observe the long-term impact of business strategy on firm's cash holdings. Second, the study emphasizes the importance of business strategy in the firm's cash management decision. This supplements the extant

** The University of Danang - University of Economics, Danang, Vietnam; email: phianhdn@due.edu.vn - quangntt@due.edu.vn - thanh.tb@due.edu.vn - man.dang@due.udn.vn*

This research is funded by Vietnam National Foundation for Science and Technology Development (NAFOSTED) under grant number 502.02-2021.84.

literature on the role of business strategy in the firm's decision making. Third, the study employs Miles and Snow (1978, 2003) business strategy classification which has gained substantial empirical support due to its comprehensive scope and robustness in application to identity the firm's business strategy and adopt multiple robust regressions including considering the selection bias and endogeneity issue due to the possible inter-relationship between business strategy and cash holdings.

Overall, our study contributes incrementally to the literature on the determinants of cash holdings at the firm level and provides insights into the decision-making process related to cash holdings based on a firm's underlying business strategy.

The rest of our study is structured as follows: Section 2 provides the theoretical background for the hypotheses development, Section 3 outlines the research methodology, Section 4 reports the results and Section 5 concludes the paper.

2. Hypothesis development

Firms must establish well-defined business strategies to remain competitiveness in the business environments (Miles et al., 1978). Miles and Snow (2003, 1978) propose four types of business strategy including prospectors, analyzers, defenders, and reactors. Accordingly, prospectors aim for innovation by continuously seeking and exploiting new business opportunities. They invest a significant amount of resources in scanning the environment for product and market opportunities, invest in multiple technologies, and operate with a flexible administrative system. As a result, they tend to exhibit greater variability in profitability and lower efficiency due to their underutilization of resources. Defenders rely on stability and cost-efficiency by focusing on a narrow product-market domain, maintaining current products and services with limited or no innovation, adapting to a single core technology, and organizing formal and intensive divisions of labor. Whereas, the analyzer is a balance and combination of the two. Therefore, the analyzer's goal is stability and flexibility. Miles et al. (1978) also emphasized that these strategies are clearly defined if the firm incorporates environmental conditions in a proactive, consistent, and stable manner. Otherwise, the firm can be classified as a reactor.

These characteristics suggest that businesses adopting a prospector strategy require greater financing sources, higher investment needs, and face greater administrative costs compared to other business strategies. Teirlinck (2020) demonstrated that prospector businesses invest more in research and development to create new and innovative products. They also perceive greater uncertainty and environmental change than other types of businesses (Miles et al., 1978).

The *precautionary motive* studies suggest that firms hold cash to avoid unexpected cash flow shortfalls and financial distress during shocks and uncertainties when raising funds in capital markets is difficult and costly (Ferreira & Vilela, 2004). Furthermore, firms focused on innovation and investment opportunities will incur larger marginal costs if they experience a shortage of liquidity, which can result in forgoing profitable investment projects. These firms are likely to hold larger cash balances for financial flexibility purposes. Hence, it is expected that prospector businesses hold a higher cash level than other types of businesses. Thus, our hypothesis is as follows:

***H1*:** *Firms following prospector strategy hold more cash than defenders and analyzers, ceteris paribus.*

3. Research methodology

3.1. Research model

We use the following baseline regression model to test the relation between the prospector strategy business type indicator and cash holdings:

$$CASH_{i,t} = \alpha + \beta BS_{i,t} + CONTROLS_{i,t-1} + \varepsilon_{i,t} \quad (1)$$

where $CASH_{i,t}$ denotes the levels of cash holdings of firm *i* in year *t*. We use a number of different measures to proxy for cash holdings, including $CASH_1$, $CASH_2$, $LogCASH_1$ & $LogCASH_2$. In line with previous literature (Harford et al., 2008), we measure cash holdings as the Cash and short-term investment to total assets ratio in year t ($CASH_1$) and Cash and short-term investment to total assets net of cash and short-term investment in year t ($CASH_2$). We also measure cash holdings as the natural logarithm of one plus Cash and short-term investment to total assets ($logCASH_1$), and the natural logarithm of one plus Cash and short-term investment to total assets net of Cash and short-term investment ($logCASH_2$). $BS_{i,t}$ is a dummy variable which takes the value of one for prospector-type firms and zero for defender firms and analyzer firms. We measure business strategy following the approach by Miles and Snow (1978, 2003)[1].

