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Interaction of Leverage and Reforms Process Revisited Empirical Evidence from the Fuel and Energy Sector of Pakistan

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Abstract- In the present paper the linkage between capital structure and Financial Reforms are analyzed in a dynamic setup. The linkage is explored by using a panel data set, spanning 1988-2008, of the Fuel and Energy industry of Pakistan by employing the Arellano-Bond Dynamic Panel-Data Estimation technique to avoid the problems of endogeneity, heteroscedasticity and autocorrelation which are usually associated with dynamic panel data estimation. The main variable of interest, Financial Reforms, has a negative relationship with leverage as predicted by theory. This negative relationship substantiate the fact that with liberalization and strengthening of institutions, leverage has decreased due to shifting of the firms from debt to equity market once the financial constraints got eased out. The positive relationship between leverage and lagged leverage suggest costs of adjustment for capital structure, which delays the adjustment process. Tangibility, confirming Pecking Order Hypothesis, has a negative correlation with leverage; indicating that the firms of fuel and energy sector of Pakistan fail to use their tangible assets as collateral for debt financing. Nevertheless, the results validate Pecking Order Hypothesis in case of profitability. Profitability, as advocated by Pecking Order Hypothesis, is negatively associated with leverage. That is highly profitable firms looks towards equity financing rather than debt financing. Size as predicted by theory has positive relationship with leverage; bigger firms tend to be financed through debt. Ironically, the Growth variable has positive but statistically insignificant relationship with leverage.

Keywords: *Capital Structure Choice, Fuel and Energy Sector, Financial Reforms. JEL Codes: G31, G32*

Classification: *GJMBR-A JEL Classification: N75, G00*



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I. INTRODUCTION

Delineating the determinants of capital structure still remains a mystery (Barclay and Smith, 2005) although voluminous work has been done on it since the publication of "Irrelevance Theory" by Modigliani and Miller, (1958). Irrelevance theory proposes that a firm's value is independent of the firms' financing choice under certain assumptions.

A look into the extant literature reveals that most of the studies in the developing countries have covered explaining the relative use of debt, equity or internal financing employing financial ratios (Mayer, 1988, 1989, and 1990;

Glen and Pinto, 1994). The focus of these studies was financing behavior of the firms ignoring the impact of financial behavior (Green and Mutenheri, 2002).

Yet there were few studies which also explored the impact of financial reforms on capital structure choice such as (Demirguc-Kunt and Maksimovic, 1996, 1997, and 1998). Various studies used different variables such as: Dividend, Risk, Profitability, NDTS, Tangibility, Growth, Past Growth, Size, Industrial Group, Country Classifications, Earning Power, Tax, Liquidity, Cost of Funds, Costs of adjustments, Investment, Leasing, Past leverage, Uniqueness, Assets Maturity, Age, Intangible Assets, Industrial Groups, State Ownership, Institutional Ownership, Industry Concentration, Banking Development, Legal Environment etc. to assess their effects on capital structure choice in various studies such as Jensen and Mekling (1976); Myers (1977); Hallet & Taffler (1982); Bowen et al. (1982); Myers and Majluf (1984); Kester (1986); Kim & Sorensen (1986); Friend & Hasbrouck (1988); Titman & Wessels (1988); Friend & Lang (1988); Chowdhury and Miles (1989); Crutchley and Hanson (1989); Allen & Mizuno (1989); Mackie & Mason (1990); Kale et al. (1991); Jensen, S. & Zorn (1992); Gardner & Trzcinka (1992); Downs (1993); Thies and Klock (1992); Chiarella et al. (1992); Van der W. and Thurik (1993); Chatrath (1994); Lowe et al. (1994); Klein and Belt (1994); Chowdhury et al. (1994); Rajan & Zingales (1995); Boyle & Eckhold (1997); Hirota (1999); Jordan et al. (1998); Hussain (1995); Homaifa et al. (1994); Bevan & Danbolt (2000); Nagano; M. (2003); Hijazi & Shah (2004); Titman & Tsyplakov (2005); Shah & Hijazi (2005); Kim, et al. (2006); Kai Li, et al. (2006); Jian C. & R. Strange (2006).

