

What Determines the Method of Payment and Deal Amounts in Corporate Mergers and Acquisitions in Pakistan

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Introduction

- Mergers and Acquisitions (M&A) are becoming significant tools to respond to the increased world competition, the rapid expansion of global markets and business firm's economic survival.
- Some of the incentives associated with M&A include economies of scale, economies of scope, access to new technologies, sectors and markets with the help of existing market participants etc.
- Mergers are defined as "Two or more firms combination, generally by offering bidding firm's shares to the shareholders of target firm in exchange of surrender of their own stock".
- In a merger usually, the merging entities merge into a single firm by ceasing their individual operations and identities.
- Acquisitions are defined as "the purchase by one firm of controlling interest in the share capital, or all or substantially all of the assets and/or liabilities, of another company".

Introduction

- The choice of payment mode in merger and acquisition deals is a subject of a number of previous studies and empirical researches which have focused on developed economies. But none of the study has been found that considers this issue in a developing economy like Pakistan, so the motivation behind the present study is to examine this issue in Pakistan.
- Some of the theories related to mode of payment in M&A deals are the following:
 1. Managerial hypothesis
 2. Outside monitoring hypothesis
 3. Financial constraints hypothesis
 4. Growth opportunities hypothesis
 5. Asymmetric information hypothesis
 6. Target ownership structure hypothesis

Introduction

- Previous studies regarding mergers and acquisitions have revealed positive abnormal return for target firms however negative or insignificant findings for bidder. In this framework, literature regarding prices paid for the mergers and acquisitions deals becomes significantly important, since low profitability in these deals can be a result of high prices paid in merger and acquisition deals, because it would put the stability and solvency of firm at threat.
- Some of the theories related to prices paid in M&A are following:
 1. Value maximization
 2. Achievement of big size
 3. Agency hypothesis
 4. Hubris hypothesis
 5. Information asymmetry hypothesis

Introduction

Rationale behind study:

- Most of the previous studies focused the developed economies like US and UK, which have dispersed ownership structures and where most of the firms follow "one share, one vote" rule. But most of the countries of Asia and Continental Europe have ownership concentration by individuals, families, governments or industrial groups.
- However, in case of developing economies like Pakistan, mergers and acquisitions have not yet received much attention. The studies regarding the mergers and acquisitions in Pakistan have mostly focused on financial sector and analyzed the pre and post-merger performance.
- The present study differentiates from earlier studies in the sense that it focus on financial as well as nonfinancial sector M&A events, while most of the previous studies conducted in Pakistan focus on the financial sector mergers.

Introduction

- The present study contributes in different ways, it examines the impact of managerial ownership on payment mode in M&A in Pakistan. The managerial owners have control motivations in case of their significant interest, long term presence and involvement in the management of firm.
- This study adds to previous academic research by considering the joint association between ownership structure, financial constraints, growth opportunities, asymmetry of information and the choice of financing mode in financial as well as nonfinancial sector mergers and acquisitions.
- Furthermore, the present study investigates the determinants of the deal amounts involved in mergers and acquisition.

Literature Review

Mode of Payment in Mergers and Acquisitions:

Hansen	1987	A Theory for the Choice of Exchange Medium in Mergers and Acquisitions: This paper presents a theory for the choice of exchange medium in mergers and acquisitions. When a target firm knows its value better than a potential acquirer, the acquirer will prefer to offer stock, which has desirable contingent-pricing characteristics, rather than cash.
Amihud, Lev and Travlos	1990	Corporate Control and the Choice of Investment Financing: The Case of Corporate Acquisitions Corporate insiders who value control will prefer financing investments by cash or debt rather than by issuing new stock which dilutes their holdings and increases the risk of losing control. Also, the negative bidders' abnormal returns associated with stock financing are mainly in acquisitions made by firms with low managerial ownership.
Chaney, Lovata and Philipich	1991	Acquiring Firm Characteristics and the Medium of Exchange: An analysis of 35 cash mergers and 88 stock mergers shows that acquiring firms that use cash as the medium of exchange in a merger have different financial and operating characteristics than acquiring firms that use stock. Acquiring firms with large asset bases, low leverage, low return on assets, and high price/earnings ratios tend to exchange stock in order to acquire other companies while highly levered small firms with high return on assets prefer to use cash.

Mode of Payment Determinants

Martin	1996	This article examines the motives underlying the payment method in corporate acquisitions. The findings support the notion that the higher the acquirer's growth opportunities, the more likely the acquirer is to use stock to finance an acquisition. Acquirer managerial ownership is not related to the probability of stock financing over small and large ranges of ownership, but is negatively related over a middle range. In addition, the likelihood of stock financing increases with higher pre-acquisition market and acquiring firm stock returns. It decreases with an acquirer's higher cash availability, higher institutional shareholdings and blockholdings, and in tender offers.
Zhang, Wang and Jones	2003	Examine the hypothesis that choice of mode of payment in mergers and acquisition depends on corporate financial characteristics and factors. The hypothesis is tested by using data on UK mergers and acquisition in the 1990s. The results reveal that bidder firm's return on equity before the acquisition announcement is negatively related to stock issue as a mode of payment. Higher the ROE of the bidder, the more likely firm is using cash in deal given cash is in hand.
Sundarsanam & Mahate	2003	The results of the study shows that glamour firms (i.e. high growth firms) more probably use equity payments than cash as their stock is overvalued. In both inter and intra group cases, value bidders use cash financing intensively as compared to glamour and average position bidders. The reason might be that the managers of value firms know their true status and don't want to issue the undervalued stock in order to circumvent dilution of control and retention of earnings for existing stockholders.