In line with previous studies (e.g., Harford et al., 2008), we use a set of control variables with a one-year lag ($CONTROLS_{i,t-1}$) including firm size (*SIZE*), market-to-book ratio (*MB*), cash flow (*CF/TA*), dividend payment (*DIV*), acquisition activity (*ACQ/*

[1] *Details of business strategy measure can be provided upon request.*

TA), R&D intensity (*R&D/Sales*), standard deviation of cash flow/assets (*INDSIGMA*), capital expenditure (*CAPEX/TA*), leverage (*LEV*), and working capital (*WC/TA*). Table 1 provides detailed definition of these variables.

Given the panel data nature, Model (1) is estimated using fixed-effects regressions. In all model specifications, we include industry and year fixed effects. Industry fixed effects help account for all time-invariant industry-level factors that might be jointly related to both dependent and independent variables. To correct for standard errors, we use firm clustering and report t-statistics in parentheses in all regressions.

3.2. Data sample

Our sample consists of all non-financial U.S. listed firms with available cash holdings data in the Compustat database for the period 1950–2023. Accounting data are obtained from the Compustat database. To facilitate regression analysis with lagged independent variables, we restrict the sample to firms with at least two consecutive years of data and exclude those without available business strategy classifications. We remove firms with negative total assets or negative sales in any given year. Additionally, firms in the financial and utility sectors, identified using four-digit Standard Industrial Classification (SIC) codes 6000–6999 and 4000-4999, respectively, are excluded due to their distinct regulatory environments and involvement in marketable securities and cash holdings. The final dataset comprises 233,532 firm-year observations spanning 73 years from 1950 to 2023.

4. Empirical results

4.1. Descriptive statistics

Table 1 presents the descriptive statistics for the key variables in Model (1). Regarding cash holdings, the variable $CASH_1$, defined as the ratio of cash and short-term investments to total assets, has a mean value of 0.1648, indicating that, on average, sample firms hold approximately 16% of their total assets in cash or liquid forms. The standard deviation of 0.1993 suggests considerable variation in cash holdings across firms, with at least one firm holding 100% of its total assets in cash. The $CASH_2$ variable, which measures cash holdings relative to total assets net of cash and short-term investments, exhibits a higher mean, median, and variability compared to $CASH_1$, but maintains similar distributional characteristics.

The key business strategy indicator, *BS*, has a mean of 0.4711, implying that almost half of the sample firm observations are prospectors. Firms in the sample exhibit an average (median) market-to-book (MB) ratio of 2.1847 (1.6399), and approximately 39% of firms distribute dividends to shareholders across all sample years. In terms of innovation and investment activities, capital expenditures represent approximately 6% of total assets on average, while acquisition expenditures and R&D investments account for less than 1% and 2.43% of sales revenue, respectively. The remaining firm-level control variables exhibit values consistent with prior literature.

