

DO GROUP AFFILIATED AND UNAFFILIATED FIRMS HOLD CASH DIFFERENTLY? THE CASE OF PAKISTAN

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Abstract: *This study analyses the effect of business group membership on cash holding pattern of affiliated firms listed at Pakistan Stock Exchange from 2009-2014. Group affiliation can increase benefits for affiliated firms by providing an access to internal capital markets, particularly in emerging economies where institutional control is weak and access to external financing is difficult and expensive. Using panel data of public limited group affiliated firms and comparable standalone firms, the empirical results show that group firms hold less cash than standalone firms. The results are in line with the view that access to internal capital markets enables group affiliated firms to manage their operations with low cash reserves.*

Key words: *Group affiliation; cash holdings; affiliated firms.*

JEL Classification: *G30; G32.*

1. Introduction

Cash holding is an important measure for households and firms. Investors, analysts, and firms pay much attention to firm's cash holdings; it determines the liquidity position of a firm. Firms should hold an optimal cash for several reasons, looking back at Keynes (1936), he proposed three basic reasons for cash holdings, (i) transaction motive, need for managing everyday transactions, (ii) precautionary motive, money is needed to cover unexpected future events, (iii) speculative motive, money is held to catch any attractive investment opportunity.

The literature suggests two conflicting explanations of how business groups' affiliation affects corporate cash holdings. First, the existence of internal capital markets and due to lower financial constraints the group affiliated firms favour to keep lower cash reserves (Schiantarelli and Sembenelli, 2000). Chang & Hong (2000) found that group reputation and intra-group guarantees support the access to external funds. Second, the prevailing view in corporate finance is based on the availability of free cash flows, due to agency problems; firms prefer to keep excess cash but at the expense of shareholders (Jensen, 1986). Resultantly, the complex organizational and ownership structure of business groups have a higher level of information asymmetry as compare to standalone firms, which in turn intensifies the agency conflicts between shareholders and managers. Therefore, the net outcome of group affiliation on cash reserves count on which aspect of group dominates the other. In relation to corporate cash holdings, group affiliated firms have better opportunities to approach external funds both from inside and outside of the group, and this makes them less financial constrained as compare to standalone firms.

The economy of Pakistan presents an ideal setting for current study, there are four appealing reasons. First, groups cover the major part of the economy in the private

sector and have an advantage for overall economic development and political landscapes (Saeed et al., 2015). Second, group member firms are affiliated with one group, thus deciding about group affiliation is easier and clear. Third, many business groups migrated from India and are operating since the independence of Pakistan 1947. Fourth, owners of business groups are parliamentarians and playing a key role in planning and designing of economic policies. A business group is defined as a set of legally independent firms bound together by some formal and informal ties (Khanna & Yafeh, 2005).

The aim of the study to examine the effect of group affiliation on firm's cash holdings while comparing with standalone firms. The main findings suggested by using the panel data of 243 Pakistani non-financial public limited firms, that group member firms hold considerably less cash as compare to standalone firms. All of the control variables significantly explain firms' cash levels. Overall, the presence of internal capital markets and lower level financial constraints are encouraging motivators for group member firms to hold less cash.

The reminder of this paper is arranged as follows: Section 2 describes theoretical framework and hypothesis development. Section 3 discusses data and methodology. Section 4 contains results. 5. Conclusion.

2. Theoretical framework and hypothesis development

Several studies have examined the business groups by recognizing different theoretical perspectives such as resource-based view (Guillen, 2000), exchange theory (Kiestler, 2001), institutional voids theory (Khanna & Palepu, 1997), transaction cost theory (Hoskisson et al. 2005), agency theory (Claessens et al., 2000) and risk sharing theory (Khanna & Yafeh, 2005). Studies have explored the effect of business groups in Pakistan by considering a limited number of different indicators like financial constraints (Saeed and Sameer, 2015), financial performance (Ghani et al., 2011) and political connections (Saeed et al., 2015). A limited research evidence of business groups' studies is available in Pakistan.