Mode of Payment Determinants

Faccio and Masulis	2005	The determinants of M&A financing decisions are examined using a large sample of European transactions over the period 1997-2000. The results show that corporate control incentives to choose cash are particularly strong when a bidder's controlling shareholder has an intermediate level of voting power. Furthermore, bidders prefer cash financing of M&A transactions when the voting control of their dominant shareholders is threatened. This is particularly the case when target shareholdings are highly concentrated.
Andre and Amar	2009	This study examines the relationship between family control and the means of payment choice for 358 Canadian M&A undertaken during period 1998-2004. The results show a positive relationship between the family ultimate control stake and the percentage of cash financing. In contrast, a negative relationship is found between family use of control enhancing mechanisms and the likelihood of cash financing. A positive relation is found between bidder's leverage capacity and the use of cash and acquiring firms with good investment opportunities are more likely to choose equity. The information asymmetry hypothesis is also validated. Finally, bidders acquiring unlisted targets and involved in cross-border transactions are more likely to offer cash.
Alshwer, Sibilkov & Zaiats	2011	Examine in their study that financially constrained bidders (firms with greater frictions in raising outside capital) are probably to use more stock financing in acquisition transaction and are profound to valuation of stock and prospects of growth than the bidders that are not constrained in their mode of payment decisions. Further, in stock-swap deals, financially constrained bidders with extraordinary valuation of stock pay high deal payments and capture low level of merger gains as compared acquirers with low valuation. The results reveal that pecking order theory is not followed in case of financially constrained companies, as they collect internal funding to decrease financial uncertainty in future and preserve financial flexibility.

Determinants of Deal Amounts

Cheng, Gup & Wall; Hakes, Brown & Rappaport	1989; 1997	Previous studies regarding determinants of deal prices in corporate acquisition shows that well-managed bidders are more probably to improve target firm's management and to attain a high value of firms involved in deal, so these acquiring firms are more probably to pay high prices for buying target firms. As the quality of management is not directly examined, some proxies like growth and profitability of the company have been used to analyze it. The results of study reveal that following characteristics of acquire have proved to be significant for determining the premiums: growth of main deposits' growth and return on assets (ROA) .
Diaz and Azofra	2009	This study examines the premium determinants in banking sector mergers and acquisitions in Europe. The two sets of variables are considered as a determinant of premiums in merger deals 1) target characteristics 2) Bidder characteristics. The study analyzes a sample of 81 European banking M & A in Europe during a period of 1994 to 2000. Furthermore, while analyzing the complete sample of acquisition deals, no evidence is found which document that acquisitions are being done with purpose of attaining personal incentives by management. Though, when a sub sample of banks is used, it's found that the purpose of M&As has been to achieve a big size and high premiums in case of deals between equals size firms, for bigger firms and for those which shows less growth, thus giving rise to big sized entities which are more difficult to be targeted. This reveals that management involved in acquisition deals pursue certain personal incentives.

Determinants of Deal Amounts

Dionne, Haye and Bergeres	2010	Examine in their study the influence of asymmetric information on the premium paid in the corporate acquisition. Their results shows that informed bidders, which are defined as the bidders having no less than 5% of shares of target firm before the announcement of the deal, pay low premiums as compared to bidders having no significant information. The uninformed bidders are suffering from winner's curse i.e. win by paying high prices and either do not participate in auction or withdraw from it earlier. The acquirers are also ready to pay high prices for weak performance target firms because of the possibility of higher gains linked with target firms suffering difficulty. The size of target and relative size are also negatively associated with prices paid, which support the theory of integration costs that bidders prefers small targets because of their low absorption costs. Also the bidders opting for public purchase offer or hostile takeover pays generally more to acquire the target firm.
Moeller et al.	2004	Documents that big bidder firms pay high prices as compared to small bidders since bigger firm's managers are more probably to be influenced by hubris, which states that managers that exaggerated their self-confidence try to overestimate their ability to manage the target firm, which leads to the payment of higher prices for the target. Isa and Lee (2011) report that bidder acquiring public companies are motivated by personal incentives like increase in their status and prestige, so they are willing to extra pay. They report that bidders tend to overpay in case of public listed companies as compared to private targets.

Research Questions

To examine the determinants of mode of payment in corporate mergers and acquisitions in Pakistan.

To examine the determinants of deal amounts involved in mergers and acquisition in corporate sector of Pakistan.

Objectives of Study:

- To examine the impact of bidder firm's managerial ownership on mode of payment, and also to investigate whether this relation is linear or nonlinear.
- To investigate the influence of bidder firm's outside and inside monitoring mechanism on mode of payment.
- To test the impact of bidder firm's financial variables on mode of payment.
- To examine the impact of bidder's growth opportunities on payment mode.
- To explore the impact of target firm information asymmetry and its listing status on mode of payment.
- To examine the determinants of deal amounts paid in case of M&As.

Data and Sample Selection

The selected sample meets the following selection criteria:

- Observations are from 2005 to 2012;
- Both the nonfinancial and financial sectors are included in the sample;
- 104 events of M&A, 56 in nonfinancial and 48 in financial;
- Bidding companies are listed Pakistani companies;
- Target firms are not necessarily publicly listed firms;
- Companies with single and several M & A during this time period are also considered;
- Companies market data and annual reports are available.
- The data regarding ownership and financial variables is obtained from financial statements of bidder firm at end of year before the acquisition. The data regarding M&A deal amounts is collected from Karachi Stock Exchange (KSE) data portal and Competition Commission of Pakistan.

Variables Definition

Dependent variables:

- ***Cash Dummy (C_D): In case of mode of payment determinants:*** is a dummy variable which takes the value of 1 if the deal is financed entirely through cash and liabilities and 0 if deal is financed through stock issuance.
- ***Deal Amounts (D_A): In case of deal amounts determinants:*** measured as the deal amounts involved in M&As.

Independent variables: Bidder firm variables;

- ***Managerial Ownership (MO):*** is measured by the % of shares held by bidder firm's board of directors declared in firm's annual reports.
- ***Institutional Share Holding (INST):*** is measured as shares percentage held by institutions as declared in annual reports' shareholding pattern section.