Table 1: Descriptive Statistics

Variables	Acronym	Description	Mean	Median	Min	Max	SD
Cash holdings	$CASH_1$	Cash and short-term investment/ Total assets	0.1648	0.0775	-0.8256	1	0.1993
	$CASH_2$	Cash and short-term investment/ (Total assets - Cash and short-term investment)	0.2121	0.0838	0.0069	0.8289	0.2577
	$logCASH_1$	Log(1+$CASH_1$)	0.1395	0.0747	-1.7465	0.6931	0.1515
	$logCASH_2$	Log(1+$CASH_2$)	0.2460	0.0806	-0.6019	10.9432	0.4698
Corporate business strategy	*BS*	1 for prospector-type firms and 0 for defender firms and analyzer firms	0.4711	0	0	1	0.4866
Firm size	*SIZE*	Log (Total assets)	5.1285	4.9605	1.3863	8.2235	1.9272
Market to book	*MB*	Market to book ratio of firm equity.	2.1847	1.6399	0.3218	5.6080	1.5950
Cash flow	*CF/TA*	Earnings after interest, dividends, and taxes but before depreciation/ Total assets	0.0186	0.0571	-0.3261	0.1346	0.1201
Dividend payment	*DIV*	1 if the firm pays a dividend in the year, otherwise 0.	0.3899	0	0	1	0.4735
Acquisition activity	*ACQ/TA*	Acquisition/ Total assets	0.0067	0	0	0.0357	0.0124
R&D/Sales	*R&D/Sales*	R&D expense/Sales	0.0243	0	0	0.1155	0.0396
Standard deviations of cash flow	*INDSIGMA*	Yearly mean of the standard deviation of cash flow/assets over 10 years for firms in the same industry	0.2954	0.0860	0.0216	1.1520	0.3861
Capital expenditure	*CAPEX/TA*	Capital expenditure/ Total assets	0.0613	0.0463	0.0009	0.1561	0.0472
Leverage	*LEV*	Total debt/ Total assets	0.2484	0.2281	0	0.6257	0.1897
Working capital	*WC/TA*	Net working capital/ Total assets	0.0772	0.0555	-0.2379	0.3505	0.1665

Note: N = 233,532. Source: Authors' calculations.

4.2. Baseline regression

Our baseline estimation results for the relation between business strategy type and cash holdings levels in Model (1) are outlined in Table 2 below. Across all model specifications in Table 2, there is a statistically significant positive association between the prospector firm and the magnitude of cash holdings.[2] This finding is aligned with Magerakis and Tzelepis (2020) study and supports our ***Hypothesis H1*** that prospector firms maintain higher cash holdings than other strategy types.

Regarding control variables, all coefficients show high statistical significance and are generally in line with our expectations. Specifically, firms with higher growth opportunities (*MB*) and greater business risk (*INDSIGMA*) maintain higher cash levels, whereas larger firms (*SIZE*), firms which pay dividends (*DIV*) and firms with more debt (*LEV*) have lower cash

holdings. Firms which spend more on acquisitions or capital expenditure (*ACQ/TA*) also have lower cash holdings whereas R&D intensity (*R&D/Sales*) is positively associated with cash holdings, and firms with other forms of working capital (*CAPEX/TA*) maintain relatively lower cash.

Table 2: The impact of business strategy on cash holdings

Variables	$CASH_1$	$CASH_2$	$logCASH_1$	$logCASH_2$
BS	0.044	0.0463	0.031	0.090
	(61.54)***	(49.43)***	(57.95)***	(67.56)***
SIZE	-0.004	-0.005	-0.003	-0.006
	(-16.54)***	(-20.53)***	(-18.58)***	(-13.43)***
MB	0.015	0.017	0.014	0.021
	(55.40)***	(59.66)***	(58.75)***	(33.53)***
CF/TA	-0.182	-0.178	-0.126	-0.518
	(-45.32)***	(-31.27)***	(-39.85)***	(-47.38)***
DIV	-0.017	-0.025	-0.015	-0.024
	(-25.98)***	(-26.34)***	(-26.53)***	(-13.27)***
ACQ/TA	-1.132	-1.454	-0.861	-2.423
	(-51.32)***	(-46.26)***	(-49.54)***	(-51.36)***
R&D/Sales	1.332	1.784	1.023	2.185
	(93.00)***	(96.23)***	(95.78)***	(61.09)***
INDSIGMA	0.012	0.013	0.008	0.018
	(8.24)***	(7.17)***	(8.23)***	(4.98)***
CAPEX/TA	-0.326	-0.354	-0.235	-0.886
	(-42.23)***	(-33.76)***	(-39.23)***	(-47.54)***
LEV	-0.343	-0.453	-0.279	-0.654
	(-165.37)***	(-174.32)***	(-175.36)***	(-109.43)***
WC/TA	-0.259	-0.323	-0.211	-0.513
	(-94.54)***	(-91.35)***	(-96.53)***	(-73.12)***
Constant	0.234	0.278	0.193	0.379
	(34.23)***	(34.48)***	(30.67)***	(30.76)***
Year & Industry Effects	YI	YI	YI	YI
Adjusted R^2	0.5036	0.4937	0.5163	0.3646
Observations	233,532	233,532	233,532	233,532