1) *Financial Reforms in Pakistan and Capital Structure Choice*

As firms in the developing countries are highly regulated therefore they face higher adjustment costs. The subsidized credit programs, restrictions on foreign investment in security market and the restrictions on debt to equity ratio of listed firms, make it very difficult for firms to match cost of capital with those of other priority sectors. More embarrassingly the entry of

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multinational firms crowd out domestic firms from domestic credit market. (Harrison and McMillan, 2002).

Pakistan, being no exception, also faced these problems. But with the start of financial reforms in the 1990s several steps towards liberalizing the economy and bringing efficiency to stock market, have been taken. For this purpose, reforms and institutional developments were initiated to remove the inefficiencies and market distortions to support the economic growth (Eatwell, 1996; Nishat, 1999; Nishat, 2008). Measures to liberalize and institutionally develop the capital markets of Pakistan included: Privatization, Institutional Strengthening, Debt Management Reforms, Monetary Management Measures, Exchange and Payment Reforms. (Nishat, 1999; Nishat, 2008) have established that the objective of these reforms was to develop institutions in particular and enhancement of the economy in general.

II. RATIONALE OF THE STUDY

The rationale for the present study is that there are very few studies which have attempted to analyze the determining factors of capital structure of the developing specially the emerging markets of South-east Asia (Annuar and Shamsheer, 1993; Ariff, 1998; Pandey et. al., 2000;).

Booth, et al. (2001) has attempted to investigate determinants of capital structure choice for 10 developing countries including Pakistan but the study didn't consider the impact of financial reforms. Further the study is limited to firms listed on KSE-100 only. A noteworthy study by Shah and Hijazi, (2004) is limited to non-financial firms listed on KSE from 1997 to 2005. Yet another study by (Hijazi and Yasir, 2006) has attempted to address the determinants of capital structure ignoring the impact of financial reforms and the data is limited to the year 2005. The most recent work done in this direction (Walliullah and Nishat, 2008) has the limitation that the study has used time-series econometric technique to analyze the dynamic behavior of capital structure. Furthermore their study is confined to 2005 only. The aim of this paper is to fill in the gaps present in the previous studies by explicitly incorporating a financial liberalization and institutional development index (FLIDI)¹ in the model, using more recent data and appropriate econometric technique. Adding to this, the index used for financial reforms is constructed through principal component method which is used for the first time while analyzing the capital structure choice of developing countries.

In order to fill the gaps present in the previous studies and assess the dynamics of the capital structure choice, the present paper is an endeavor to look into the determinants of capital structure in a dynamic setup

using Arellano-Bond Dynamic Panel-Data Estimation technique.

Organization of the paper is as follows: section 2 contains description of the data and a brief description of the measurement of variables. Section 3 has the discussion on specification of the model. In section 4 discussions of the results from the models used is given and finally section 5 summarizes and concludes.

III. DATA AND MEASUREMENT OF VARIABLES

The data set contains corporate financial data of 21 firms of the Fuel and Energy Sector that were publicly listed on Karachi Stock Exchange for the period spanning 1988 to 2008. The data used in the analysis has been taken from the "Balance Sheet Analysis of Joint Stock Companies, listed on Karachi Stock Exchange", State Bank of Pakistan and annual reports of Karachi Stock Exchange for the relevant years.

Descriptive Statistics and Correlation Matrix of the variables employed in the paper are given as Appendix 1 in the end.

2) *Dependent Variable*

In the current study leverage of the firm is calculated as the ratio of short term liabilities to total assets. As in Pakistan, firms generally are financed through short term debts because the average size of the firms compared to developed countries is small; thus making it pretty hard for firms to access the equity market (Shah and Hijazi, 2005). The use of short term financing is higher than long term financing developing countries (Booth et, al. 1999).

3) *Research Hypotheses*

a) *Hypothesis 1*

Firm's Growth, Profitability, and Size of the firm have negative correlation with leverage while tangibility of assets has a positive correlation.

Theoretical relationship of leverage and growth is controversial. On the one hand Pecking Order theory suggest that firms with more growth opportunities will use debt to finance their needs as their internally generated funds are not sufficient to meet the needs of their prospective growth. Thus a growing firm will be highly leveraged (Drobetz and Fix 2003). On the contrary growing firms will face higher agency costs because they have more investment venues available to them. Therefore the likelihood of venturing into risky projects for these firms will be high. Owing to this bondholders will demand high premiums to lend to these firms. Thus these firms are compelled by the higher costs of borrowing to borrow less. Numerous

empirical studies (Titman and Wessels 1988; Barclay et al. 1995; and Rajan and Zingales, 1995) have established a negative relationship between growth and leverage. Growth is calculated differently in a range of studies. But the constraint of the data available for the firms of Pakistan hampers this study to measure growth by taking natural log of total assets. As the data available from State Bank of Pakistan for these firms doesn't have information on annual stock prices and research and expenditures. Therefore a clear negative or positive sign for Growth cannot be expected.