Variables Definition

- ***Outside Block-holder (OBH)***: is measured as a dummy variable which takes the value of 1 if there exist an outside block holder (i.e. non managerial block-holder) and 0 otherwise. The block holder is a shareholder who holds at least 10% of shares in a company
- ***Board size (B_S)***: is measured as the number of member of board of directors.
- ***Cash availability (C_R)***: as the ratio of cash plus marketable securities to deal value at the end of the year before the deals.
- ***Collateral (COLL)***: as the ratio of firm's fixed assets to total assets at the end of year before the mergers and acquisition deals.
- ***Leverage (LEV)***: is measured as the ratio of long term debt to total assets at the end of the year before M&A deals to capture the firm's financial strength. A second measure of leverage is used in case of financial sector which is calculated by the ratio of total debt to total assets at the end of the year before the deals.

Variables Definition

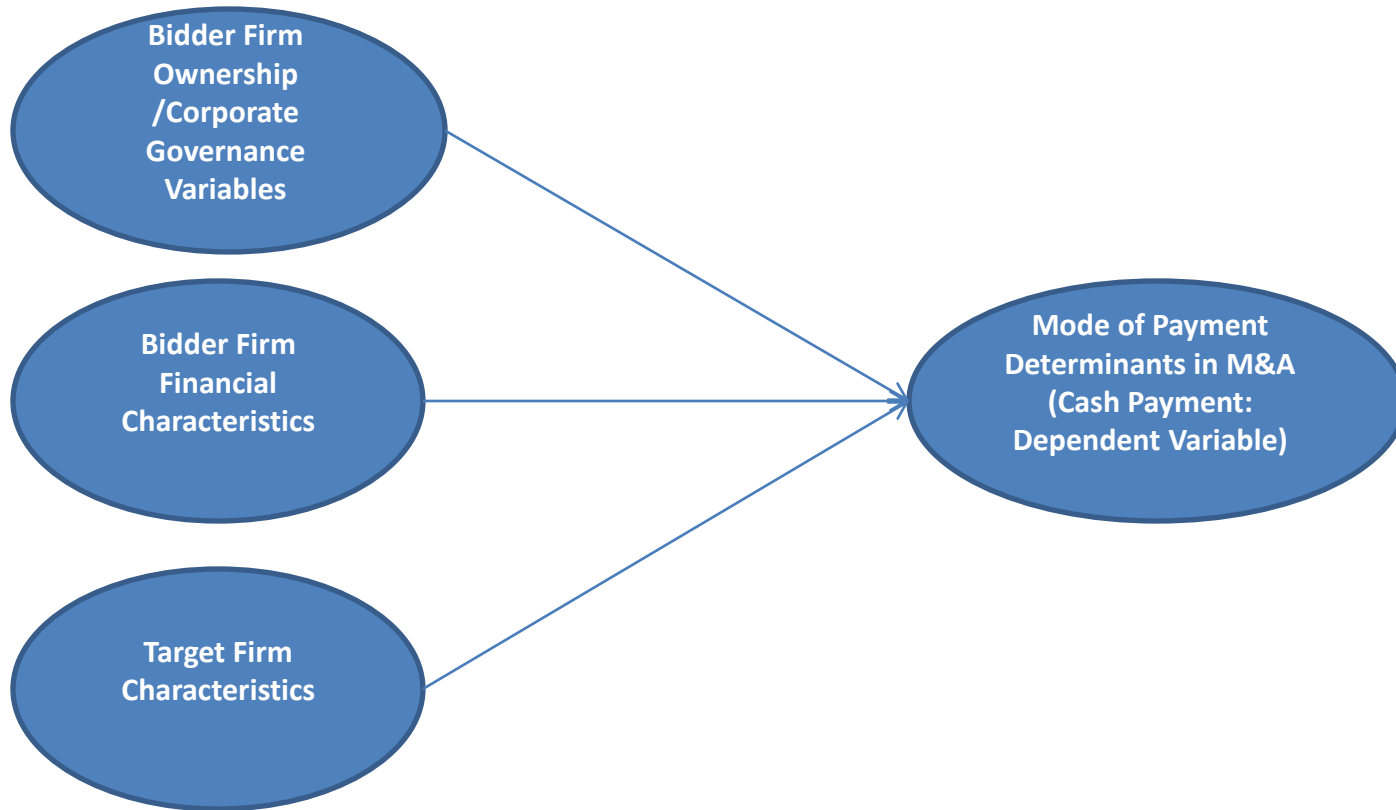
- ***Growth Opportunities (M_B)***: is measured through market-to-book ratio that is measured as the ratio of market value of equity plus book value of debt to total assets (book value) at end of year prior to deal.
- ***Profitability- Return on Equity (ROE)***: In the present study return on equity (ROE) is used to measure firm's profitability and it is calculated by dividing a firm's net profit to value of equity at end of year before M&A deals.
- ***Size of firm (SIZE)***: is measured as natural log of total assets at the end of year before M&A deals.

Target Characteristics:

- ***Relative Size of the target (R_S)***: Previous empirical studies used the relative size of target to measure information asymmetry. The relative size is measured as the ratio of deal value to acquirer market capitalization plus deal value prior to deals.
- ***Target's Ownership Structure (NLT)***: The dummy variable is used and it takes the value of 1 if target firm is an unlisted subsidiary or a standalone entity not listed on any stock exchange and zero otherwise.

