

Business Group Characteristics and Affiliated Firm Cash Holdings

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Abstract. This paper examines the relationship between business group characteristics and corporate cash holdings for business group affiliated firms listed on the Taiwan Stock Exchange and in the Over-The-Counter market. The empirical results reveal that affiliated firms with higher operating cash flows and growth opportunities that are bigger in size, have lower leverage and net working capital, are younger, pay out dividends, and listed in the TSE market hold more cash than nonaffiliated firms. Besides, the results also show that more highly-diversified groups, more stock ownership holdings, and groups with fewer listed firms hold lower cash balances.

Keywords: cash holdings, business group characteristics, affiliated firms, diversification

1. Introduction

Business groups play a prominent role in many emerging markets. Many scholars have recognized several theoretical perspectives to explain the emergence of such groups. Previous studies about business groups have analyzed the relationship business group affiliation and firm performance, innovation, and leverage policy (Khanna and Rivkin 2001; Manos et al. 2007; Singh and Gaur 2009; Hsieh et al. 2010). Meanwhile, little attention has been directed to addressing business group effects on the cash holding decisions of affiliated firms. By using an integration of the agency theory with the institutional perspective (Singh and Gaur 2009) and performing multivariate regression analyses, this paper attempts to extend the research streams from the business group factors and to examine the relationship between firm cash holdings and business group effects for business group affiliated firms listed on the Taiwan Stock Exchange and in the Over-The-Counter market. This paper employs the following factors for business groups: group affiliation, group diversification, group ownership holdings, and group listed numbers.

The empirical findings reveal that affiliated firms with higher operating cash flows and growth opportunities, which are bigger in size, have lower leverage and net working capital, are younger, pay out dividends, and listed in the TSE market, hold more cash than non-affiliated firms. The findings also show that more highly-diversified groups, more stock ownership holdings, and groups with fewer listed firms hold lower cash balances.

2. Hypotheses Development

Business groups are an important business form in many emerging economies. Academic studies have recognized several theoretical perspectives to explain the emergence of such groups. These include the resource dependence view (Guillén 2000), institutional theory (Khanna and Palepu 1997, 2000a, 2000b) and transaction cost analysis (Luo and Chung 2005). According to these perspectives, business groups act as a social network to offer benefits to their affiliates and resolve the problems that arise from the imperfection of the emerging markets. Compared with the stand-alone counterparts, affiliated firms are more likely to acquire financial capital from an efficient business environment. Many scholars about business groups have analyzed the relationship business group affiliation and firm performance, innovation, and leverage policy (Khanna and Rivkin 2001; Manos et al. 2007; Singh and Gaur 2009; Hsieh et al. 2010). Meanwhile, little attention has been directed to addressing business group effects on the cash holding decisions of affiliated firms. Based on Chava and Purnanandam (2010) who consider the cash balance to be negative leverage, this

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paper proposes that the cash holding decisions of affiliated firms differ from those of non-affiliated firms. Thus, this paper constructs the first hypothesis as follows:

H1: The firms affiliated to business groups are positively related to the cash holdings policy.

Prior studies reveal that the characteristics of business groups could also influence the affiliated firms' cash holding policy (Manos et al. 2007; Hsieh et al. 2010). Following these studies, this paper highlights the group factors which influence corporate cash holdings in addition to the organizational characteristics of this paper mentioned above. The group characteristics include business group diversification, the number of listed firms affiliated to a group, and group ownership holdings. Thus, this paper establishes the second hypothesis as follows:

H2: The business group characteristics are positively related to the cash holdings policy.

3. Data and Methods

3.1. Sample Data

The sample firms employed in this study include firms listed on the Taiwan Stock Exchange (TSE) and in the Over-The-Counter market (OTC) from 2000 to 2009. Data are collected from the Taiwan Economic Journal (TEJ) database. This paper drops the finance and insurance industries and government firms due to the unique nature of their regulations and requirements. After deleting firms with missing data, the final sample comprises a total of 9,470 firm-year observations of which 2,960 related to affiliated firms and 6,510 to non-affiliated firms. The data for the 2,960 affiliated firm-year observations are used to construct group characteristics variables. To reduce the influence of outlier observations, all of the variables are winsorized at the 1st and 99th percentile levels.