Pecking Order Hypothesis implies that firm use internal funds first to finance their operations then debt and equity as a last resort. Thus highly profitable firms will have larger amounts of retained earnings thus they can afford to finance their needs internally. Several empirical works (Myers and Majluf 1984; Titman and Wessels, 1988; Rajan and Zingales, 1995; Michaelas et. al., 1999) confirms pecking order hypothesis substantiate that highly profitable firms are less leveraged. Accordingly a negative relationship is expected between profitability and leverage.

Extant literature is at most conflicting theoretically and empirically regarding the relationship between size and leverage. As espoused by (Titman and Wessels, 1988) larger firms are highly diversified and so they have lesser chances of bankruptcy. Thus they feel no uncertainty in financing their plans via external borrowing. Consequently a positive association between size and leverage is anticipated. Opposing to this (Rajan and Zingales, 1995) disagree that bigger firms face lesser asymmetrical information problem which diminishes the likelihood of their new equity issue to be undervalued and so larger firms generally use equity financing. According to this argument a negative relationship is expected between size and leverage. Size of the firm is measured in many ways (Booth et al., 2001; Gilson, 1997), but Anderson et al. (2003) show that alternative measures of size (based on annual sales or total asset values) do not essentially effect the inferences. Following Anderson et al. (2003), Size in this study is measured as natural log of total assets. Following (Rajan and Zingales, 1995) a negative relationship between size and leverage is expected.

Firms having larger fraction of fixed assets tend to have higher debt financing as they can use their fixed assets as collateral for the underlying risk associated with borrowing. So they can borrow at a relatively cheaper rate because of the collateral value of their tangible assets. Therefore having more opportunities to

borrow at a cheaper rate, firms borrow more. Tangibility, in this paper, is measured by the ratio of total fixed assets to total assts.

b) Hypothesis 2

Financial Reforms has a negative impact on leverage.

Financial sector in developing countries were heavily regulated before the financial reform programs. Therefore, they were faced with higher costs of adjustment because of these regulations. Due to government run subsidized credit programs, restrictions on foreign investment, and low debt to equity ratio of listed companies, companies in developing countries face relatively high adjustment costs. The situation is exacerbated by the entry of multinational companies in ousting local domestic capital market (Harrison and McMillan, 2002).

Pakistan, like many other emerging economies, facing problems due to regulated financial markets, reassessed their policies and launched several measures to liberalize and institutionally strengthen its financial markets. These reforms were directed towards institutional development to enhance economic growth in the country (Nishat, 1999; Nishat, 2008). Several researchers (Myers and Majluf, 1984; Love, 2000; Laeven, 2000, Harris et al, 1994; Gelos and Werner, 2002; Guncavdi, et al, 1998) have shown that financial development facilitates providing the financial constraints companies with the ability to easily access markets. That is why the reform should have a negative relationship with leverage.

IV. ECONOMETRIC METHODOLOGY AND MODEL

In the present paper the econometric technique used is the Arellano and Bond Dynamic Panel Data Estimation technique to capture the dynamic nature of the capital structure.

Panel data analysis has various advantages when cross sectional and dynamic affects needs to be addressed. First, in panel data configuration the observation points increases thus allowing for greater degrees of freedom. Secondly the problem of collinearity between and among variables is reduced to a greater degree. And thirdly panel models overcome the problem of omitted variable bias (Terra, 2002; Hsiao, 1986; and Terra 2002).