Business groups are an important business form that is prevailing in many emerging economies as well as developed market. But the performance comparison results are different in different economies in relation to standalone firms e.g. in India, Chile, Korea and Turkey group affiliation improves performance for member firms but in contrary Japanese standalone firms outperform group companies. In emerging economies, most of the literature is available with reference to Khanna and Rivkin (2001) and Khanna and Palepu (2000a, b) relied on the notion that groups are widely available in countries with weak institutional control (Granovetter, 2005) and imperfect market conditions.

Knowing that perfect capital markets do not have transaction cost, this is the assumption of perfect capital markets that the cost of internal and external funds are equal and firms can easily access to their financing needs or to meet cash deficit. In this case, firms should not hold significant cash. But in contrary, capital markets are imperfect, given asymmetric information between borrowers and lenders. It depends on the characteristics of the firm; information asymmetric might be smaller for one firm and greater for other firms. He et al., (2013) reported that business groups help to alleviate the asymmetric information as well as legal issues that appear while approaching external capital markets.

A firm's optimal cash holding level is that when the marginal benefit is equal to marginal cost. A number of studies have focused on cash holdings in various forms such as determinants of cash holdings (Dalbor & Oak, 2011; Kim et al., 2011; Gao et al., 2013; Al-Najjar & Belghitar, 2011), effect of corporate governance on cash holdings (e.g. Ozkan & Ozkan, 2004; Ferreira & Vilela, 2004; Chen & Chuang 2009; Drobetz & Gruninger, 2007; Huang, Elkinawy & Jain, 2013), adjustment of cash holdings toward target levels (Opler et al., 1999; Venkiteshwaran, 2011), impact of cash holdings on firms' market value (Pinkowitz et al., 2006; Martinez-Sola et al., 2013, Kalcheva & Lins, 2007).

Studies of cash holdings in Pakistan remains limited; mainly by (Afza and Adnan, 2007; Rizwan and Javed, 2011; Shabbir et al., 2016) examined the determinants of cash holdings. They found that reinvestment, dividend payment, precautionary motives and pecking order theory are key determinants of cash holdings in Pakistan. In different studies, looking at the impact of corporate governance measures on cash holdings, they found the managerial ownership is negative related to cash holdings. This implies that managerial ownership would decrease cash and helpful in avoiding agency problems (Masood, A., and Shah, A., 2014; Basheer, M. F., 2014; H. et al., 2014).

In business groups internal capital markets are considered as a key source to channelize the resources between affiliated firms, it enables the flow of cash from one affiliated firm to other affiliated firms. Transferring excess cash from member firm to another reduces dependency on external capital markets and benefits of holding cash. Internal capital markets are different from external capital markets due to transactions cost, control rights, assets specificity, incentives and information (e.g. Gertner, Schafstein and Stein, 1994; Stein 1997).

Subramaniam et al., (2011) documented that diversified firms hold considerably lower cash as compare to focused firms. This is due to easy access to internal capital markets and better prospects for selling assets. W.Cai et al. (2016) suggested that precautionary objectives to hold cash are to respond unexpected future cash flow surprises. Business groups help affiliated firms to avoid the problem of uncertainty of future cash flows in different manners. First, groups allow the development of internal capital markets, to some extent internal markets help to replace the external markets to meet the financial needs of affiliated firms. Funds from group member are collected into a pool and then reallocated them to the most money-making projects. Essentially, business groups are providing a valuable forum for an efficient allocation of financial and managerial level resources among group member firms. Moreover, it is more beneficial when external markets are not developed. Khanna and Yafeh (2005) provided empirical facts that business groups help member firms in sharing their risks. On average, it is executed by transferring resources from profitable affiliates to non-profitable affiliates; this practice is common during times of financial difficulty. Prowse (1992) already provided empirical evidence that group affiliated firms help member firms particularly those which are suffering due to financial problems; it is done for the survival of a group in the long run. Verschueren and Deloof (2006) provided an evidence that intra-group guarantees support member firms to meet financing needs by way of using corporate bonds and bank loans.

