THE IMPACT OF CORPORATE GOVERNANCE ON FIRM VALUE: THE CASE OF SMALL, MEDIUM, AND LARGE CAP FIRMS

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Abstract

This article explores the value relevance of the firm level Corporate Governance (CG) practices. The sample of the study consists of 200 firms listed at the 'Pakistan Stock Exchange' for the period 2003-2014. The results reveal that CG plays a major role in determining market valuation of corporate firms in Pakistan. We also show that the market value of a firm varies with the level of its insiders' ownership, and the pattern of valuation differs relying jointly on CG and insiders' ownership. The firm would be rewarded with higher valuation if it has high CG but lower management ownership. However, if the firm has predominant ownership with weak CG, then its value is lower. On the other hand, in case of small Cap firms, firm value increases with predominant level of ownership only for high CG firms implying that the presence of predominant shareholder adds more value to a small firm provided the management is transparent about its CG practices.

Keywords: Corporate Governance, Firm Value, Insider's Ownership, Impact

JEL Classification: G 300

Introduction

The CG practice developed primarily in the last few years (Elbadry, Gounopoulos, & Skinner, 2015) and has become a major issue in the corporate practices of developed as well as developing countries (Filatotchev, Jackson, & Nakajima, 2013). A vast literature examined the relationship between CG and firms' market value for several different countries across the globe. Nevertheless, most of this literature (e.g., Fosberg, 1989; Hermalin and Weisbach, 1991; Agrawal & Knoeber, 1996; Klein, 1998; Bhagat & Black, 2002; Lehn, Patro, & Zhao, 2009; Wintoki, et al., 2010) has focused on firms from developed markets. Further, most of the studies have employed distinct methodologies to address particular elements of CG in segregation, such as board composition, shareholder activism,

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insider share ownership, executive compensation, or takeover defenses, which make it difficult to draw conclusions regarding an integrated model of good CG.

According to Connelly, Jiang, and Limpaphayom (2011), in recent times, a new approach for investigating CG has come into use. Specifically, in order to gauge governance practices, researchers are establishing composite indices, rather than relying only on one specific indicator. The majority of this literature (e.g., Gompers, Ishii, & Metric, 2003; Black et al., 2003; Klapper & Love, 2004; Black, Jang, & Kim, 2006b; Core et al., 2006; Black, Kim, Jang, & Park, 2015) has documented a positive relationship between the firm-level governance and the firms' value. However, Cheung et al. (2008), Gupta, Kennedy, and Weaver (2009), Stiglbauer (2010), and Berthelot, Francoeur, and Labelle (2012) do not find any evidence that CG has a significant impact on firm value. On the other hand, Bassen, Prigge, and Zollner (2009) and Ertugrul and Hegde (2009) argue that CG and firm value are significantly negatively correlated.

Corporate governance is the outcome of the agency conflicts and its origin can be traced back to ownership and control separation (Hasan & Butt, 2009; Ronnie Lo, 2009). Prior theoretical research has suggested that a firm's CG is related to its ownership structure (Boujenoui & Zeghal, 2006). However, empirical studies have found that neither the strength of the relationship is universal across different types of ownership structure (Morck, et al., 1988; McConnell & Servaes, 1990) nor the sign of relationships is identical for firms operating in a strong and weak legal protection environment (La Porta, Shleifer & Vishny, 2002). When ownership is more likely to be concentrated than the agency problems stemming from ownership and control separation (Jensen & Meckling, 1976) may no longer be as serious as another type of problem–the entrenched management problem (Morck et al., 1988; Stulz, 1988).

There are costs associated with ownership concentration when predominant shareholders, capable to control corporate decisions directly, increase value for themselves by implementing policies that benefit themselves and expropriate small minority shareholders of their part of residual income (Kuznetsov & Muravyev, 2001; Claessens & Fan, 2002; Su, Xu, & Phan, 2007; Young, Peng, Ahlstrom, Bruton, & Jiang, 2008; Javid & Iqbal, 2008; Chen, Li, & Shapiro, 2011). The protection of the rights of minority shareholders in the presence of predominant shareholder in a firm becomes the central point of CG issues (Ronnie Lo et al., 2010). In Pakistan, according to World Bank (2005) [4], Javid and Iqbal (2010), and Arshad and Javid (2014) the main agency problem is the risk of expropriation by the controlling shareholder at the expense of minority shareholders. Additionally, the weak legal protection environment of Pakistan (as cited in Javid & Iqbal, 2008) makes a distinct market for testing how well the CG mechanism, installed at firm level, can protect the outside investors' interest and hence affects the firm valuation in the face of concentrated ownership by the insiders.

[4] www.worldbank.org/ifa/rosc_cg_pak.pdf

This study is the first of its kind to investigate the link between CG, insider's ownership, and market valuation. This study has several contributions. First, it contributes by separating the sample firms into large, medium, and small firms because ownership structure, analysts following the firm, information asymmetry, listing history, and management style, amongst large, medium, and small firms are often different. Second, it identifies a joint effect of ownership structure and CG on the firm's market valuation. Third, in Pakistan, most of the previous studies follow a fragmented approach. Therefore, rather focusing on just individual aspects of CG (e.g., board size, duality, audit committee), the current study employs a composite measure of CG. Fourth, most of the previous research has chosen only one or two years to analyze the effect and this has not provided a helpful explanation. Nevertheless, the panel nature of our data enables us to examine the link over twelve years, allowing time for improved governance. Further, CG measures in majority of the previous studies are not devised to rank firms on CG quality but rather to determine those firms that prefer to tailor their governance practices to minimize the agency costs.

Data and Methods

A sample of 200 firms is selected from non-financial firms listed at 'Pakistan Stock Exchange (PSX)' based on the availability of data. We divided the sample into three groups' small, medium, and large firms on the basis of their market capitalization. The study uses three sources to obtain secondary data: 1) analysis of financial statements of PSX listed firms (2006 to 2011); 2) balance sheet analysis of joint stock companies 1999 to 2004; 3) Pakistan Stock Exchange website and firms annual reports as well as website. A self constructed index of CG is used in this study which has three sub-indices: 1) Board composition, 2) Transparency and auditing, and 3) Disclosure. The index consists of 18 CG provisions (i.e., 10 items in the board category, 4 items each in the audit and disclosure category). Three sources have been used in constructing the CG index: 1) the 2002 Pakistan code on CG, 2) The corporate governance principles of OECD, 3) previous studies on CG relevant to Pakistan. A scale of 0 to 4 is used to construct corporate governance score. Furthermore, we sum the total score achieved by each firm on each CG item and divide it by maximum possible score and then multiplied by 100. The system Generalized Method of Movement (SGMM) is employed in this study as an estimation procedure as it takes into account the dynamic endogeneity issue. Overall, the following three hypotheses are tested:

H1: Ceteris paribus, corporate governance positively affects a firm's value.