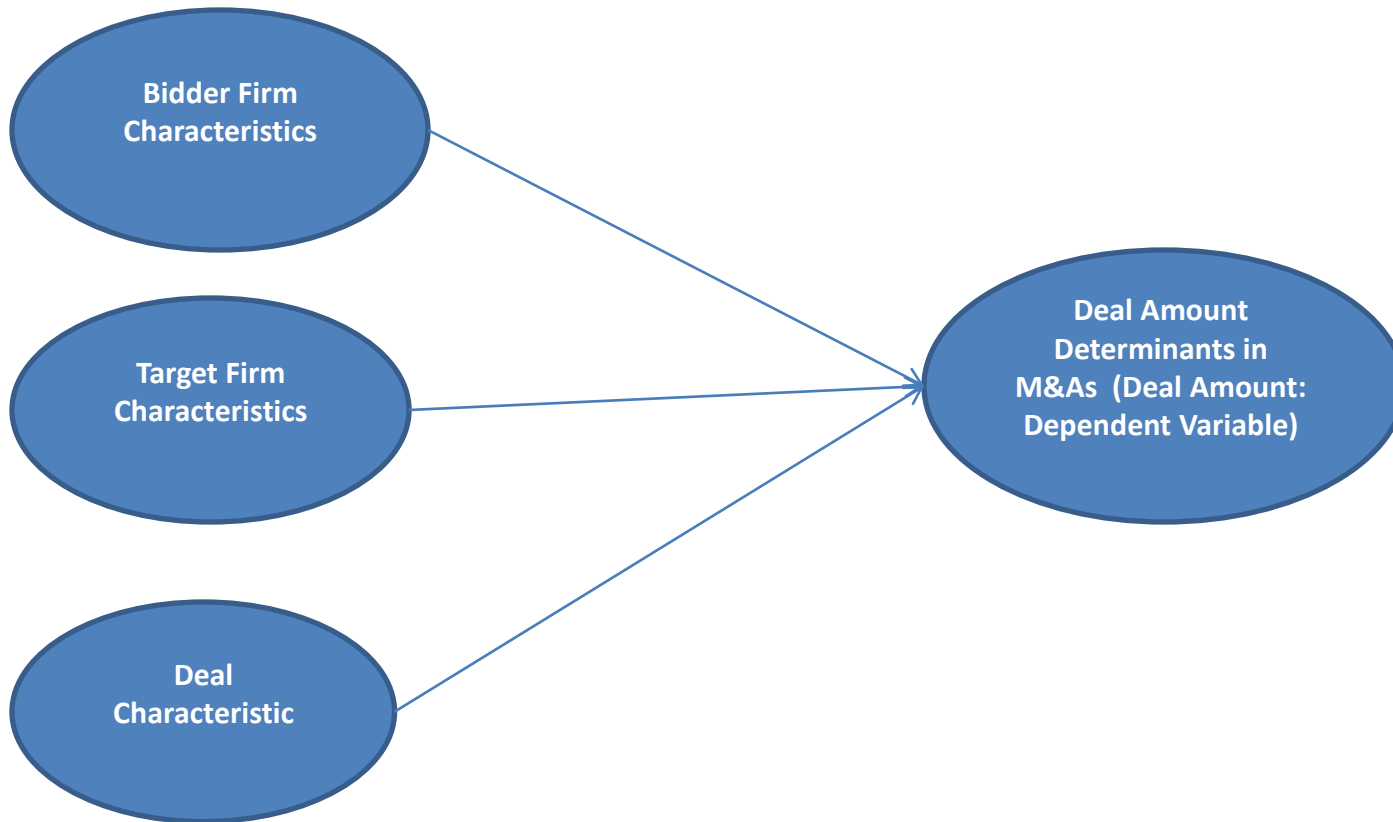
Model Development

Mode of payments determinants:



Model Development

Determinants of deal amounts:



Empirical Specification of the Model: Mode of Payment Determinants

Individual variables model estimation:

- ***Impact of bidder's ownership variables on mode of payment:***

In this section, the impact of bidder firm' ownership variables is examines on cash payment financing in M&A deals. In equation 1.1 the linear relation between managerial ownership and cash financing is considered.

$$C_D = \beta_0 + \beta_1 MO + \beta_2 OBH + \beta_3 INST + \beta_4 B_S + u \quad (1.1)$$

- ***To check the nonlinearity of managerial ownership:***

In order to examine the nonlinearity between managerial ownership and cash payment, the square and cube of managerial ownership is included in the equations.

$$C_D = \beta_0 + \beta_1 MO + \beta_2 MO^2 + \beta_3 OBH + \beta_4 INST + \beta_5 B_S + u \quad (1.1.1)$$

$$C_D = \beta_0 + \beta_1 MO + \beta_2 MO^2 + \beta_3 MO^3 + \beta_4 OBH + \beta_5 INST + \beta_6 B_S + u \quad (1.1.2)$$

- ***Impact of bidder financial variables on mode of payment:***

In this model, the impact of bidder firm financial variables is tested on mode of payment in M&A deals.

$$C_D = \beta_0 + \beta_1 C_R + \beta_2 COLL + \beta_3 LEV + \beta_4 M_B + \beta_5 ROE + u \quad (1.2)$$

Mode of Payment Determinants

- **Impact of Target firm characteristics on mode of payment:**
- Here the impact of target firm characteristics is separately examined on mode of payment in M&A deals.

$$C_D = \beta_0 + \beta_1 R_S + \beta_2 NLT + u \quad (1.3)$$

Combined variables model estimation:

- Here the model is estimated by combining bidder firm ownership and financial constraints variables in order to test the robustness of results.
- $C_D = \beta_0 + \beta_1 MO + \beta_2 OBH + \beta_3 INST + \beta_4 B_S + \beta_5 C_R + \beta_6 COLL + \beta_7 LEV + \beta_8 M_B + \beta_9 ROE + u$
(2.1)
- Again the model is estimated by combining bidder and target firm variables.
 $C_D = \beta_0 + \beta_1 MO + \beta_2 OBH + \beta_3 INST + \beta_4 B_S + \beta_5 C_R + \beta_6 COLL + \beta_7 LEV + \beta_8 M_B + \beta_9 ROE + \beta_{10} R_S + \beta_{11} NLT + u$ (2.2)

Model Specification: Determinants of Deal Amounts

The following model is developed to examine the determinants of deal amounts.

- $$D_A = \beta_0 + \beta_1 C_R + \beta_2 M_B + \beta_3 SIZE + \beta_4 ROE + \beta_5 R_S + \beta_6 NLT + \beta_7 C_D + u \quad (3)$$

Estimation Technique:

- Since the dependent variable in first part of the study is a dummy variable taking on the value of 1, if the mergers and acquisition deal is financed through cash and 0 if it is financed through issuance of equity. So, we use the logit model for estimation due to absence of normality assumption of error term in the model.
- In case of deal amount determinants, however, we use OLS (ordinary least squares) estimation technique.