Ferreira and Vilela (2004) documents that development of capital markets has a negative effect on cash holdings. Denis & Sibilkov (2010) finds that cash value increases with increasing financial constraints. Locorotondo et al. (2014) reported a

contradictory relationship of cash holdings and group affiliated firms based on a sample of Belgian firms. Pinkowitz et al. (2006) examined that Japanese business groups hold less cash than other firms.

Based on the literature, it is expected that group affiliation provides better access to financing requirements along with it enables to generate more constant future cash flows to avoid uncertainty. Resultantly, precautionary motives are weakening and group firms prefer to keep less cash. Together, relying on this intuition and presence of internal capital markets, it is proposed that group firms should hold significantly less cash as compare to standalone firms. Therefore, it is expected that negative association is present between cash holdings and group affiliation.

H1. Business group member firms hold less cash than standalone firms.

3. Data and Methodology

3.1 Data

This study sample is based on the public limited firms listed at Pakistan Stock Exchange during 2009-2014. A sample of study includes 34 business groups, 132 firms are group affiliated and 111 standalone firms have been selected. In total 243 firms including group affiliated and standalone firms have been selected to study cash holding behavior of firms. The sample includes only those firms which are owned purely by Pakistani nationals. Firms with dual ownership are excluded from the sample. Only manufacturing firms are part of the sample. Financial services firms are excluded from this sample since their accounting scheme is not compatible with that of firms in other industries.

A firm's group affiliation is identified by using the book of Rehman (1998), who reported the list and details of business groups and their affiliated firms in Pakistan's economy. This book is a primary source to separate the affiliated firms from standalone firms. Moreover, group membership is also confirmed by following He et al. (2013) that group affiliation in each year is based on whether its controller has also more than one listed firm at a same year. Data of business group's affiliation and standalone firms has been collected manually from the annual reports of listed firms. The data is also collected from Financial Statement Analysis of Non-Financial Sector. This data is administered and published by the State Bank of Pakistan (SBP), the Central Bank of Pakistan. Moreover, this data is comparable to the annual reports submitted to the Securities and Exchange Commission of Pakistan (SECP). Firms in Pakistan have to report their data to the SECP annually; hence transparency and accuracy of data are needed as per law.

Table 1 summarizes the sample selection process and industries based on the classification of Pakistan Standard Industrial Classification (PSIC). The sample of study is 243 firms, 132 of which are affiliated with the business group and 111 are standalone firms. The total numbers of observations in this study are 1458. A textile industry comprised the major share with 570 observations, 312 of which are affiliated with business groups. There is no group affiliated firm from Information, Communication & Transport industry.

3.2 Methodology

The study explores the relationship between cash holdings and business group membership based on the framework applied by W.Cai et al. (2016), one main

characteristic i.e. group affiliation is used to test the issue related to cash holdings. This study used panel data analysis technique and pooled ordinary least squares (OLS) regression method to estimate the relationship of group membership and cash holdings for public limited firms for 2009-2014. A model can be described by the following equation:

$$CASH_i = \beta_0 + \beta_1 GROUP_i + \beta_2 LEV_i + \beta_3 CF_i + \beta_4 LIQ_i + \beta_5 DIV_i + \beta_6 SIZE_i + \varepsilon_i$$

Table 1. Sample Selection and Industry Distribution

Industry	Total	Group affiliated sample (Group = 1)	Stand-alone sample (Group = 0)
Textile	95	52	43
Chemicals & Pharmaceuticals	27	12	15
Cement	13	9	4
Fuel & Energy	12	10	2
Motor Vehicles & Auto parts	16	13	3
Sugar	20	7	13
Coke & Refined Petroleum Products	5	5	0
Manufacturing	20	6	14
Paper, Paperboard & Products	8	5	3
Food	11	6	5
Mineral Products	7	3	4
Other Services Activities	3	3	0
Electrical Machinery	4	1	3
Information Comm. & Transport	2	0	2
Total	243	132	111

Source: Pakistan Standard Industrial Classification

Table 2. Variables definitions.