H1a: Ceteris paribus, corporate governance score as well as sub-score significantly affects a firm's value, controlling for firm specific characteristics.

H1b: Ceteris paribus, it is expected that firms with low CG rank will have lower market value as compared to firms with high CG rank, controlling for the level of insiders' ownership.

The following dynamic panel data model is to be estimated to test H1:

$$\ln TQ_{it} = \alpha + \beta_1 (\ln TQ)_{it-1} + \beta_2 (CG - score)_{it} + \varepsilon_{it} \quad \ldots\ldots\ldots\ldots\ldots\ldots (1)$$

In order to test H1a, Model 1 is extended to include CG sub-scores and control variables.

$$\ln TQ_{it} = \alpha + \beta_1(\ln TQ)_{it-1} + \beta_2(CG-score)_{it} + \beta_3(BRD-score)_{it} + \beta_4(AUD-score)_{it} + \beta_5(DSC-score)_{it} + \beta_6\left(\frac{Debt}{Assets}\right)_{it} + \beta_7(FRAGE)_{it} + \beta_8(GR)_{it} + \beta_9(LnAssets)_{it} + \beta_{10}(INSIDOWN)_{it} + \beta_{11}\left(\frac{Net\ income}{Common\ equity}\right)_{it} + \beta_{12}(Family)_{it} + \varepsilon_{it} \quad \ldots\ldots\ldots\ldots\ldots\ldots (2)$$

where, lnTQ is dependent variable (Tobin's Q), lnTQ_(it-1) is one period lag of dependent variable, α is constant of the equation, β is coefficient of the variable, CG-score is corporate governance score, BRD-score is board of director's sub-score, AUD-score is audit sub-score, DSC-score is disclosure sub-score, Debt/Assets is leverage ratio, FRAGE is firms age, GR is firm growth in assets, LnAssets measure firm size by taking natural log of assets, INSIDOWN is insider ownership, (Net income)/(Common equity) is return on equity, and Family is a categorical variable.

The study further tries to examine the joint impact of CG and insiders ownership on Tobin's q. Corporate Governance is divided into two categories high and low on the basis of their medium score following Ronnie Lo (2009) and Cheung et al. (2011). One the other hand, insiders' ownership is categorized into low (0-25%), medium (25%-50%), and predominant (>50%) ownership. Hence, six dummy variables of the joint CG and insiders' ownership are generated. To test hypothesis H1b, the following model is formulated:

$$\ln TQ_{it} = \alpha + \beta_1(\ln TQ)_{it-1} + \beta_2(BRD-score)_{it} + \beta_3(AUD-score)_{it} + \beta_4(DSC-score)_{it} + \beta_5\left(\frac{Debt}{Assets}\right)_{it} + \beta_6(FRAGE)_{it} + \beta_7(GR)_{it} + \beta_8(LnAssets)_{it} + \beta_9\left(\frac{Net\ income}{Common\ equity}\right)_{it} + \beta_{10}(Family)_{it} + \beta_{11}(D_H \times D_M)_{it} + \beta_{12}(D_H \times D_P)_{it} + \beta_{13}(D_L \times D_L)_{it} + \beta_{14}(D_L \times D_M)_{it} + \beta_{15}(D_L \times D_P)_{it} + \varepsilon_{it} \quad \ldots\ldots\ldots\ldots\ldots\ldots (3)$$

where,
D_H×D_M = High CG × Medium ownership;
D_H×D_P= High CG × Predominant ownership;
D_L×D_L= Low CG × Low ownership;
D_L×D_M= Low CG × Medium ownership;
D_L×D_P= Low CG × Predominant ownership.

Empirical Results

Descriptive Statistics

The descriptive statistics are presented in Tables 1 (large Cap), 2 (Medium Cap), and 3 (Small Cap), respectively. As mentioned previously, since this study tries to examine the link between

CG and firm value with respect to insider ownership, the key variables of interest are: CG-score, firm value (Tobin's Q) and insiders' ownership. The value of Q is the highest in large Cap firms with a mean of 2.40, followed by medium Cap firms 1.21. However, the mean of small Cap firms Q is 1.04. The highest mean corporate governance score is 60% for large Cap firms followed by medium Cap firms 54%. Small firms have the highest mean value of insider's ownership 35.69, whereas for medium Cap firms the mean value is 24.78. However, the mean value is the lowest in large Cap firms (8.17).

Table 1
Summary Statistics of Large Capitalisation Firms

			Quantiles				
Variable	Mean	S.D.	Min	.25	Mdn	.75	Max
CG-score	0.60	0.14	0.25	0.51	0.60	0.71	0.94
BRD-score	0.64	0.12	0.33	0.55	0.65	0.70	0.90
AUD-score	0.72	0.14	0.25	0.69	0.75	0.75	1.00
DSC-score	0.41	0.35	0.00	0.00	0.50	0.75	1.00
TQ	2.40	3.75	0.53	1.08	1.43	2.43	43.76
Net Income/Common Equity	-0.45	14.78	-319.09	0.10	0.20	0.32	2.97
GR	0.18	0.30	-0.69	0.03	0.13	0.25	2.75
LnAssets	10.06	1.18	6.11	9.35	10.08	10.75	13.11
Debt/Assets	0.52	0.26	0.09	0.32	0.51	0.69	2.16
FRAGE	30.19	13.04	6.00	19.00	31.00	44.00	55.00
INSIDOWN	8.17	16.64	0.00	0.00	6.12	7.77	88.50

Table 2
Summary Statistics of Medium Capitalisation Firms

				Quantiles			
Variable	Mean	S.D.	Min	.25	Mdn	.75	Max
CG-score	0.54	0.11	0.25	0.46	0.53	0.61	0.93

(Table Continued...)