Results and Discussion

Empirical Results and Discussion

Descriptive Statistics Analysis:

	NONFINANCIAL SECTOR			FINANCIAL SECTOR			
	MEAN	MEDIAN	STD. DEV	MEAN	MEDIAN	STD. DEV	t-stat
C_D	0.6727	1	0.4735	0.75	1	0.4376	-0.8557
MO	0.2488	0.1804	0.2402	0.0589	0.016	0.1084	5.0442*
OBH	0.8364	1	0.3734	0.9375	1	0.2446	-1.6003
INST	0.1035	0.0619	0.1004	0.0691	0.0179	0.0939	1.7834***
B_S	8.4	8	1.7491	7.8333	8	1.2087	1.8853***
C_R	0.0738	0.0195	0.0954	0.0762	0.0674	0.0235	-0.1721
COLL	0.3898	0.3221	0.2221	0.0218	0.0173	0.0125	11.46*
LEV	0.2331	0.1378	0.2372	0.3366	0.3629	0.0969	-2.8218*
M_B	1.4267	1.0798	1.0123	0.8624	0.9884	0.4747	3.5364*
ROE	0.0731	0.1062	0.6129	0.0012	0.014	0.1703	0.7860
SIZE	16.17	16.18	1.4181	18.69	18.15	1.2986	-9.35*
R_S	0.1495	0.0425	0.2035	0.0932	0.0123	0.1749	1.4944
NLT	0.6545	1	0.4799	0.2292	0	0.4247	4.7324*
D_A	12.57	12.43	1.9120	12.32	12.43	2.2384	0.6047

*,**,*** represents level of significance at 1%, 5% and 10%.

Determinants of Mode of Payment

Nonfinancial Sector:

Variables	Expected signs	Model (1.1)			Model (1.1.1)			Model (1.1.2)		
		Coefficient	P-value	M.E (a)	Coefficient	p-value	M.E	Coefficient	p-value	M.E
Intercept		-1.5937 (3.5915)	0.6572	-	-1.5374 (3.6571)	0.6742	-	-1.5263 (3.6268)	0.6739	-
MO	+/-	-4.0190 (1.7357)	0.0206**	-0.7122	-6.1292 (4.5932)	0.1821	-1.0729	-8.6590 (9.6915)	0.3716	-1.7927
MO_2	+/-				3.6705 (6.1641)	0.5515	0.6350	13.027 (30.49)	0.6692	3.3395
MO_3	+/-							-8.4146 (25.85)	0.7448	-2.4049
OBH	+/-	-3.0985 (1.5863)	0.0508**	-0.3124	-2.9844 (1.5510)	0.0543**	-0.3037	-3.0025 (1.6025)	0.0610***	-0.2986
INST	+/-	7.3574 (3.5113)	0.0361**	1.3258	7.4874 (3.4573)	0.0303**	1.3409	7.9760 (4.0303)	0.0478**	1.5047
B_S	+/-	0.6689 (0.5281)	0.2053	0.1194	0.6611 (0.5462)	0.2262	0.1180	0.6637 (0.5417)	0.2205	0.1212
LR stat		20.70			20.90			20.96		
Pr(LR stat)		0.0004*			0.0008*			0.0019*		
McFadden R-square		0.30			0.30			0.30		

QML (Huber/white) Hetero robust standard errors are reported in parenthesis. *, **, *** represent level of significance at 1%, 5% and 10% respectively.
Note (a) M. E (marginal effects)

Nonfinancial Sector

Variables	Expected signs	MODEL (1.1): Bidder Ownership			MODEL (1.2): Bidder Financial			MODEL (1.3): Target Side		
		Coefficient	p-value	M. E	Coefficient	p-value	M. E	Coefficient	p-value	M. E
INTERCEPT		-1.5937 (3.5915)	0.6572		2.6915 (0.9647)	0.0053*	-	-0.0568 (0.6002)	0.9246	-
MO	+/-	-4.0190 (1.7357)	0.0206**	-0.7122						
OBH	+/-	-3.0985 (1.5863)	0.0508**	-0.3124						
INST	+/-	7.3574 (3.5113)	0.0361**	1.3258						
B_S	+/-	0.6689 (0.5281)	0.2053	0.1194						
C_R	+				0.0709 (0.0522)	0.0870***	0.0104			
LEV	-				-4.4004 (1.5735)	0.0026*	-0.6496			
M_B	-				-0.4199 (0.3197)	0.0945***	-0.0616			
ROE	+				-3.9610 (1.8334)	0.0153**	-0.5814			
NLT	+							1.3314 (0.6536)	0.0208**	0.2973
R_S	-							-0.2068 (1.6345)	0.4496	-0.0502
LR stat		20.70			16.14			5.14		
Pr(LR stat)		0.0004*			0.0028*			0.0766***		
McFadden R-square		0.30			0.23			0.07		

QML (Huber/White) hetero robust standard errors are reported in parenthesis. *, **, *** represent level of significance at 1%, 5% and 10% respectively. Tests are one tailed in case of directional hypothesis.

Nonfinancial Sector

		Combined model estimation (2.1)			Combined model estimation (2.2)		
Variables	Expected signs	Coefficient	p-value	M. E	Coefficient	p-value	M. E
INTERCEPT		-1.6081 (3.8786)	0.6784	-	-2.0762 (3.6006)	0.5642	-
MO	+/-	-2.0183 (2.3084)	0.3819	-0.1363	-1.7210 (2.5485)	0.4995	-0.1118
OBH	+/-	-3.2349 (1.6883)	0.0554***	-0.1132	-2.8713 (1.6616)	0.0840***	-0.1013
INST	+/-	6.9923 (4.9146)	0.1548	0.4837	7.4111 (5.5526)	0.1820	0.4913
B_S	+/-	0.8574 (0.6055)	0.1568	0.0580	0.7889 (0.5542)	0.1546	0.0515
C_R	+	0.1310 (0.0761)	0.0426**	0.0089	0.1436 (0.0984)	0.0723***	0.0093
LEV	-	-3.2745 (2.0106)	0.0517***	-0.2221	-3.3047 (1.9439)	0.0445**	-0.2157
M_B	-	-0.6170 (0.4477)	0.0840***	-0.0415	-0.6091 (0.4022)	0.0649***	-0.0394
ROE	+	-4.1702 (2.1806)	0.0279**	-0.2801	-4.0941 (2.3876)	0.0432**	-0.2644
NLT	+				0.4566 (1.2013)	0.3519	0.0314
R_S	-				1.5350 (4.7927)	0.3744	0.0981
LR stat		28.64			28.98		
Pr(LR stat)		0.0004*			0.0013*		
McFadden R-square		0.41			0.42		

QML (Huber/White) hetero robust standard errors are reported in parenthesis. *, **, *** represent level of significance at 1%, 5% and 10% respectively. Tests are one tailed in case of directional hypothesis.