Variables	Acronym	Definition
Cash Holdings	(CASH)	Cash and cash equivalents/(total assets minus cash & cash equivalents)
Business Group	(GROUP)	Dummy variable - one for group member firms and zero for standalone firms.
Leverage	(LEV)	Total debt divided by total assets
Cash flow	(CASHFLOW)	Operating cash flow divided by total assets
Liquid substitutes	(LIQ)	Working capital minus cash & cash equivalents divided by total assets
Dividend	(DIV)	Net operating profit minus tax provision divided by total amount of dividend
Firm size	(SIZE)	Natural logarithm of total assets

The dependent variable *CASH* is referred to cash holdings, the independent variables - *GROUP* refers to dummy variable that equals 1 if a firm is affiliated with group and 0 for standalone firm; *LEV* refers to total debt divided by total assets; *CF* refers to operating cash flows; *LIQ* refers to working capital minus cash and cash equivalents divide by total assets; *DIV* is the ratio of net operating profit minus tax provision divided by total amount of dividend; *SIZE* is measured by natural logarithm of total assets. If H1 is supported and group affiliated firms hold less cash than standalone firms, and then it should be observed that β_1 is significantly negative.

4. Empirical Findings

4.1 Correlation Matrix

Table 3 presents the results of the correlation. Since, group affiliation is negatively correlated with cash, indicating that member firms prefer to hold less cash as compare to standalone firms. This relationship is consistent with H1. *CASH* is negatively correlated with leverage, dividend, and size, and positively correlated with cash flow and liquidity. This shows that control variables are key determinants of firm's cash policy. Overall, most of the independent variables are weakly correlated with each other. Moreover, the values of variance inflation factors (VIF) of the explanatory variables are less than 2. Rogerson (2001) recommended a maximum value of VIF is 5. In this study, overall main variables mean value of VIF is 1.11 i.e. less than maximum recommended value of 5.

4.2 Descriptive statistics

Table 4 showing the results of descriptive statistics for both affiliated (Panel A) and unaffiliated (Panel B) firms. The average cash ratios of affiliated and unaffiliated samples are 0.058 and 0.295, respectively. Another key observation is affiliated firms keep less cash on their balance sheets than standalone firms; this can be seen at mean levels. This is the first support to H1. On average, member firms have higher levels of leverage, cash flow, size and dividend payments.

Table 3: Correlation matrix for main variables. Table 2 presents description and acronyms for each variable.

	CASH	GROUP	LEV	CASH FLOW	LIQ	DIV	SIZE
CASH	1.000						
GROUP	-0.0955	1.000					
LEV	-0.5295	0.0002	1.000				
CASHFLOW	0.0466	0.0523	0.0140	1.000			
LIQ	0.0379	0.0796	-0.3586	0.0765	1.0000		
DIV	-0.0983	0.1117	0.0357	0.0572	0.0627	1.0000	
SIZE	-0.0549	0.3062	-0.0840	0.0543	0.2104	0.0527	1.0000

4.3 Group affiliation and cash holdings

In this part, by using Pooled OLS regression, it is examined whether group affiliated firms hold significantly less cash or not. Table 5 presents results of regression with dependent variable cash and group affiliation as the independent variable.

Regression in Table 5 quantifies the impact of group membership on cash holdings including control variables as well as a dummy variable for group affiliation, which is one for group membership and zero for standalone firms. Table 5 includes t-statistics, R-square (R^2) and F-significance value. It is observed that R^2 value is = 0.3249 or 32.49%, that explains the variation in cash holdings i.e. a dependent variable in this study. The R^2 is a coefficient of determination; it measures the variation of a dependent variable due to independent variables. Thus, group affiliation, leverage, cash flow, size, dividend, and liquidity are used as independent variables; together they have 32.49% impact on cash holding pattern of group affiliated firms. The F-significance value measures the overall fitness of model whether the model is statistically significant or not? The F-significance value is 116.39 ($p < 0.0000$); it shows the overall fitness of model. This confirms the fitness of model used in this study.