1) *The General Model*

$$LRV_{it} = \beta_0 + \beta_1 LRV_{i,t-1} + \beta_2 TNGB_{it} + \beta_3 PROF_{it} + \beta_4 GROWTH_{it} + \beta_5 SIZE_{it} + \beta_6 FLIDI_{it} + \varepsilon_{it} \dots\dots\dots (1)$$

Where

LRV_{it} =	Leverage of the ith firm in time t, defined as liabilities to assets ratio
$LRV_{i,t-1}$ =	Lagged Leverage of the ith firm in time $t-1$
$TNGB_{it}$ =	Tangibility of the ith firm in time t, calculated as total gross fixed assets/total Assets
$PROF_{it}$ =	Profitability of the ith firm in time t, calculated as Earning before Tax/Total Assets
$GROWTH_{it}$ =	Growth of the ith firm in time t, calculated as yearly growth of sales
$SIZE_{it}$ =	Size of the ith firm in time t, calculated as natural log of total assets.
$FLIDI_t$ =	Financial Liberalization and Institutional Index in time t.
ε_{it} =	Error Term

V. EMPIRICAL RESULTS AND DISCUSSION

Table 2 presents the estimated coefficients and their z-values along with p-values.

Table 2

Arellano Bond Dynamic Panel Data Estimation Results

Dependent Variable: Leverage (Total Liabilities/Total Assets)			
Explanatory Variables	Coefficient	Z-Value	P-Values
Lagged Leverage	.3131583	2.51	0.012
Tangibility	-.0088321	-0.71	0.479
Profitability	-.0011435	-2.46	0.014
Size	0.00000255	4.98	0.000
Growth	.0000166	0.98	0.328
Financial Liberalization and Institutional Development Index(FLIDI)	-.0066121	-1.70	0.090
Sargan test of over-identifying restrictions: chi ² (189) = 9.33 Prob > chi ² = 1.000			
Arellano-Bond test that average autocovariance in residuals of order 1 is 0: H0: no autocorrelation z = -1.19 Pr > z = 0.2351			
Arellano-Bond test that average autocovariance in residuals of order 2 is 0: H0: no autocorrelation z = 0.76 Pr > z = 0.4475			

*Statistics are obtained using Stata version 9.2

2) *Lagged Leverage*

The results presented in table 2 reveals that lagged leverage is significantly positively related with current leverage of the firms. The magnitude of the coefficient (.3131583) of the lagged leverage is suggesting that the costs of adjustments of the capital structure for the fuel and energy sector of Pakistan are mediocre. This delays the adjustment process. The lower this coefficient the higher the speed of adjustment (Ozkan 2001; and Gaud et, al. 2005). It can be deduced from the results that the speed of adjustment of Pakistani fuel and energy firms is rather adequate as compared to developed countries; for example for Spain it is .21 (Miguel and Pindado, 2001), in the United States

it is .41 (Shyam et al. , 1999) and .72 in the United Kingdom (Ozkan, 2001).

3) *Tangibility*

Tangibility as the results reveal is negatively correlated with leverage. It is statistically insignificant with a coefficient of -.0088321. The negative relationship of tangibility is in accordance with Pecking Order Hypothesis. According to Pecking Order Theory, as was put forward by Harris and Raviv (1991), firms having less tangible assets would face a less severe problem of asymmetric information, enticing them to issue more debt. On the contrary, firms with larger tangible assets are usually larger firms which can issue equity fairly easily.

4) *Size*

Moreover the results reveal that size is positively and significantly correlated with leverage confirming the Static Tradeoff theory. As according to the Static Tradeoff theory larger firms can issue debt easily. One reason for it could be that larger firms have lesser chances of bankruptcy. Large firms do not consider the direct bankruptcy costs as an active variable in deciding the level of leverage as these costs are fixed by the Constitution and constitute a smaller proportion of the total firm's value and also because larger firms, being more diversified, have less chances of bankruptcy (Titman and Wessels 1988).

5) *Growth*

The growth variable, as results reveal, is statistically insignificant suggesting that the firms of the fuel and energy sector of Pakistan don't take into account the growth opportunities while taking decisions about their financing needs.

6) *Profitability*

Profitability, as revealed by the results, is negatively associated with leverage. The coefficient for profitability is highly significant confirming the findings. The coefficient is highly statistically significant confirming the findings of (Myers and Majluf 1984; Kester, 1986; Titman and Wessels, 1988; Rajan and Zingales, 1995; Michaelas et. al., 1999), as proposed by the Pecking order theory firms use internal finance as a first option followed by debt financing and as a last resort use equity financing. As highly profitable firm have larger amounts of retained earnings and thus they can afford to avoid debts and use their internally generated funds instead.