*Notes: This table reports the panel regression of cash holdings on corporate business strategy using Model (1). The t-statistics shown in parentheses. Standard errors are adjusted for heteroscedasticity and clustered at the firm level. *, **, and *** denote significance levels of 10%, 5%, and 1%, respectively. Source: Authors' calculations.*

4.3. Robustness checks

To rule out the influence of firm-level unobserved heterogeneity that may influence the relationship between business strategy type and cash holdings, we re-estimate Model (1) by including firm fixed effects and report the results in Panel A - Table 3. The coefficients of *BS* are positive and significant in all specifications, which still supports our ***Hypothesis H1***.

Table 3: Robustness checks

Panel A - Firm and year fixed effects				
Variables	$CASH_1$	$CASH_2$	$logCASH_1$	$logCASH_2$
BS	0.0277	0.032	0.023	0.067
	(43.24)***	(34.99)***	(38.58)***	(42.49)***
SIZE	-0.007	-0.009	-0.006	-0.018
	(-13.54)***	(-12.64)***	(-13.88)***	(-11.70)***
MB	0.011	0.012	0.008	0.015
	(41.63)***	(42.54)***	(43.48)***	(25.78)***
CF/TA	-0.053	-0.047	-0.034	-0.148
	(-12.75)***	(-7.39)***	(-11.56)***	(-10.37)***
DIV	0.005	0.007	0.003	0.004
	(5.35)***	(6.32)***	(5.27)***	(2.99)***
ACQ/TA	-0.766	-0.953	-0.548	-1.427
	(-36.62)***	(-32.78)***	(-35.26)***	(-35.43)***
R&D/Sales	0.421	0.634	0.348	0.526

Panel A - Firm and year fixed effects				
Variables	$CASH_1$	$CASH_2$	$logCASH_1$	$logCASH_2$
	(15.38)***	(16.12)***	(15.96)***	(6.57)***
INDSIGMA	-0.009	-0.009	-0.006	-0.024
	(-7.25)***	(-5.38)***	(-6.74)***	(-6.84)***
CAPEX/TA	-0.314	-0.349	-0.218	-0.748
	(-37.34)***	(-30.32)***	(-35.49)***	(-35.73)***
LEV	-0.288	-0.354	-0.254	-0.467
	(-101.43)***	(-102.56)***	(-105.82)***	(-67.44)***
WC/TA	-0.218	-0.331	-0.178	-0.409
	(-63.32)***	(-62.82)***	(-64.47)***	(-47.43)***
Constant	0.268	0.334	0.219	0.458
	(98.32)***	(94.33)***	(102.48)***	(62.85)***
Firm & Year Effects	FY	FY	FY	FY
Adjusted R^2	0.8126	0.7915	0.8097	0.7907
Observations	233,532	233,532	233,532	233,532

Panel B - Alternative measures of cash holdings		
Variables	$CASH_1TA$	$CASH_2TA$
BS	0.002	0.002
	(34.65)***	(27.54)***
SIZE	-0.003	-0.0044
	(-134.45)***	(-131.57)***
MB	0.001	0.0010
	(35.28)***	(36.3)***
CF/TA	-0.028	-0.0247
	(-43.28)***	(-40.34)***
DIV	0.002	0.0029
	(34.73)***	(32.21)***
ACQ/TA	-0.022	-0.038
	(-14.39)***	(-14.88)***
R&D/Sales	0.022	0.0258
	(14.57)***	(15.42)***
INDSIGMA	-0.001	-0.0014
	(-9.73)***	(-9.60)***
CAPEX/TA	-0.013	-0.0117
	(-15.44)***	(-10.56)***
LEV	-0.013	-0.0168
	(-68.47)***	(-70.95)***
WC/TA	-0.008	-0.0123
	(-35.38)***	(-30.87)***
Constant	0.017	0.004
	(44.38)***	(24.11)***
Year & Industry Effects	YI	YI
Adjusted R^2	0.4163	0.3266
Observations	233,532	233,532