3.2. Measures

Following Opler et al. (1999) and Harford et al. (2008), this study employs the log of cash and short-term investments to total sales to measure corporate cash holdings CAHO. This paper uses the log of cash holdings for the skewness of the variable. The following are the definitions of the independent variables. Business group affiliation DBGA is measured by an indicator variable, which takes a value of one, if the firm belongs to a business group with at least two listed firms, and zero otherwise. Group diversification GDIV is defined as the number of industry lines represented in the business group with which the firm is affiliated (Manos et al. 2007). Group listed number GNUM is the number of listed firms affiliated to a group. Finally, group ownership GOWN is measured as the percentage of an affiliated firm's common stock shares held by the affiliated business group (Kuan et al. 2010).

A number of firm-specific control variables included in the regression models are all based on the existing literature. Specifically, this paper uses: (a) the natural logarithm of the firm's total assets SIZE to control for firm size; (b) LEV, which is the ratio of total debt to total assets; (c) the cash flow OCF ratio measured as operating income divided by total assets to control for liquidity; (d) NWC, which is the ratio of net working capital to non-cash assets; (e) DCD, which is the cash dividend payout divided by total assets; (f) the book value of debt plus the market value of equity divided by total assets MB as a proxy for investment opportunities; (g) AGE, the natural logarithm of the number of years firms have been listed; and (h) DMAR, is a market dummy variable, which takes a value of one, if the firm listed on the TSE market, and zero otherwise.

4. Empirical Analysis

Table 1 provides the descriptive statistics and the definitions of the related variables for the entire sample of 9,470 firms and 2,960 sample firms affiliated with business groups. Table 1 indicates that the average cash holdings CAHO for the full sample firms are about 84.7% of net sales revenues, which is smaller than those of affiliated firms. The results show that the affiliated firms hold more cash than do their unaffiliated counterparts. The average leverage ratio LEV for the full sample firms is 43.1%, which is similar to those of affiliated firms. The mean value of the business group affiliation dummy variable BDGA is 0.313, which indicates that about 31.3% sample firms are affiliated with business groups and those business groups have at

least two listed firms. The sample descriptive statistics of the remaining variables for the full sample firms are generally comparable to those for the affiliated firms.

To maintain brevity, this paper does not tabulate the results of the Pearson/Spearman correlation matrix of the related variables for corporate policy measures. All the correlations are significant at least at the 5% level. The relationships suggest that all of the explanatory variables are important in explaining the corporate cash holdings decision. While most of the independent variables are highly correlated with the others, the variance inflation factors (VIF) of the explanatory variables in the regressions amount to less than 2 and suggest that a severe multicollinearity problem does not exist.

Table 1 Descriptive Statistics

Variable	Definitions	Full sample firms N=9,470		Affiliated firms N=2,960	
		Mean	Std. Dev.	Mean	Std. Dev.
CAHO	Natural logarithm of cash and short-term investments to total sales	0.874	0.070	0.886	0.068
SIZE	Natural logarithm of total assets	6.631	0.588	6.929	0.683
LEV	Total debt to total assets	0.431	0.172	0.431	0.177
OCF	Operating cash flow to total assets	0.070	0.099	0.075	0.098
NWC	Net working capital (current assets minus current liabilities) to non-cash assets	0.110	0.168	0.086	0.162
MB	The book value of debt plus market value of equity divided by total assets	1.314	0.715	1.305	0.748
DCD	Cash dividend dummy variable that takes a value of 1 if a firm pays a dividend, and 0 otherwise	0.623	0.485	0.624	0.484
AGE	The number of years firms have been in listed	14.174	7.987	16.186	9.299
DMAR	Market dummy variable that takes a value of 1 if a firm listed on the TSE market, and 0 otherwise	0.634	0.482	0.729	0.444
DBGA	Group affiliation dummy variable that takes a value of 1 if a firm is affiliated to a group with at least two listed firms, and 0 otherwise	0.313	0.464		
GNUM	The number of listed firms affiliated to a group			3.618	2.287
GDIV	The number of industry lines represented in the business group with which the firm is affiliated			1.802	1.196
GOWN	The percentage of an affiliated firm's common stock shares held by the affiliated business group			31.913	17.265