7) *Financial Reforms*

The variable of interest; Financial liberalization and institutional development index (FLIDI) has a negative and significant (at 10% level) relationship with leverage. This suggests that there is a substantial decrease in leverage after the reforms in financial and corporate sector of 1990s. The secondary market development has a significant effect on firms leverage and financial liberalization has been associated with shift of firms from debt market to equity market. Furthermore, according to liberalization hypothesis, the efficiency of banking sector in monitoring and screening of loan applicants will decrease the premium for external finance after liberalization. Thus liberalization will reduce credit constraints.

VI. SUMMARY AND CONCLUSION

The study was an attempt to assess the interaction between capital structure choice and financial reforms process. Four determinants, which are generally used in the literature of capital structure choice were included in the analysis, namely: tangibility, growth, size and profitability of the firm. The linkage is explored using the Arellano-Bond Dynamic Panel data estimation technique for the firms of fuel and energy sector listed on Karachi Stock Exchange for the years 1988-2008. Arellano-Bond Dynamic Panel data estimation techniques was used to avoid the generally faced problems of panel data estimation i.e. endogeneity, heteroscedasticity, and autocorrelation. It was found, in the study, that financial reforms has a stronger negative impact on leverage of the fuel and energy sector, substantiating the fact that leverage has decreases massively after the liberalization of the financial markets. The reason is that firms shifted from debt to equity market for their financial needs once the financial constraints faced by the firms were eased out.

It was found in the study, that leverage and lagged leverage are positively correlated indicating costs for adjustment. Profitability and tangibility, in the present study, has confirmed the Pecking Order Hypothesis that firms prefer to finance their operations first by internally generated firms, then by debt and as a last resort by equity financing. As for the size of the firm is concerned, it substantiated the Static Trade Off theory in case of the fuel and energy sector of Pakistan. Growth variable, it was found, has positive but statistically insignificant relationship with leverage. That is firms of the fuel and energy sector listed on Karachi Stock Exchange do not take into account the growth opportunities while deciding to finance their needs.

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Appendix 1

Descriptive Statistics-

	LRV	TNGB	PROF	GROWTH	SIZE	FLIDI
Mean	105.12	1.4018	0.0515	126.605	6.2946	3.5331
Median	68.078	0.8786	0.0303	16.571	6.2281	4.1852
Maximum	17583.1	1526.00	25.9857	535900.	12.1405	4.9799
Minimum	0.3589	-2.0048	-32.685	-100.00	-2.3026	0.000
Std. Dev.	493.231	22.936	1.0256	6571.21	1.596	1.6747
Skewness	27.858	54.847	7.2728	80.922	0.0662	-0.8088
Kurtosis	915.336	3277.64	613.207	6595.97	4.69670	2.2522
Observations	6702	6702	6702	6702	6702	6702

Correlation Matrix-

	LRV	TNGB	SIZE	GROWTH	PROF	FLIDI
LRV	1.0000					
TNGB	0.0581	1.0000				
SIZE	-0.1843	-0.1162	1.0000			
GROWTH	0.0039	0.0004	-0.0232	1.0000		
PROF	-0.0347	0.0041	-0.0204	0.0034	1.0000	
FLIDI	0.0372	0.0195	0.2761	0.0018	0.0173	1.0000

Appendix 2

Financial liberalization and Institutional Development Index (FLIDI) for Pakistan:

In this paper an index for financial liberalization and institutional development in Pakistan is constructed through principal components method using data spanning from 1988 to 2008 (21 years) which shows the degree of financial liberalization and institutional development at a specific time. The financial liberalization and institutional development process started in 1990 in Pakistan. Since then, various liberalization measures have been implemented in order to widen and deepen the financial system. The details of these policy measures are given in the following table:

Table A1. Various Policy Measures taken by the government of Pakistan for institutional development and financial liberalization