BRD-score	0.61	0.11	0.30	0.53	0.63	0.68	0.98
AUD-score	0.68	0.13	0.25	0.69	0.69	0.75	1.00
DSC-score	0.23	0.30	0.00	0.00	0.00	0.50	1.00
TQ	1.21	0.85	0.36	0.83	1.00	1.33	11.12
Net Income/ Common Equity	0.06	0.68	-17.53	0.02	0.11	0.20	3.99
GR	0.17	0.39	-0.82	0.00	0.09	0.23	7.44
LnAssets	8.25	1.01	4.90	7.52	8.23	8.94	11.33
Debt/Assets	0.57	0.25	0.01	0.42	0.58	0.70	3.10
FRAGE	29.01	11.42	6.00	21.00	27.00	38.00	56.00
INSIDOWN	24.78	26.58	0.00	1.41	13.86	43.40	97.47

Table 3
Summary Statistics of Small Capitalisation Firms

			Quantiles				
Variable	Mean	S.D.	Min	.25	Mdn	.75	Max
CG-score	0.48	0.10	0.21	0.42	0.49	0.56	0.75
BRD-score	0.58	0.12	0.20	0.48	0.58	0.68	0.80
AUD-score	0.63	0.16	0.25	0.44	0.69	0.75	0.75
DSC-score	0.12	0.20	0.00	0.00	0.00	0.25	1.00
TQ	1.04	0.92	0.23	0.72	0.85	1.03	12.65
Net Income/ Common Equity	0.01	1.06	-10.21	-0.08	0.05	0.15	11.57
GR 0.08	0.25	-0.62	-0.05	0.03	0.17	1.44	
LnAssets	7.10	1.14	3.89	6.41	7.13	7.80	11.15
Debt/Assets	0.83	0.89	0.11	0.53	0.66	0.82	12.16
FRAGE	30.98	10.95	7.00	22.00	29.00	44.00	56.00
INSIDOWN	35.69	27.53	0.00	9.05	34.48	59.08	93.11

Correlation Results

The Pearson correlation coefficients between the dependent variables and the independent variables are presented in Tables 4, 5, and 6. Correlation analysis is used to check multicollinearity among variables in empirical models. Gujarati (2003) argues that multicollinearity may threaten the regression analysis at a threshold of 0.80 or 0.90. From the results it can be seen that multicollinearity

does not appear to be a problem between the variables in any of the three samples.

Table 4
Correlation Matrix of Large Capitalisation Firms

Variables	CG-Score	Debt/Assets	FRAGE	GR	LnAssets	INSIDOWN	Net Income/ Common Equity
CG-score	1.0000						
Debt/Assets	-0.0258	1.0000					
FRAGE	0.0167	0.0387	1.0000				
GR	-0.1131	-0.0033	-0.0125	1.0000			
LnAssets	0.2580	0.2504	0.0623	0.0075	1.0000		
INSIDOWN	-0.2586	-0.0923	-0.0208	0.1046	-0.1978	1.0000	
Net Income/ Common Equity	0.0317	-0.0828	-0.0423	-0.0445	-0.0628	0.0212	1.0000

Table 5
Correlation Matrix of Medium Capitalisation Firms

Variables	CG-Score	Debt/Assets	FRAGE	GR	LnAssets	INSIDOWN	Net Income/ Common Equity
CG-score	1.0000						
Debt/Assets	-0.1534	1.0000					
FRAGE	0.0239	-0.0136	1.0000				
GR	-0.0526	-0.0872	0.0384	1.0000			
LnAssets	-0.0137	0.2450	-0.0147	-0.0398	1.0000		
INSIDOWN	-0.2764	0.0628	0.0008	0.0571	-0.0244	1.0000	
Net Income/ Common Equity	0.0002	-0.1273	-0.0189	0.0641	-0.0824	0.0197	1.0000

Table 6:
Correlation Matrix of Small Capitalisation Firms

Variables	CG-Score	Debt/Assets	FRAGE	GR	LnAssets	INSIDOWN	Net Income/ Common Equity
CG-score	1.0000						
Debt/Assets	-0.2272	1.0000					
FRAGE	0.0500	-0.1032	1.0000				
GR	0.0478	-0.2258	0.1022	1.0000			
LnAssets	0.0685	-0.2779	-0.0845	0.0674	1.0000		
INSIDOWN	-0.2518	-0.1360	-0.1982	0.0177	-0.0218	1.0000	
Net Income/ Common Equity	-0.0054	0.0042	-0.0677	0.0114	0.0347	-0.0519	

GMM Estimation Results

This section seeks to identify whether CG can influence the variations in market perceptions of company valuation. The estimation results are presented in Table 7. The coefficient of the lagged Tobin's Q is positive and highly significant at the 1% level. The estimated speed of adjustment factor that is defined as (1- β) is 0.23 in pool, 0.19 in large, 0.34 in medium, and 0.29 in small sample. Hence, the results suggest a stronger positive relation between past and current valuation. The results further show that better firm-level governance results in higher market valuation. For pool sample firms, the results indicate that CG-Score and firms value are positively related at the 1% level. The magnitude of this impact is high, suggesting that a change of one unit in CG results in an increase of 0.55 in the value of Q. Similarly, for large Cap and medium Cap firms, the positive relationship between CG-Score and firms' value is documented and this relationship is statistically significant at the 1% and 5% level, respectively. For large Cap firms, the coefficient on CG-score is 0.5683 followed by medium Cap firms (0.2995). Conversely, for small Cap firms, the coefficient on CG-score is 0.1645, which is statistically insignificant at the acceptable level of significant. Hence, in Table 7, the coefficient on CG-Score is much higher for large Cap firms followed by medium Cap firms.