Mode of Payment Determinants: Financial Sector

		Model (1.1): Bidder ownership			Model (1.2): Bidder financial			Model (1.3): Target side		
Variables	Expected signs	Coefficient	p-value	M.E	Coefficient	p-value	M.E	Coefficient	p-value	M.E
INTERCEPT		0.3105 (3.6271)	0.9318	-	10.02 (12.63)	0.4276	-	1.7172 (0.4963)	0.0005*	-
MO	+/-	-3.8603 (4.8587)	0.4269	-0.7076						
OBH	+/-	1.0837 (1.6065)	0.4999	0.2387						
INST	+/-	2.4806 (4.6891)	0.5968	0.4547						
B_S	+/-	-0.0163 (0.3301)	0.9607	-0.0030						
C_R	+				58.72 (24.83)	0.0090**	1.4687			
LEV	-				-4.8745 (11.75)	0.3391	-0.1219			
M_B	-				-8.7780 (4.8033)	0.0338**	-0.2196			
ROE	+				1.3128 (2.7570)	0.3169	0.0328			
NLT	+							41.94 (0.6827)	0.0000*	-
R_S	-							-9.7619 (3.5735)	0.0031*	-2.2000
LT (STAT)		3.29			20.51			21.11		
Pr(LR)		0.5112			0.0004*			0.0000*		
McFadden R ²		0.06			0.38			0.39		

QML (Huber/White) heteroskedasticity-robust standard errors are reported in parenthesis. *, **, *** represent level of significance at 1%, 5% and 10% respectively. Tests are one-tailed in case of directional hypothesis.

Financial Sector

		Combined model estimation (2.1)			Combined model estimation (2.2)			Combined model estimation (2.2)		
Variables	Expected signs	Coefficient	p-value	M.E	Coefficient	p-value	M. E	Coefficient	p-value	M. E
INTERCEPT		11.86 (13.88)	0.3932	-	12.3132 (15.5451)	0.4283	-	21.62 (16.00)	0.1768	-
MO	+/-	-0.4032 (5.4559)	0.9411	-0.0028						
OBH	+/-	9.0555 (8.8174)	0.3044	0.9678						
INST	+/-	-0.9638 (7.6132)	0.8993	-0.0067						
B_S	+/-	-0.5573 (0.5353)	0.2978	-0.0039						
C_R	+	60.82 (34.78)	0.0401**	0.4257	68.10 (29.43)	0.0095**	1.3867	96.22 (41.59)	0.0103**	0.6722
LEV	-	-10.59 (18.62)	0.2848	-0.0741	-2.6890 (13.79)	0.4227	-0.0540	-11.14 (14.90)	0.2271	-0.0778
M_B	-	-9.7709 (4.8479)	0.0219**	-0.0684	-14.03 (5.3816)	0.0045*	-0.2819	-14.90 (5.9531)	0.0061**	-0.1041
ROE	+	2.8103 (3.3415)	0.2001	0.0197	0.4589 (2.8219)	0.4354	0.0092	-1.9985 (2.6075)	0.2217	-0.0140
NLT	+				44.86 (2.2090)	0.0000*	-			
R_S	-							-38.83 (14.95)	0.0047*	-0.2713
LR stat		26.43			28.50			37.60		
Pr(LR stat)		0.0009*			0.0000*			0.0000		
McFadden R-square		0.49			0.53			0.70		

QML (Huber/White) heteroskedasticity robust standard errors are reported in parenthesis. *, **, *** represent level of significance at 1%, 5% and 10%. Tests are one tailed in case of directional hypothesis.

Determinants of Deal Amounts

	NON FINANCIAL SECTOR (3)			FINANCIAL SECTOR (3)		
Variables	Coefficient	Stat-t	p-value	Coefficient	Stat-t	p-value
INTERCEPT	-1.7157 (2.1482)	-0.7987	0.4284	12.464 (3.6822)	3.3850	0.0016*
C_R	-0.0067 (0.0016)	-4.2599	0.0001*	-0.0002 (0.0000)	-10.799	0.0000*
M_B	0.6061 (0.1692)	3.5814	0.0008*	-0.1438 (0.7603)	-0.1891	0.8510
SIZE	0.8124 (0.1319)	6.1591	0.0000*	0.0198 (0.2321)	0.0854	0.9324
ROE	-0.0263 (0.2849)	-0.0922	0.9269	3.8233 (1.6047)	2.3826	0.0220**
R_S	5.6505 (0.9499)	5.9487	0.0000*	7.1287 (1.4145)	5.0396	0.0000*
NLT	-0.7779 (0.3882)	-2.0036	0.0508***	0.3683 (0.5222)	0.7053	0.4847
C_D	0.0463 (0.3864)	0.1199	0.9051	-1.1828 (0.5351)	-2.2106	0.0328**
F STAT	17.43			14.67		
Pr (F-stat)	0.0000			0.0000		
Durbin Watson	2.04			1.70		
Adjusted R ²	0.68			0.67		

Hetero robust standard errors are reported in parenthesis. *, **, *** represent level of significance at 1%, 5% and 10% respectively. Tests are two-tailed in all cases because the direction of relations are mixed.