To examine the relationship between business group characteristics and the corporate cash holding policy, this paper first includes a business group affiliation dummy variable and control variables in the regression model. Next, this paper performs regressions for the affiliated firms to clearly identify the effects of business group characteristics on cash holdings. The group listed number GNUM, group diversification GDIV, and group ownership holdings GOWN variables are the group characteristics variables that are included in the regression models. All models also include year dummy variables and the results are not tabulated.

The results of the cash holdings policy are provided in Table 2. The group affiliation dummy variable DBGA coefficient in Model 1 is positive and significant at the 1% level and supports the view that business group-affiliated firms hold higher cash balances. The results provide evidence in support of H1. In Table 2, Models 2, 3, 4, and 5 present the effects of business group characteristics on cash holdings for the affiliated firms. The group listed number of firms GNUM coefficients in the regression models 2 and 5 are all positive, but not all significant. The results indicate that group with more listed number of firms, the affiliated firms are more likely to acquire financial capital from an efficient business environment and have more cash reserves. The group diversification GDIV and group ownership holdings GOWN coefficients in Model 3, 4 and 5 are all negative and significant at the 1% level. The significantly negative effects on cash holdings suggest that the groups which gain nearly full control of the firms prefer to diversification, rather than keeping cash within the firms. Overall, the results provide only weak support for H2.

As for the control variables, the results are consistent with the prior literature (Opler et al. 1999; Harford et al. 2008; Chava and Purnanandam 2010). Collectively, these results suggest that affiliated firms with higher operating cash flows and growth opportunities, that are bigger in size, have lower leverage and net working capital, are younger, pay out dividends, and listed in the TSE market, hold more cash than non-affiliated firms. The findings show that the more highly diversified groups, the groups with larger stock ownership holdings, and lower listed number groups hold smaller cash balances.

Table 2 The Effects of Business Group Characteristics on Cash Holdings

	Dependent Variable: CAHO				
	Model 1 (Full Sample)	Model 2 (Affiliated Firms)	Model 3 (Affiliated Firms)	Model 4 (Affiliated Firms)	Model 5 (Affiliated Firms)
INTERCEPT	0.758 ^a	0.791 ^a	0.793 ^a	0.801 ^a	0.806 ^a
	(89.080)	(59.877)	(60.576)	(58.885)	(58.621)
SIZE	0.030 ^a	0.026 ^a	0.027 ^a	0.025 ^a	0.024 ^a
	(20.551)	(11.788)	(12.473)	(11.639)	(10.897)
LEV	-0.207 ^a	-0.207 ^a	-0.208 ^a	-0.204 ^a	-0.203 ^a
	(-46.679)	(-27.734)	(-28.331)	(-27.460)	(-26.932)
OCF	0.028 ^a	0.021 ^c	0.023 ^c	0.022 ^c	0.022 ^c
	(4.052)	(1.710)	(1.852)	(1.742)	(1.758)
NWC	-0.027 ^a	-0.031 ^a	-0.034 ^a	-0.032 ^a	-0.034 ^a
	(-6.237)	(-3.858)	(-4.228)	(-4.038)	(-4.286)
MB	0.012 ^a	0.010 ^a	0.009 ^a	0.010 ^a	0.009 ^a
	(12.352)	(6.244)	(5.837)	(6.320)	(5.637)
DCD	-0.002	-0.005 ^c	-0.003	-0.004	-0.002
	(-1.417)	(-1.910)	(-1.289)	(-1.557)	(-0.966)
AGE	0.000 ^b	0.000	0.000	0.000	0.000
	(-2.046)	(-0.435)	(-0.571)	(-0.546)	(0.924)
DMAR	-0.005 ^a	-0.007 ^b	-0.007 ^b	-0.007 ^b	-0.007 ^b
	(-3.168)	(-2.453)	(-2.395)	(-2.338)	(-2.487)
DBGA	0.004 ^a				
	(2.952)				
GNUM		0.000			0.002 ^a
		(0.087)			(2.935)
GDIV			-0.004 ^a		-0.006 ^a
			(-4.500)		(-4.938)
GOWN				0.000 ^a	0.000 ^b
				(-2.701)	(-2.015)
N	9,470	2,960	2,960	2,960	2,960
Adj. R ²	0.286	0.278	0.283	0.280	0.285
F Value	422.974 ^a	127.622 ^a	130.747 ^a	128.747 ^a	108.398 ^a