Table 7
Regression Results for CG Score and Firm Valuation: Univariate Regression

Variables	Model 1_Pool	Model 1_Large	Model 1_Medium	Model 1_Small
lnTQ (-1)	0.7688	0.8127	0.6598	0.7124
	(0.000)***	(0.000)***	(0.000)***	(0.000)***
CG-score	0.5479	0.5683	0.2995	0.1645
	(0.000) ***	(0.001) ***	(0.039) **	(0.153)
Cons	-0.2831	-0.2361	-0.1609	-0.1380
Obs	1668	434	835	399
Instruments	32	33	32	33
Groups	200	70	143	87
AR (1)	-4.06	-2.80	-2.37	-2.19
[P-Value]	(0.000)	(0.005)	(0.018)	(0.028)
AR (2)	-0.02	-0.32	0.26	0.68
[P-Value]	(0.981)	(0.745)	(0.796)	(0.499)
Hansen test	31.68	36.74	33.86	26.40
[P-Value]	(0.334)	(0.185)	(0.244)	(0.654)
Difference in Hansen test	31.04	32.50	33.78	25.81
[P-Value]	(0.269)	(0.214)	(0.173)	(0.529)
F-Significance	(0.000)	(0.000)	(0.000)	(0.000)

Note. *, **, ***= statistical significance at the level of 0.10, 0.05 and 0.01

In this section, the study investigates the link between CG and firm value. However, the question arises as to which governance factors are significant in determining the value of firms. Therefore, the overall CG score is decomposed into three sub-scores, namely, board score (BRD-score), audit score (AUD-score), and disclosure score (DSC-score). The results are presented in Tables 8 to 11. The evidence gives support to the hypotheses that enhancement in CG is associated with increase in firm value in pool as well as large, medium, and small samples in all four regressions. The results are statistically highly significant at the 1% level. Specifically, a one unit rise in CG-score is associated with an increase of 0.46 in Tobin's Q in pool, 0.48 in large, 0.28 in medium, and 0.23 in small sample. Moreover, the regression on CG sub-scores presents that BRD-score is positive and statistically significantly related to Tobin's Q in all samples at the 1% level except in small Cap firms where the result is significant at the level of 10%. In addition, the regression on AUD-score and DSC-score are also positive and statistically significant at the 1% level.

For pool sample, the coefficient on insider's ownership is negative in all four regressions and the result is significant. In medium Cap firms, the association between insider's ownership and company value is also negative and significant. Nevertheless, in large and small Cap firms, the result is negative but insignificant except in Model 2, large sample firms, where the result becomes significant. The findings further suggest that for all samples, the debt ratio is the significant variable, with positive sign, suggesting more leverage firms generate higher shareholder values. Overall, the relationship of variable LnAssets with the market-based measures of performance is consistent with a priori expectation. This variable is also significant for all samples in all regressions and the sign is positive, indicating that large firm can positively influence market perceptions of company performance. The coefficient on firm age is positive and significant in all samples and in all regressions except for large firms in Models 1 and 2 and medium sample Model 3.

The results further reveal that non-family firms outrun their family counterparts in pool, large, and medium Cap firms. Specifically, the association between family variable and Tobin's Q is negative and statistically significant in all samples and in all regressions except for small Cap firms. Miller, Breton-Miller, Lester, and Cannella (2007) argue that in the U.S. except for lone founder corporations, other true family corporations do not exhibit superior market valuation. In a similar vein, in the context of Norway and Sweden, Cronqvist and Nilsson (2003) and Barth, Gulbrandsen, and Schone (2005) conclude that minority shareholders wealth is adversely affected by family ownership. Nevertheless, small Cap family firms positively influence Tobin's Q in all regressions except in Model 4. A stream of research, for example (McConaughy, Walker, Henderson, & Mishra, 1998; Anderson & Reeb, 2003a; Villalonga & Amit, 2006; Maury, 2006; Barontini & Caprio, 2006; Andres, 2008) provide evidence that the positive relation between family businesses and firm value only appears in those firms where founder influence is still present and also where family is directly represented on the board, which is the case of small Cap firms in Pakistan.

For the ROE, the signs of the estimated coefficients are positive and significant in large sample and small samples. However, the study fails to find any significant evidence between ROE and Tobin's Q in pool and medium Cap firms. The result is only significant at the 10% level in Model 2 pool sample. The study also include growth rate as a control variable which is significantly positive with Tobin's Q in pool sample as well as large Cap firms in all models, hence in conformity to our earlier intuition (i.e., past and future growth opportunities is likely to be correlated) market valuation is positively affected by growth opportunities. Conversely, the coefficient on growth variable is insignificant in medium Cap firms. The inclusion of control variables suggests that governance-valuation link is not spuriously caused by omitted variables and the governance effect is robust to the inclusion of these additional control variables.

Table 8
Regression Results for CG Score, Sub-score, Firm Specific Characteristics and Firm Valuation (Pool Sample)

Variables	(1)	(2)	(3)	(4)
lnTQ (-1)	0.8169***	0.7949***	0.8496***	0.8432***
	(0.000)	(0.000)	(0.000)	(0.000)
CG-score	0.4575***			
	(0.000)			
BRD-score		0.3041***		
		(0.000)		
AUD-score			0.8361***	
			(0.000)	
DSC-score				0.1739***
				(0.000)
Debt/Assets	0.2590***	0.2740***	0.2058***	0.1529***
	(0.000)	(0.000)	(0.000)	(0.000)
FRAGE	0.0033** *	0.0036***	0.0031**	0.0035***
	(0.005)	(0.001)	(0.027)	(0.001)
GR	0.0622***	0.0420**	0.1253***	0.0824***
	(0.002)	(0.030)	(0.000)	(0.000)
LnAssets	0.0149**	0.0334***	0.0137**	0.0138***
	(0.019)	(0.000)	(0.020)	(0.006)
INSIDOWN	-0.0019***	-0.0015**	-0.0013**	-0.0012**
	(0.003)	(0.013)	(0.039)	(0.022)
Net	0.0002	0.0001*	0.0014	-0.000
Income/Common	(0.107)	(0.066)	(0.272)	(0.915)
Equity				
Family	-0.1440***	-0.1869***	-0.0627**	-0.0904***
	(0.000)	(0.000)	(0.027)	(0.000)
Cons	-0.4799***	-0.5659***	-0.8322***	-0.2637** *
	(0.000)	(0.000)	(0.000)	(0.000)
Obs	1668	1668	1668	1668
Instruments	153	153	155	155
Groups	200	200	200	200
AR (1)	-4.09	-4.19	-3.82	-3.87
[P-Value]	(0.000)	(0.000)	(0.000)	(0.000)
AR (2)	-0.04	-0.06	0.18	0.18
[P-Value]	(0.969)	(0.952)	(0.860)	(0.861)
Hansen test	160.11	165.06	159.67	160.21
[P-Value]	(0.156)	(0.100)	(0.191)	(0.183)
Difference in	156.07	162.92	154.53	153.41
Hansen test				
[P-Value]	(0.153)	(0.081)	(0.174)	(0.191)
F-Significance	(0.000)	(0.000)	(0.000)	(0.000)