Panel C: PSM regression				
	$CASH_1$	$CASH_2$	$logCASH_1$	$logCASH_2$
BS	0.038	0.023	0.018	0.082
	(34.44)***	(31.27)**	(28.88)***	(35.99)***
Constant	0.227	0.184	0.174	0.290
	(24.28)***	(23.98)**	(21.75)***	(22.23)***
Year & Industry Effects	YI	YI	YI	YI
Adjusted R^2	0.3934	0.3497	0.4008	0.2729
Observations	11,864	11,864	11,864	11,864

Panel D - Endogeneity – Instrumental variable approach				
Variables	$CASH_1$	$CASH_2$	$logCASH_1$	$logCASH_2$
BS	**0.057**	**0.038**	**0.04**	**0.119**
	(21.98)* **	**(20.13)** **	**(20.58)*** **	**(21.07)*** **
SIZE	-0.005	-0.004	-0.004	-0.014
	(-23.40)***	(-21.44)***	(-22.29)***	(-21.78)***
MB	0.013	-0.0014	0.009	0.018
	(32.37)***	(-34.46)**	(37.99)***	(2.89)***
CF/TA	-0.165	0.120	-0.108	-0.452
	(-26.67)***	(-30.63)***	(-24.98)***	(-27.61)***
DIV	-0.008	-0.007	-0.008	-0.019
	(-11.52)***	(-10.74)	(-11.22)***	(-7.77)***
ACQ/TA	-1.029	-1.022	-0.855	-1.765
	(-40.43)***	(-34.37)***	(-38.27)***	(-37.75)***
R&D/Sales	1.154	-1.147	0.876	1.720
	(61.59)***	(-60.48)**	(65.27)***	(39.63)***
INDSIGMA	0.018	0.015	0.009	0.024
	(9.95)***	(9.50)***	(7.67)***	(6.66)***
CAPEX/TA	-0.384	-0.416	-0.267	-0.635

Panel D - Endogeneity – Instrumental variable approach				
Variables	$CASH_1$	$CASH_2$	$logCASH_1$	$logCASH_2$
	(-28.45)***	(-32.68)***	(-28.43)***	(-24.72)***
LEV	-0.322	-0.570	-0.243	-0.519
	(-110.64)***	(-112.78)***	(-120.70)***	(-75.89)***
WC/TA	-0.250	-0.233	-0.168	-0.423
	(-73.30)***	(-64.28)***	(-75.17)***	(-57.59)***
Constant	0.238	0.215	0.194	0.378
	(31.45)***	(29.27)***	(33.89)***	(27.34)***
Year & Industry Effects	YI	YI	YI	YI
Adjusted R^2	0.4701	0.3961	0.4779	0.3433
Observations	134,843	134,843	134,843	134,843

*Notes: The t-statistics shown in parentheses. Standard errors are adjusted for heteroscedasticity and clustered at the firm level. *, **, and *** denote significance levels of 10%, 5%, and 1%, respectively. Source: Authors' calculations.*

To account for the errors in variable measurement, we employ a pure measure of cash holdings based on just the cash balance excluding short-term investments and create two alternative cash holdings variables scaled by total assets ($CASH_1TA$) and total assets net of cash ($CASH_2TA$), respectively. The regression results presented in Panel B - Table 3 continue to demonstrate a significant and positive relation between business strategy and the firm's cash holdings.

4.4. Selection bias and endogeneity considerations

To address the selection bias related to the nature of the sample selection and the business strategy classification, we employ the propensity score matching method. Specifically, for each fiscal year, we match our treatment firms to control firms based on one-to-one nearest neighbour matching without replacement using our control variables. We define the treatment firms as those with above-median industry-based business strategy scores and control firms as those with below-median business strategy scores. The outcomes of the propensity score matching process across treatment and control firms outlined show that there is no statistical difference in the mean of independent variables between the matched treatment and control firms, which indicates the comparability of the propensity matched firms.[3] Panel C of Table 3 provides the regression estimation results for the smaller sample of propensity matched firms. Similar to the baseline regression, we also identify a positive and statistically significant association between the prospector type indicator variable (*BS*) and cash holdings across various dependent variable specifications. The consistency of these results continues to support the existing evidence that prospector type firms maintain higher cash holdings than other business strategy classifications.