Conclusion

Mode of Payment Determinants

Nonfinancial Sector	Financial Sector
<p>The results of the study show that bidder firm ownership variables have a significant impact on the mode of payment in nonfinancial sector of Pakistan. The managerial ownership have a negative and linear relation with cash payments in M&A, which validates the dominance of risk reduction hypothesis.</p>	<p>The same analysis is conducted in financial sector and the results show that ownership and corporate governance variables don't have a significant impact on payment mode choice in M&As.</p>
<p>The results also imply the validation of outside monitoring hypothesis i.e. the institutional investors are concerned with increased leverage (part of cash payment) in firm and thus increasing the monitoring of firms by outside creditors. However, outside block-holders are not actively playing their role in monitoring of firms and don't have long term presence in the firm.</p>	<p>Corporate ownership structure in Pakistan reveals that the promoters and directors ownership share is quite limited in banking sector in Pakistan (Research Department, Institute of Cost and Management Accountants of Pakistan (ICMAP), 2011). Since, the most of the banks are controlled by dominant groups through the associated companies, so the existence of major outside shareholders do not play a significant monitoring role in the firm.</p>
<p>The bidder firm financial variables are proved to be significant determinants of payment mode in M&A deals. The positive relation of non-listed target with cash payment implies that shareholders of unlisted targets are more probably to accept cash payments given the concentrated and illiquid portfolio holdings by target firms.</p>	<p>The bidder financial variables results show that cash availability and market to book ratio have a significant impact on cash payments. The target firm characteristics are also proved to be significant determinant of payment mode choice.</p>

Deal Amount Determinants

Nonfinancial Sector

The results regarding cash ratio and market to book ratio show that there do not exist agency problems in nonfinancial sector, because agency problems can also impact the amounts paid in mergers and acquisitions. Such conflict happen when the managers of the bidder company use their excess cash flows to avail projects that are not in the benefit of the shareholders (Jensen, 1986).

The results shows a positive and significant relation in case of both the bidder size and relative size of target with deal amounts, which implies the purpose of acquisition is not the value maximization but related with the aim of achieving a great size (Diaz and Azofra, 2009).

The result also show that bidder firms are paying less in case of acquiring non-listed targets, which implies that prices are higher in case of acquisition of public limited companies to gain status and presrige.

Financial Sector

The results of deal amount determinants in financial sector show a positive impact of bidder's return on equity and target relative size on deal amounts. These results justify the payment of a high price in case when managers are influenced by hubris (i.e. overestimate their ability to manage the firm) and the purpose of the acquisition is not the value maximization of firm but related with the aim of achieving a great size (Diaz and Azofra, 2009).

The results also imply that cash financed deals are associated with low prices, which depends on the existence of asymmetric information about bidder company. If insiders of the bidder firm know that their shares are overvalued, they will be more willing to pay in form of stock.

Implications of Study

- This present study has an academic contribution in the sense that it reveals the role of bidder firm's inside and outside block-holders in payment mode of corporate M&As in Pakistan, i.e. whether they are working for their own personal benefits or for firm's interests.
- The study also clears the motivation behind the payment mode of bidder firm by examining its financial constraints variables.
- It provides information to potential investors and creditors about firm's management motivations and its financial strength, so they can evaluate bidder and target firms before considering investment.
- The study have implications regarding the deal amounts for M&As in the sense that it reveals the characteristics of bidder and target firms which will lead to payment of higher prices, and it also reveals that whether the motivation of bidder behind M&A deals is either value maximization or just to get a big size.
- The payment mode of firm also reveals information to potential investors about over and under valuation of firm's stock in market, which will ultimately affect firm's share prices.

Limitations of Study

- The limitations of the present study includes the limited availability of data and there are only 104 events which are further divided into two groups due to fundamental differences between the financial and nonfinancial sectors.
- Some of the explanatory variables are dropped from the study due to incomplete data availability. It considers the bidder firm's ownership and financial constraints variables impact on payment mode and deal amounts due to unavailability of data regarding target firm's financial statements (target firms in sample are not necessarily publicly listed firm, so complete data availability is not possible).

Future Research Areas

- In case of Pakistan, the empirical studies regarding M&As mainly focus on the pre and post profitability analysis, so there are many issues related to M&A which are still unexplored.
- For example, there is no evidence regarding the valuation impact of M&A on bidding firms' price of shares in Pakistan. In the present study, we have examined the impact of managerial and outside block-holders on payment mode, however the study can also be extended to examine the impact of family control and ownership variables on payment mode. The impact of ownership wedge (i.e. the difference between family control and family ownership) can also be examined on mode of payment.
- The impact of firm's dividend policies is also examined on mode of payment in M&A, by considering whether the two firms involved in M&A follow similar or different policies of dividend.
- Since the M&A activity provides information about bidding firm's management quality, so it will guide the executives' compensation committee about managerial remunerations. The present study can also be extended to examine the impact of mergers and acquisition on directors and executive' pays and compensation.
- M&A are done with an intention to reduce cost and increase efficiency of firms, especially in related industry firms mergers, so we can also examine the impact of it on employment status of bidder and target firms.

Thank You

Questions...!

Hypothesis Development: Mode of Payment Determinants

Managerial ownership hypothesis:

- ***Hypothesis 1a:*** *Ceteris paribus, there exist a significant relationship between managerial ownership and cash payments to finance the merger and acquisition deal.*
- ***Hypothesis 1b:*** *Ceteris paribus, there exist a non-linear relationship between managerial ownership and cash payments to finance the merger and acquisition deal.*

Outside monitoring hypothesis:

- ***Hypothesis 2a:*** *Ceteris paribus, there is a significant relationship between institutional ownership and cash payments used to finance M&A deals.*
- ***Hypothesis 2b:*** *Ceteris paribus, there is a significant relationship between outside block-holder and cash payments used to finance M&A deals.*

Acquirer corporate governance variables:

- ***Hypothesis 2c:*** *Ceteris paribus, there is a significant relation between bidder firm's board size and cash payments to finance the M&A deals.*

Hypothesis Development: Mode of Payment

Financial Variables:

- **Hypothesis 3a:** *Ceteris paribus, the more cash availability with bidder firm's increases the likeliness of cash used to finance the M&A deals.*
- **Hypothesis 3b:** *Ceteris paribus, the more the bidder firm's collateral more is probable to go for cash used to finance the M&A deals.*
- **Hypothesis 3c:** *Ceteris paribus, the more is bidder firm's leverage less likely it use cash to finance the M&A deals.*