Note: *, **, ***= statistical significance at the level of 0.10, 0.05 and 0.01

Table 9

Regression Results for CG Score, Sub-score, Firm Specific Characteristics and Firm Valuation (Large Sample)

Variables	(1)	(2)	(3)	(4)
lnTQ (-1)	0.9286***	0.9157***	0.9593***	0.9407***
	(0.000)	(0.000)	(0.000)	(0.000)
CG-score	0.4805***			
	(0.000)			
BRD-score		0.2512***		
		(0.000)		
AUD-score			0.4235***	
			(0.000)	
DSC-score				0.0628***
				(0.000)
Debt/Assets	0.1068***	0.1057***	0.1370***	0 .1122***
	(0.000)	(0.000)	(0.000)	(0.000)
FRAGE	0.0001	0.0004	0.0007**	0.0007***
	(0.893)	(0.353)	(0.047)	(0.007)
GR	0.0496**	0.0344**	0.0696***	0.0506**
	(0.0332)	(0.030)	(0.008)	(0.023)
LnAssets	0.0074**	0.0235***	0.0060**	0.0193***
	(0.024)	(0.000)	(0.014)	(0.000)
INSIDOWN	-0.0003	-0.0010**	0.0006	-0.0005
	(0.556)	(0.040)	(0.406)	(0.408)
Net	0.0011*	0.0018***	0.0033***	0.0021**
Income/Common	(0.088)	(0.007)	(0.004)	(0.028)
Equity				
Family	-0.1149***	-0.1085***	-0.1175***	-0.1235***
	(0.000)	(0.000)	(0.000)	(0.000)
Cons	-0.3312***	-0.3556***	-0.3818***	-0.2025**
	(0.000)	(0.000)	(0.000)	(0.013)
Obs	434	434	434	434
Instruments	91	94	92	91
Groups	70	70	70	70
AR (1)	-2.91	-2.95	-3.11	-2.95
[P-Value]	(0.004)	(0.003)	(0.002)	(0.003)
AR (2)	-0.22	-0.14	-0.26	-0.07
[P-Value]	(0.825)	(0.891)	(0.798)	(0.945)
Hansen test	60.36	62.86)	60.27	64.25
[P-Value]	(0.958)	(0.959)	(0.966)	(0.914)
Difference in	62.92	62.16	61.11	63.46
Hansen test				
[P-Value]	(0.817)	(0.835)	(0.858)	(0.804)
F-Significance	(0.000)	(0.000)	(0.000)	(0.000)

Note. *, **, ***= statistical significance at the level of 0.10, 0.05 and 0.01

Table 10
Regression Results for CG Score, Sub-score, Firm Specific Characteristics and Firm Valuation (Medium Sample)

Variables	(1)	(2)	(3)	(4)
lnTQ (-1)	0.8833***	0.8634***	0.8758***	0.8761***
	(0.000)	(0.000)	(0.000)	(0.000)
CG-score	0.2848***			
	(0.000)			
BRD-score		0.2302***		
		(0.000)		
AUD-score			0.2857***	
			(0.004)	
DSC-score				0.1529 ***
				(0.000)
Debt/Assets	0.1671***	0.1383**	0.1014*	0.1922 ***
	(0.005)	(0.032)	(0.060)	(0.000)
FRAGE	0.0039***	0.0051***	0.0023	0.0032 *
	(0.011)	(0.003)	(0.165)	(0.057)
GR	0.0008	-0.0123	-0.0258	-0.0026
	(0.978)	(0.681)	(0.386)	(0.924)
LnAssets	0.0516***	0.0627***	0.0481***	0.0263**
	(0.000)	(0.000)	(0.000)	(0.029)
INSIDOWN	-0.0012**	-0.0013**	-0.0012*	-0.0017***
	(0.045)	(0.031)	(0.055)	(0.005)
Net	0.0112	0.0094	0.0012	0.0102
Income/Common	(0.613)	(0.673)	(0.954)	(0.634)
Equity				
Family	-0.1339***	-0.1237***	-0.1162***	-0.1745***
	(0.001)	(0.003)	(0.003)	(0.000)
Cons	-0.6730***	-0.7754***	-0.6128***	-0.2958**
	(0.000)	(0.000)	(0.000)	(0.019)
Obs	835	835	835	835
Instruments	87	87	87	87
Groups	143	143	143	143
AR (1)	-2.82	-2.83	-2.85	-2.93
[P-Value]	(0.005)	(0.005)	(0.004)	(0.003)
AR (2)	0.21	0.20	0.16	0.16
[P-Value]	(0.832)	(0.839)	(0.872)	(0.870)
Hansen test	92.83	92.28	94.51	92.37
[P-Value]	(0.106)	(0.113)	(0.085)	(0.112)
Difference in	82.63	81.46	83.87	84.52
Hansen test				
[P-Value]	(0.126)	(0.145)	(0.107)	(0.099)
F-Significance	(0.000)	(0.000)	(0.000)	(0.000)

Note. *, **, ***= statistical significance at the level of 0.10, 0.05 and 0.01

Table 11
Regression Results for CG Score, Sub-score, Firm Specific Characteristics and Firm Valuation (Small Sample)

Variables	(1)	(2)	(3)	(4)
lnTQ (-1)	0.5576***	0.5589***	0.5459***	0.5403***
	(0.000)	(0.000)	(0.000)	(0.000)
CG-score	0.2272***			
	(0.001)			
BRD-score		0.1074*		
		(0.051)		
AUD-score			0.5066***	
			(0.000)	
DSC-score				0.0787**
				(0.015)
Debt/Assets	0.1983***	0.1973***	0.2093***	0.2021***
	(0.000)	(0.000)	(0.000)	(0.000)
FRAGE	0.0034***	0.0031***	0.0029***	0.0029***
	(0.000)	(0.000)	(0.000)	(0.000)
GR	-0.2501***	-0.2913***	-0.2496***	-0.2253***
	(0.000)	(0.000)	(0.000)	(0.000)
LnAssets	0.0229***	0.0298***	0.0188*	0.0195***
	(0.007)	(0.000)	(0.087)	(0.004)
INSIDOWN	-0.0005	-0.0004	0.0002	-0.0001
	(0.204)	(0.227)	(0.659)	(0.849)
Net	0.0076**	0.0085***	0.0056*	0.0081***
Income/Common	(0.024)	(0.007)	(0.097)	(0.003)
Equity				
Family	0.1187**	0.0795**	0.1454**	0.0604
	(0.017)	(0.023)	(0.038)	(0.158)
Cons	-0.6758***	-0.6288***	-0.8978***	-0.5007***
	(0.000)	(0.000)	(0.000)	(0.000)
Obs	399	399	399	399
Instruments	63	63	63	63
Groups	87	87	87	87
AR (1)	-2.34	-2.37	-2.34	-2.27
[P-Value]	(0.019)	(0.018)	(0.019)	(0.023)
AR (2)	0.07	0.04	-0.14	0.15
[P-Value]	(0.942)	(0.964)	(0.887)	(0.880)
Hansen test	57.29	55.69	58.75	56.52
[P-Value]	(0.319)	(0.374)	(0.273)	(0.345)
Difference in	53.43	49.64	55.23	54.98
Hansen test				
[P-Value]	(0.210)	(0.330)	(0.165)	(0.171)
F-Significance	(0.000)	(0.000)	(0.000)	(0.000)