Table 4: Descriptive statistics for main variables. Table 2 presents description and acronyms for each variable.

Period	Obs.	CASH		LEV		CASH FLOW		LIQ		DIV		SIZE	
		Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev	Mean	Std. Dev
<i>Panel A. Group Affiliated Sample (Group = 1)</i>													
2009	132	.059	.151	.648	.430	.080	.137	-.021	.379	2.265	6.894	14.677	2.729
2010	132	.072	.187	.632	.481	.085	.133	-.013	.450	4.203	10.452	14.739	2.756
2011	132	.050	.133	.651	.546	.030	.094	-.003	.524	5.374	15.965	15.245	1.599
2012	132	.051	.141	.646	.695	.082	.112	-.003	.681	2.787	5.667	15.291	1.651
2013	132	.063	.197	.615	.722	.072	.128	.024	.698	4.803	13.967	15.365	1.610
2014	132	.056	.287	.602	.696	.062	.096	.012	.708	3.164	7.322	15.453	1.636
Avg.	132	.058	.183	.632	.595	.068	.117	-.001	.573	3.766	10.044	15.128	2.000
<i>Panel B. Group Affiliated Sample (Group = 0)</i>													
2009	111	.297	1.803	.681	1.679	.065	.105	-.045	.418	-3.329	48.003	13.585	2.069
2010	111	.289	1.808	.608	2.111	.063	.114	-.034	.444	1.350	4.631	13.655	2.102
2011	111	.314	1.814	.657	1.485	.050	.126	-.059	.445	.999	4.243	13.899	1.676
2012	111	.285	1.824	.710	1.708	.058	.157	-.100	.562	.562	2.974	13.953	1.707
2013	111	.290	1.822	.650	2.707	.057	.118	-.153	.749	1.106	4.367	13.981	1.716
2014	111	.294	1.856	.482	4.552	.041	.112	-.196	.972	.764	3.347	14.045	1.727
Avg.	111	.295	1.821	.631	2.374	.056	.122	-.098	.598	.242	11.261	13.853	1.833
<i>Panel C. Full Sample (Group and Standalone firms)</i>													
2009	243	.168	1.226	.663	1.175	.073	.123	-.032	.406	-.289	32.877	14.179	2.505
2010	243	.175	1.232	.621	1.467	.075	.125	-.023	.447	2.900	8.421	14.243	2.532
2011	243	.170	1.234	.653	1.079	.039	.110	-.029	.489	3.375	12.285	14.630	1.764
2012	243	.158	1.239	.675	1.260	.071	.134	-.047	.630	1.771	4.758	14.680	1.801
2013	243	.167	1.242	.631	1.900	.065	.124	-.056	.726	3.114	10.847	14.733	1.794
2014	243	.165	1.274	.547	3.112	.053	.104	-.083	.844	2.068	5.962	14.810	1.816
Avg.	243	.167	1.241	.632	1.666	.063	.120	-.045	.590	2.157	12.525	14.546	2.035

As reported in the table the impact of GROUP on cash holdings is statistically significant and negative (-.158, t -stat. = -2.80). In economic term, a one unit increase in the likelihood of being group affiliated expects a roughly 15% decrease in the cash ratio. Therefore, the results confirm that impact of group affiliation is together statistically and economically significant. Group member firms prefer to keep essentially less cash as compare to standalone firms even after controlling well-determined control variables such as leverage, liquidity, cash flow, dividend, and

size. Furthermore, a finding is consistent with the view that existences of internal capital markets and due to lower financial constraints group member firms favour holding less cash (Schiantarelli and Sembenelli, 2000).