Robust t-statistics are in parentheses. The symbols ^a, ^b, and ^c denote statistical significance at the 1%, 5%, and 10% levels, respectively. All variables are as defined in Table 1.

5. Conclusions

Using an integration of the agency theory with the institutional perspective, this paper examines the relationship between business group affiliation and corporate cash holdings for firms listed on the Taiwan Stock Exchange and in the Over-The-Counter market from 2000 to 2009. This paper also attempts to extend

the research streams from the group characteristics and examines the relationship between corporate cash holdings and business group effects. The empirical evidence reveals that the affiliated firms with higher operating cash flows and growth opportunities, that are bigger in size, have lower leverage and net working capital, are younger, pay out dividends, and listed in the TSE market, hold more cash than non-affiliated firms. The findings also show that the more highly diversified groups, those that have more stock ownership holdings, and groups with lower numbers of listed firms hold smaller cash reserves.

6. References

- [1] D. A. Singh and A. S. Gaur, "Business Group Affiliation, Firm Governance, and Firm Performance: Evidence from China and India," *Corporate Governance: An International Review*. 2009, **17** (4):411-425.
- [2] J. Harford, S. A. Mansi, and W. F. Maxwell, "Corporate Governance and Firm Cash Holdings in the US," *Journal of Financial Economics*. 2008, **87** (3): 535-555.
- [3] M. F. Guillén, "Business Groups in Emerging Economies: A Resource-Based View," *Academy of Management Journal*. 2000, **43**: 362-380.
- [4] M. Jensen, "Agency Costs of the Free Cash Flow, Corporate Finance and Takeovers," *American Economic Review*. 1986, **76**: 323-329.
- [5] R. Manos, V. Murinde, and C. J. Green, "Leverage and Business Groups: Evidence from Indian Firms," *Journal of Economics & Business*. 2007, **59**: 443-465.
- [6] S. Chava and A. Purnanandam, "CEOs versus CFOs: Incentives and Corporate Policies," *Journal of Financial Economics*. 2010, **97**: 263-278.
- [7] T. Hsieh, R. Yeh, and Y. Chen, "Business Group Characteristics and Affiliated Firm Innovation: The Case of Taiwan," *Industrial Marketing Management*. 2010, **39**: 560-570.
- [8] T. Khanna and J. W. Rivkin, "Estimating the Performance Effects of Business Groups in Emerging Markets," *Strategic Management Journal*. 2001, **22**: 45-74.
- [9] T. Khanna and K. Palepu, "Why Focused Strategies May be Wrong for Emerging Markets," *Harvard Business Review*. 1997, **75**: 41-51.
- [10] T. Khanna and K. Palepu, "Is Group Affiliation Profitable in Emerging Markets? An Analysis of Diversified Indian Business Groups," *Journal of Finance*. 2000a, **55**: 867-891.
- [11] T. Khanna and K. Palepu, "The Future of Business Groups in Emerging markets: Long-Run Evidence from Chile," *Academy of Management Journal*. 2000b, **43**: 268-285.
- [12] T. Kuan, C. Liz, and S. Chu, "Cash Holdings and Corporate Governance in Family-Controlled Firms," *Journal of Business Research*. 2010, **64** (7): 757-765.
- [13] T. Opler, L. Pinkowitz, R. Stulz, and R. Williamson, "The Determinants and Implications of Corporate Cash Holdings," *Journal of Financial Economics*. 1999, **52** (1): 3-46.
- [14] X. Luo and C. Chung, "Keep It All in the Family: The Role of Particularistic Relationships in Business Group Performance during Institutional Transition," *Administrative Science Quarterly*. 2005, **50**: 404-439.