Note. *, **, ***= statistical significance at the level of 0.10, 0.05 and 0.01

The results obtained from the joint CG-Ownership and firm value association reveal that for pool Cap firms the interaction variables (D_H×D_P, D_L×D_L, D_L×D_M, D_L×D_P) are statistically significant at the 1% level and have negative differential coefficients, hence less than the base category (D_H×D_L). The results show that interaction variables coefficients of high CG (D_H×D_L, D_H×D_M, D_H×D_P) are higher than the low CG (D_L×D_L, D_L×D_M, D_L×D_P) categories. The results suggest that the decrease in low CG groups' market value is larger as compared to high CG group's market value when compared with the base category controlling for the level of ownership. These results reveal that pool Cap low CG rank firms have lower firms value as compare to high CG rank firms. The results further show that high CG rank firms have high market valuation when insider's ownership is at lower level. However, when insiders ownership goes beyond 50% then firm value decreases as can be seen from the interaction variable D_H×D_P coefficient where the decrease is higher (-0.1107) as compared to base category and also medium category. Similarly, at medium level of ownership low CG firms have better market value as compare to low or predominant ownership. In Figure 1 the blue line represents high CG line while the red line is low CG line. It can be seen that the blue line is above the red line implying high CG firms have higher market value as compare to low CG firms.

For large Cap firms, in case of joint CG and ownership effect, similar results are reported for interaction variables D_H×D_P, D_L×D_P and D_L×D_L where the coefficients are statistically significant. However, interaction variables D_L×D_M and D_H×D_M appears to be insignificant in the case of large Cap firms. For medium Cap firms, the coefficients on interaction variables D_L×D_L, D_L×D_M and D_L×D_P are negative and statistically significant. In contrast, for small Cap firms in terms of interaction terms different result was found where market value of high CG small firms increases when insiders' ownership is at predominant level as compare to medium ownership level. D_H×D_P group's coefficient is lower by about 0.0925 from the base category whereas D_H×D_M group coefficient is lower by about 0.1589. However, for low CG small firms the market value decreases at predominant level. Hence, in large and medium Cap firms the market value is higher at low level of ownership but decreases once the ownership level reaches to predominant level. On the other hand, small Cap firms' value increases at predominant level of ownership only for high CG firms implying that the presence of predominant shareholder adds more value to a small firm provided the management is transparent about its CG practices. Further, the difference between D_H×D_L and D_L×D_L interaction coefficients is 0.2519. This means that small firms will experience a big increase in their market value once they improve their CG.

Table 12
The Interaction Effect on Firm Valuation

Variables	Pool _ Model 3	Large_ Model 3	Medium_ Model 3	Small_ Model 3
lnTQ (-1)	0.7829***	0.9726***	0.7926***	0.5026***
	(0.000)	(0.000)	(0.000)	(0.000)
BRD-score	0.2291***	0.1562*	0.3155***	0.0821
	(0.007)	(0.084)	(0.001)	(0.435)
AUD-score	0.8231***	0.1048***	0.2232***	0.4178***
	(0.000)	(0.000)	(0.000)	(0.000)
DSC-score	0.0324	0.0588	0.2424***	0.6550
	(0.374)	(0.232)	(0.000)	(0.256)
Debt/Assets	0.2329***	0.1341***	0.1248***	0.1997***
	(0.000)	(0.000)	(0.000)	(0.000)
FRAGE	0.0032 **	-0.0006	0.0074***	0.0060***
	(0.014)	(0.202)	(0.000)	(0.000)
GR	0.0072	0.0630**	-0.0651	-0.1939***
	(0.641)	(0.029)	(0.175)	(0.000)
LnAssets	0.0342***	0.0129**	0.0536***	-0.0020
	(0.000)	(0.017)	(0.000)	(0.900)
Net	0.0002 **	0.0024*	-0.0056	0.0038**
Income/Common	(0.012)	(0.088)	(0.621)	(0.011)
Equity				
Family	-0.1863***	-0.1496***	-0.1586***	0.3234***
	(0.000)	(0.000)	(0.000)	(0.001)
$D_H \times D_M$	-0.0135	-0.0813	-0.0099	-0.1589**
	(0.230)	(0.411)	(0.787)	(0.011)
$D_H \times D_P$	-0.1107***	-0.1267***	-0.0290	-0.0925***
	(0.000)	(0.000)	(0.344)	(0.000)
$D_L \times D_L$	-0.2063***	-0.1638***	-0.0641***	-0.2519**
	(0.000)	(0.000)	(0.000)	(0.036)
$D_L \times D_M$	-0.1431***	-0.1184	-0.0478**	-0.2044
	(0.000)	(0.565)	(0.023)	(0.334)
$D_L \times D_P$	-0.4593***	-0.1829**	-0.1171***	-0.2304***
	(0.000)	(0.021)	(0.000)	(0.000)
Obs	1668	434	835	399
Instruments	156	94	89	56
Groups	200	70	143	87
AR (1)	-4.26	-2.96	-3.04	-2.22
[P-Value]	(0.000)	(0.003)	(0.002)	(0.026)
AR (2)	-0.02	0.03	-0.00	-0.09
[P-Value]	(0.984)	(0.973)	(0.997)	(0.925)
Hansen test	165.69	61.59	118.43	51.19
[P-Value]	(0.164)	(0.947)	(0.253)	(0.388)
Difference in	161.63	60.67	116.83	46.00
Hansen test				
[P-Value]	(0.066)	(0.804)	(0.166)	(0.310)
F-Significance	(0.000)	(0.000)	(0.000)	(0.000)