All of the control variables significantly explain firms' cash levels. As reported, the coefficient of leverage (*LEV*) is statistically significant and negative (-.405, t-stat = -25.45), which is consistent with earlier studies (Afza & Adnan, 2007; Bates et al., 2009). The result of this study shows more levered firms carry considerably a smaller amount of cash.

Table 5: Results estimation, effect of group affiliation on cash holdings. The *t-statistics* are in parentheses. Table 2 presents description and acronyms for each variable.

OLS		Full Sample
Dependent Variable:	<i>CASH</i>	
GROUP		-.158** (-2.80)
LEV		-.405*** (-25.45)
CASH FLOW		0.784*** (3.54)
LIQ		-.323*** (-6.74)
DIV		-.004** (-2.83)
SIZE		-.031** (-2.26)
Intercept		0.909*** 4.630
Number of companies		243
Obs.		1458
R ²		0.3249
Adj.R ²		0.3221
F-Value		116.39

Note: ***, ** and * denote significance at the 1, 5 and 10 percent level.

The coefficient of cash flows (*CASH FLOW*) is statistically significant and positive (0.784, t-stat = 3.54), which is in line with previous studies (Al-Najjar & Belghitar, 2011; Afza & Adnan, 2007). According to the view of Myers and Majluf (1984), firms with higher level of cash flows carry more cash. Firms with more cash flow variations prefer to hold extra cash to avoid the risk of cash flow. The presence of more liquid assets on balance sheet other than cash also impact the cash holding pattern of group affiliated firms; because non-cash liquidity substitutes are considered as an

alternative to cash. Conversion cost of other liquid assets into cash is comparatively low to other assets, as a result in presence of more liquid assets firms prefers to hold less cash reserves. Non-cash liquid substitute (*L/Q*) has a negative influence on cash holdings; estimated coefficient is statistically significant. Ferreira and Vilela (2004) provided empirical evidence that if a firm has a problem of cash shortage; liquid assets used as a substitute for cash. Using internal favourable transactions, group member firms can easily liquidate their non-cash liquid substitutes. Consistent with other studies (e.g. Al-Najjar and Belghitar, 2011; and Ullah, Rehman, Saeed, and Zeb, 2014) the coefficient of dividend (*DIV*) is negative and statistically significant. Dividend paying group member firms hold less cash as compare to standalone firms. Firm Size (*SIZE*) is another key determinant of cash holdings; consistent with (Bates, Khale, & Stulz, 2009; Mulligan, 1997) because of economies of scale firms hold less cash. Size coefficient is negative and statistically significant.

5. Conclusion

This study investigates the effect of business group affiliation on cash holdings of member firms. Using data of Pakistani public limited firms listed at Pakistan Stock Exchange from 2009 to 2014, the results show that group member firms prefer to hold less cash comparable to standalone firms. The findings of the study show that group affiliation, leverage, liquidity, dividend and size have negative significant impact on cash holdings. Several reasons for weakening in the demand for cash of group affiliated firms as compare to standalone firms (i) existence of internal capital markets (ii) having a bank in the group supports better access to funds and provision of guarantees (iii) group diversification favours lower cash balances.

Nevertheless, the study has a number of limitations. First, this study addressed the behavior of cash holding pattern of a group affiliated and standalone firms, but it did not cover the behavior of cash holding of groups as a whole. The absence of availability of consolidated financial statements prevented to pursue that direction. Second, the sample of study is limited to manufacturing firms. Third, only those firms are part of the sample which is purely owned by the Pakistani nationals. Fourth, this study has not incorporated many other variables that may also differentiate the cash holding pattern between group affiliated and standalone firms. Future studies are expected to enhance the scope of such studies by including different variables related to the characteristics of a group affiliated and standalone firms. Lastly, the future researchers should compare the dynamics of cash holdings of group affiliated firms between developing and developed economies; this may also yield new insights.

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