Growth Opportunities hypothesis:

- **Hypothesis 4:** *Ceteris paribus, the more growth opportunities available to bidder firm, the less likely cash financing is used in M&A deals.*

Acquirer profitability:

- **Hypothesis 5:** *Ceteris paribus, the more profitable bidder firms are more likely to choose cash financed M&A deals.*

Hypothesis Development: Mode of Payment

Target Firm Characteristics:

Information asymmetry hypothesis:

- *Hypothesis 6: Ceteris paribus, larger the relative size of target firm the lesser is the probability of cash financing in M&A deals..*

Target Ownership Structure:

- *Hypothesis 7: Ceteris paribus, the unlisted target firms are more likely to choose the mode of cash financing in M&A deals.*

Hypothesis Development: Deal Amount Determinants

- **Hypothesis 8a:** *Ceteris paribus, there exist a significant relation between bidder firm characteristics and amount paid in M&A deals.*
- **Hypothesis 8b:** *Ceteris paribus, there exist a significant relation between target firm characteristics and amount paid in M&A deals.*
- **Hypothesis 8c:** *Ceteris paribus, there exist a significant relation between cash financed deals and amount paid in M&A deals.*

Nonfinancial Sector Correlation Matrix

	D_D	MO	OBH	INST	B_S	C_R	COLL	LEV	M_B	ROE	SIZE	R_S	NLT	D_A
D_D	1	-0.32	-0.20	0.32	0.23	0.18	-0.17	-0.31	-0.13	-0.19	0.22	-0.11	0.31	-0.03
MO	-0.32	1	-0.39	-0.25	-0.21	-0.25	0.22	0.34	-0.01	0.21	-0.23	0.16	-0.30	0.07
OBH	-0.20	-0.39	1	-0.05	0.16	0.13	0.08	0.11	0.11	0.09	0.05	-0.21	-0.22	-0.08
INST	0.32	-0.25	-0.05	1	0.08	-0.17	-0.28	-0.38	-0.27	0.03	0.01	-0.06	-0.03	-0.19
B_S	0.23	-0.21	0.16	0.08	1	0.32	0.19	-0.02	0.29	0.00	0.37	-0.20	-0.03	0.11
C_R	0.18	-0.25	0.13	-0.17	0.32	1	0.14	0.01	-0.03	-0.06	0.34	-0.25	0.21	-0.22
COLL	-0.17	0.22	0.08	-0.28	0.19	0.14	1	0.61	0.16	0.04	-0.08	0.11	-0.08	-0.07
LEV	-0.31	0.34	0.11	-0.38	-0.02	0.00	0.61	1	0.07	-0.12	-0.31	0.14	-0.19	-0.15
M_B	-0.13	-0.01	0.11	-0.27	0.29	-0.03	0.16	0.07	1	-0.06	0.06	-0.02	0.09	0.33
ROE	-0.19	0.21	-0.09	0.03	0.00	-0.06	0.04	-0.12	-0.06	1	-0.04	0.19	-0.18	0.10
SIZE	0.22	-0.23	0.05	0.01	0.37	0.34	-0.08	-0.31	0.06	-0.04	1	-0.42	0.22	0.30
R_S	-0.11	0.16	-0.21	-0.06	-0.20	-0.25	0.11	0.14	-0.02	0.19	-0.42	1	-0.31	0.42
NLT	0.31	-0.30	-0.22	-0.03	-0.03	0.21	-0.09	-0.19	0.09	-0.18	0.22	-0.31	1	-0.24
D_A	-0.03	0.07	-0.08	-0.19	0.11	-0.23	-0.07	-0.15	0.33	0.10	0.30	0.43	-0.24	1

Financial Sector Correlation Matrix:

	D_D	MO	OBH	INST	B_S	C_R	COLL	LEV	M_B	ROE	SIZE	R_S	NLT	D_A
D_D	1	-0.21	0.25	0.02	-0.00	0.15	0.01	-0.32	-0.43	0.25	0.34	-0.59	0.31	-0.37
MO	-0.21	1	-0.48	0.50	-0.21	0.07	0.41	0.22	0.12	0.01	0.004	-0.15	-0.19	-0.17
OBH	0.25	-0.48	1	0.07	-0.25	0.09	-0.22	0.04	0.05	-0.01	0.09	0.03	0.14	-0.09
INST	0.02	0.50	0.07	1	0.04	0.25	0.52	0.36	0.19	0.11	0.24	-0.13	-0.24	-0.12
B_S	-0.00	-0.21	-0.25	0.04	1	-0.00	0.03	-0.27	-0.22	0.23	-0.15	-0.02	-0.09	0.15
C_R	0.15	0.07	0.09	0.25	-0.00	1	0.06	0.26	0.40	0.45	0.44	-0.30	0.46	-0.05
COLL	0.01	0.41	-0.22	0.52	0.03	0.06	1	0.42	0.12	-0.33	0.06	0.11	0.01	-0.07
LEV	-0.32	0.22	0.04	0.36	-0.27	0.26	0.42	1	0.82	-0.06	0.42	0.11	0.18	0.08
M_B	-0.43	0.12	0.05	0.19	-0.22	0.40	0.12	0.82	1	-0.01	0.28	0.01	0.14	0.07
ROE	0.25	0.01	-0.01	0.11	0.23	0.45	-0.33	-0.06	-0.01	1	0.61	-0.36	0.31	0.06
SIZE	0.34	0.00	0.09	0.24	-0.15	0.44	0.06	0.42	0.28	0.61	1	-0.32	0.45	0.04
R_S	-0.59	-0.15	0.03	-0.13	-0.02	-0.30	0.11	0.11	0.01	-0.36	-0.32	1	-0.17	0.66
NLT	0.31	-0.19	0.14	-0.24	-0.09	0.46	0.01	0.18	0.14	0.31	0.45	-0.17	1	-0.03
D_A	-0.37	-0.17	-0.09	-0.12	0.15	-0.05	-0.07	0.08	0.07	0.06	0.04	0.66	-0.03	1