It is plausible that the underlying cash holding of firms could influence their strategic decision-making. Thus, we address this endogeneity issue due to reverse causality using the two-stage instrumental variable estimation process. We follow Kong et al. (2020) to use the 5-year (t-5) lagged value of business strategy variable as instrumental variable for business strategy. We also use 1-year lags of control variables to address the endogeneity concern that may arise from these variables. The results reported in Panel D - Table 3 show that the *BS* coefficients are positive and statistically significant in all four specifications. This provides further support for the positive association between prospector business strategy and the magnitude of cash holdings after controlling for the presence of any endogeneity arising from the model.

Conclusion: This paper explains the rise of the U.S firms' cash holding after the 1970s concerning the role of business strategy. The study adopts Miles and Snow (1978 and 2003) business strategy classifications and employs multiple robust regressions on a sample of over 230,000 observations during the period 1950 - 2023. The finding shows that business strategy has significant impact on firm's cash holdings. Specifically, prospector type firms maintain relatively larger cash holdings compared to other business strategy types which are consistent with both their focus on innovation and investment and reduced emphasis on efficient operation and management. These findings are important to understanding varying cash holding and cash management policies among U.S firms and also a number of the underlying factors that are determinative of cash management decision.

References:

Bentley-Goode, K. A., Newton, N. J., & Thompson, A. M. (2017). Business strategy, internal control over financial reporting, and audit reporting quality. Auditing: A Journal of Practice & Theory, 36(4), 49-69.

Bentley, K. A., Omer, T. C., & Sharp, N. Y. (2013). Business strategy, financial reporting irregularities, and audit effort. Contemporary Accounting Research, 30(2), 780-817.

Cao, Z., Chen, S.X., Harakeh, M., & Lee, E. (2022). Do non-financial factors influence corporate dividend policies? Evidence from business strategy. International Review of Financial Analysis, 82, 102211.

Dang, M., Puwanenthiren, P., Jones, E., Nguyen, T.Q., Vo, X.V., & Nadarajah, S. (2022). Strategic archetypes, credit ratings, and cost of debt. Economic Modelling, 114, 105917.

Ferreira, M. A., & Vilela, A. S. (2004). Why do firms hold cash? Evidence from EMU countries. European Financial Management, 10(2), 295-319.

Harford, J., Mansi, S. A., & Maxwell, W. F. (2008). Corporate governance and firm cash holdings in the US. Journal of Financial Economics, 87(3), 535-555.

Kong, D., X. Yang, C. Liu, and W. Yang (2020). Business strategy and firm efforts on environmental protection: Evidence from China. Business Strategy and the Environment, 29, 445-464.

Lim, E. K., Chalmers, K., & Hanlon, D. (2018). The influence of business strategy on annual report readability. Journal of Accounting and Public Policy, 37(1), 65-81.

Magerakis, E., & Tzelepis, D. (2020). The impact of business strategy on corporate cash policy. Journal of Applied Accounting Research, 21(4), 677-699.

Miles, R. E., & Snow, C. C. (2003). Organizational Strategy, Structure, and Process: Stanford University Press.

Miles, R. E., Snow, C. C., Meyer, A. D., & Coleman Jr, H. J. (1978). Organizational strategy, structure, and process. Academy of Management Review, 3(3), 546-562.

Navissi, F., Sridharan, V., Khedmati, M., Lim, E. K., & Evdokimov, E. (2017). Business strategy, over-(under-) investment, and managerial compensation. Journal of Management Accounting Research, 29(2), 63-86.

Teirlinck, P. (2020). Engaging in new and more research-oriented R&D projects: Interplay between level of new slack, business strategy and slack absorption. Journal of Business Research, 120, 181-194.

Usman, A. (2022). Cash holdings and real asset liquidity. International Review of Financial Analysis, 83, 102298.

[3] *Results are provided upon request.*