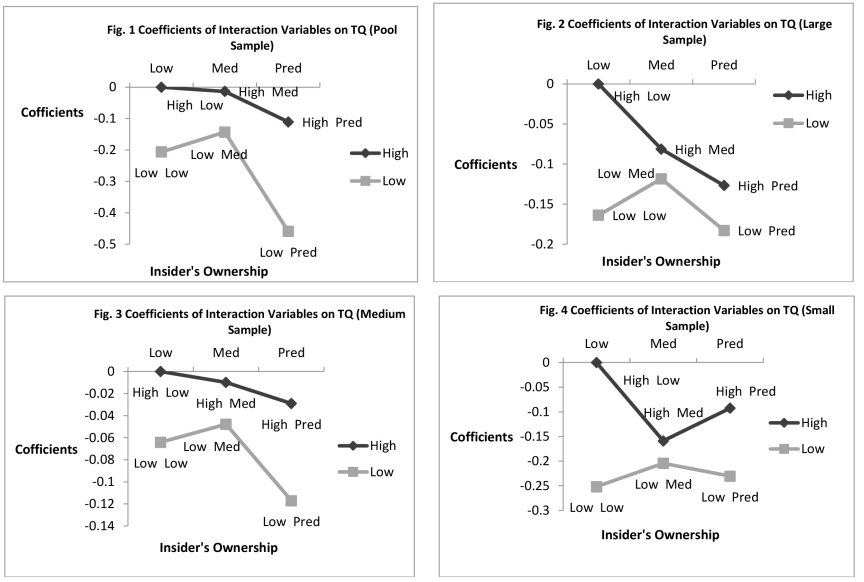

Figure 1: Coefficients of Interaction Variables on TQ

Conclusion

This paper attempts to examine the value relevance of firm level CG in Pakistan for the period 2003-2014. The results reveal that CG is economically and statistically significant in affecting market valuation of corporate firms in Pakistan. Our results have significant implications for the corporate sector, policy makers, investors, outsider minority shareholders, and international agencies. One implication of the findings is that, under a weak legal protection regime, minority investors would make reference to firm's level of CG to assess their risks of expropriation by the controlling insider. The current study also implies that in evaluating the firm's value, the information obtained from longitudinal CG matters more than that gained from cross-sectional absolute governance rankings. Firms' investors may have greater opportunities to achieve higher portfolio returns by selecting firms that have improved governance and firms that have deteriorating governance. This study provides a broader framework through the above outcome for future research in this area. Future work could extend the research by using the financial listed companies or non-listed companies. CG instruments like CEO tenure, intangible assets, banking efficiency, sustainability of business, capital structure, executive remuneration and political regime can be employed to test the link with firm value. Another avenue for future research is to examine other channels of CG, such as company websites and regulatory announcements.

References

Arellano, M., & Bond, S. (1991). Some tests of specifications for panel data: Monte Carlo evidence and an application to employment equations. *Review of Economic Studies, 58*(2), 277-297.

Arshad, H., & Javid, A. Y. (2014). *Does inside ownership matters in financial decisions and firm performance: Evidence from manufacturing sector of Pakistan* (No. 2014: 107). Pakistan Institute of Development Economics.

Barth, E., Gulbrandsen, T., & Schønea, P. (2005). Family ownership and productivity: The role of owner-management. *Journal of Corporate Finance, 11*(1-2), 107-127.

Black, B. S., Jang, H., & Kim, W. (2006). Predicting firms' corporate governance choices: Evidence from Korea. *Journal of corporate finance, 12*(3), 660-691.

Chen, V., Li, J., & Shapiro, D. (2011). Are OECD-prescribed 'good corporate governance practices' really good in an emerging economy? *Asia Pacific Journal of Management, 28*(1), 115-138

Cheung, Y. L., Connelly, J. T., Jiang, P., & Limpaphayom, P. (2011). Does corporate governance predict future performance? Evidence from Hong Kong. *Financial Management, 40*(1), 159-197.

Cronqvist, H., & Nilsson, M. (2003). Agency costs of controlling minority shareholders. *Journal of Financial and Quantitative Analysis, 38*(4), 695-719

Elbadry, A., Gounopoulos, D., & Skinner, F. (2015). Governance quality and information asymmetry. Financial Markets, *Institutions & Instruments, 24*(2-3), 127-157.

Filatotchev, I., Jackson, G., & Nakajima, C. (2013). Corporate governance and national institutions: A review and emerging research agenda. *Asia Pacific Journal of Management, 30*(4), 965-986.

Gompers, P., Ishii, J., & Metrick, A. (2003). Corporate governance and equity prices. *Quarterly Journal of Economics, 118*(9), 107-155.

Javid, A.Y., & Iqbal, R. (2008). Ownership concentration, corporate governance and firm performance: Evidence from Pakistan. *The Pakistan Development Review, 47*(4), 643- 659.

Javid, A. Y., & Iqbal, R. (2010). Corporate governance in Pakistan: Corporate valuation, ownership and financing. *Working Papers & Research Reports, 2010.*

Klapper, L. F., & Love, I. (2004). Corporate governance, investor protection, and performance in emerging markets. *Journal of Corporate Finance, 10*(3), 703-28.

La Porta, R., Lopes-de-Silanes, F., Shleifer A., & Vishny, R. W. (2002). Investor protection and corporate valuation. *The Journal of Finance, 57*(2), 1147-1170..

Morck, R., Shleifer, A., & Vishny, R. (1988). Management ownership and market valuation: An empirical analysis. *Journal of Financial Economics, 20*(5), 293-315..

Villalonga, B., & Amit, R. H. (2006). How do family ownership, control and management affect firm value? *Journal of Financial Economics, 80*(11), 385-417..

Young, M. N., Peng, M. W., Ahlstrom, D., Bruton, G. D., & Jiang, Y. (2008). Corporate governance in emerging economies: A review of the principal–principal perspective. *Journal of management studies, 45*(1), 196-220.

Appendix I:

Corporate Governance Score/Index

A. Sub Index-Board Composition

1. Percentage of Independent Non-Executive Directors (INED's)
2. Presence of Independent Non-Executive Chairman
3. Size of board
4. Role split?
5. Number of board meetings held during the year
6. Percentage of total director's attendance at board meetings
7. Percentage of board meetings attended by INED's
8. Minority shareholders representation on board
9. Gender diversity on board
10. Does the company have a formal system to evaluate the performance of the board and individual directors?

B. Sub Index- Transparency and Auditing

1. Does the company have an audit committee?
2. What percentage of audit committee constitutes INED's?
3. Independence of audit committee Chairman
4. Whether a system is in place to protect whistle blowers

C. Sub Index- Disclosure

1. Does the company disclose board members biographies? Does it list the other boards its directors sit on?
2. Does the company have a policy for handling conflict of interest
3. Does the board of directors provide a code of ethics or statement of business conduct for all directors and employees?
4. Disclosure of the attendance record of each director at committee meetings

Appendix II:

Companies Included in the Sample

Shakarganj Limited
Wah Noble Chemicals
Wyeth Pakistan
Zil Limited
Southern Electric Power Company
Siemens Pakistan Engineering Co.
Quality Textile Mills
Rafhan Maize Products
Pakistan National Shipping Corporation
Pakistan Refinery
Bestway Cement
Cherat Cement Company
Dadex Eternit Limited
Fauji Cement Company
Gul Ahmed Textile Mills
Kohinoor Mills
Maple Leaf Cement Factory
Packages Limited
Ittehad Chemical
Atlas Battery
Atlas Engineering
Bhanero Textile Mills
Dawood Hercules Corporation
I.C.I. Pakistan
Feroze 1888 Mills
National Foods
Nishat Chunian
Nishat Mills
Fauji Fertilizer Company
Wazir Ali Industries
Tariq Glass Industries
Sui Northern Gas Pipeline
Quetta Textile Mills
Pakistan International Airlines Corporation
Al-Abbas Sugar Mills
Artistic Denim Mills
Tri-Pack Films
Bata Pakistan
Sapphire Fibers
Dewan Khalid Textile Mills
Linde Pakistan
Lotte Pakistan PTA
Unilever Pakistan
Lafarge Pakistan Cement
Resham Textile Industries
Al-Abbas Cement Industries
Fazal Textile Mills
Pace (Pak)
Pakistan Synthetics
Dreamworld
Kohinoor Sugar Mills
Bannu Woollen Mills
Liberty Mills
Colony Mills
Ghandara Nissan
Pak Datacom
Noon Sugar Mills
Media Times
Nestle Pakistan
Pakistan Pvc
Security Paper
Cherat Packaging
Colgate Palmolive Pakistan
Sazgar Engineering Works
Netsol Technologies
Ecopack Limited
Indus Dyeing Manufacturing Company
I.C.C. Textile
Habib Sugar Mills
Ashfaq Textile Mills
Bilal Fibres
Babri Cotton Mills

Azgard Nine
Byco Petroleum Pakistan
Japan Power Generation
Mehmood Textile Mills
Atlas Honda
Kohinoor Energy
Lucky Cement
Pakistan Tobacco Company
Fauji Fertilizer Bin Qasim
Oil and Gas Development Company
Salfi Textile Mills
Shield Corporation
Sanofi-Aventis Pakistan
Zephyr Textile
Worldcall Telecom
Shabbir Tiles and Ceramics
Shell Pakistan
Sitara Chemical Industries
Singer Pakistan
Baluchistan Wheels
Glaxosmithkline Pakistan
D.G. Khan Cement Company
Kohat Cement
Crescent Textile Mills
Hub Power Company
Gharibwal Cement
Mirpurkhas Sugar Mills
Engro Polymer and Chemicals
Biafo Industries
Crescent Steel & Allied Products
Pakistan Cables
Dawood Lawrancepur
Nadeem Textile Mills
Nimir Industrial Chemicals
National Refinery
Saif Textile Mills
Pakistan International Container Limited
Pioneer Cement
Pakistan Oilfields
Pakistan Petroleum
Honda Atlas Cars Pakistan
Emco Industries
Fatima Enterprizes
Faran Sugar Mills
Gillette Pakistan
Macpac Films
Dewan Farooque Motors
Bawany Air Product
Jubilee Spinning and Weaving Mills
Pakistan Gum and Chemiclas
Tata Textile Mills
Shahzad Textile Mills
Shezan International
Century Paper and Board Mills
Burshane LPG Pakistan
Chenab Limited
Al-Abid Silk Mills
Mitchells Fruit Farms
Thatta Cement Company
Millat Tractors
Fecto Cement
Idrees Textile Mills
Ghani Automobile Industries
Elahi Cotton Mills
Dynea Pakistan
Dewan Textile Mills
Chashma Sugar Mills.
Berger Paints Pakistan
Buxly Paints
Premier Sugar Mills and Distillery Company
Pakistan State Oil Company
Pak Elektron
Indus Motor Company
Janana-De-Malucho Textile Mills
Land Mark Spinning Industries
Javedan Corporation
Merit Packaging
Reliance Weaving Mills
Telecard Limited
Flying Cement Company

Bolan Casting
Ferozsons Laboratories
Hinopak Motors
J.D.W. Sugar Mills
K.S.B. Pumps Co.
Kohinoor Textile Mills
Din Textile Mills
Kohat Textile Mills
Mehran Sugar Mills
Mirza Sugar Mills
Nagina Cotton Mills
Sui Southern Gas Company
Clover Pakistan
Dandot Cement Company
Siddiqsons Tin Plate
General Tyre and Rubber Co. of Pakistan
Attock Cement Pakistan
Rupali Polyester
Reliance Cotton Spinning Mills
Pangrio Sugar Mills
Pak Suzuki Motor Company
Huffaz Seamless Pipe Industries
Ibrahim Fibre
Haseeb Waqas Sugar Mills
Regent Textile Mills Ltd.
Ghani Glass
Mari Petroleum Company
Philip Morris Pakistan
Unilever Pakistan Foods
Adam Sugar Mills
Dewan Salman Fibre
Gadoon Textile Mills
Crescent Jute Proudcts
Ghazi Fabrics International
Ellcot Spinning Mills
Pakistan Telecommunication Company
Pakistan Engineering Company
Crescent Fibres
Dewan Cement
Blessed Textile Mills
Treet Corporation
Abbot Laboatories Pakistan
Al-Noor Sugar Mills
Allawasaya Textile & Weaving Mills
Baluchistan Glass
Exide Pakistan
Engro Polymer and Chemicals
Hira Textile Mills
Ruby Textile Mills
Crescent Steel & Allied