S #		S #	Sub Sections		
1	Privatization	1	Privatization of Nationalized Banks	PR	Starting from 1991 major nationalized banks were started to be privatized, this process was continued, In 2001 the process of privatization of Habib bank limited was started followed by other private banks in 2002 and completed in 2004.
		2	Opening of Banks	OB	10 private ² and 3 foreign banks were granted permission to operate in Pakistan.
2	Institutional Strengthening	1	Restructuring of Banks and DFI's	RBD	reduction of 718 branches of various banks from 1997 to 2000
		2	Strengthening of Prudential Regulations	SPR	SBP issued prudential regulations in 1992 for banks. In 1994 capital adequacy requirements for various banks were 3%. In 1996 all NCBs , foreign banks and NBFIs were instructed to adopt the risk-weighted capital, in line with Basle Accord.
		3	Strengthening of Loan Recovery Process	SRP	Guide lines were issued to commercial banks by SBP for classification of loans in 1992, In 1993 banks were asked to set quarterly recovery targets, submit progress reports and improve recovery process. In 1996 government restricted NCBs from new project loans, in 1997 SBP launched a loan recovery drive.
		4	Restructuring of S.B.P	RSB P	In 1990 Securities Department was set up, SBP Act was amended in 1994, further enhanced in 1997.
		5	Consolidation of Regulatory Functions	CRF	In 1997 services of an international consulting firm were acquired for review of banking supervision and monitoring techniques. In 2000 Central Board of SBP approved a Concept Paper outlining future direction of SBP.
		6	Computerization	CO M	In 1994 Computer Service Department was created. In 2000 SBP acquired membership of Society for Worldwide Inter-Bank Financial

					Telecommunication (SWIFT).
		7	Classification of loans	CL	Loans were classified as, substandard, doubtful and loss as per the direction of SBP in 1992
		8	New Loan Recovery Law	NLR	A new comprehensive law, Banking Companies (Recovery of Loans, Credits and Finance) Act, 1997 was passed.
3	Debt Management Reforms	1	Replacement of Tap System with auction based system	RTA	Securities Department was set in 1990 to launch auction system of public debt; In 1991 Auction system of treasury bills was introduced. In 1992 system of credit ceiling was replaced with fixing of Credit Deposit Ratio (CDR).
		2	Promotion of Secondary Markets	PSN	A system of approved dealers was launched in 1991; this process was completed in 2000.
4	Monetary Management Measures	1	Reorientation of Monetary Policy Instruments	RMP I	In 1992 rediscount facility was replaced with SBP 3-Day Repo facility. In 1995 CDR's were completely abolished and were replaced with requirement For banks to maintain 1.5 % of their total demand and time liabilities as special Cash deposits with SBP.
		2	Rationalization of Subsidized Credit	RSC	starting from 1990 Lending rates on special financing schemes including locally manufactured machinery and export finance Schemes Were gradually raised to eliminate the element of subsidy. This process completed in 2000.
		3	Interest Rate Rationalization	IRR	Caps on maximum lending rates of banks and NBFIs were removed in 1995. Floors on minimum lending rates were abolished in 1997.
		4	Reforms in banking laws and S.B.P act, 1956.	RBL	In 1991 The Banks (Nationalization) Act was amended, in 1994 SBP, act, 1956 was amended to increase the autonomy of SBP. In 1997 this act was further amended with the insertion of section 46B to prohibit governmental or quasi-governmental bodies from issuing directives to banking companies or other institutions regulated by SBP. This process was completed with the implementation of The Concept Paper approved by the Central Board of SBP.
5	Exchange and Payment Reforms	1	Encouraging Foreign Investment (All Industries)	EFI	In 1991 foreigners were allowed to invest without any prior approval from SBP. They were granted the permission to purchase 100

					% of equity of a firm.
		2	Liberalizing Forex Market	LFM	In 1994 the government of Pakistan accepted the obligations of Article VIII, sections 2, 3, and 4 of the IMF Articles of Agreement. Thus paving the way for liberalization of Forex market.
		3	Introduction of Multiple Exchange Rate Regimes	MER R	In 1998 a mix exchange rate mechanism (a. official exchange rate and b. floating inter-bank exchange rate (FIBR)) was introduced. In 1999 the share of FIBR in the mix exchange rate mechanism was increased to 95 %. In 2000 the steps toward market based exchange rate system was completed.
6	Capital Market Reforms	1	Opening of Capital Market to Foreigners	OCF	In 1991 capital markets of Pakistan were completely opened up for foreign investors. They were provided with various incentives.
		2	Establishment of Securities and Exchange Commission	SEC	SECP (Securities and Exchange Commission) of Pakistan became operational from 1999 through SECP Act, 1997, replacing Corporate Law Authority (CLA).
		3	Automation of all three Stock Exchanges	ASE	to enhance investors' confidence all three stock exchanges (Karachi Stock Exchange, Lahore Stock Exchange, and Islamabad Stock Exchange) were automated in 1997.
		4	Establishment of Credit Rating Agency	CRA	In 1994 Pakistan Credit Rating Agency (PACRA) was set up to improve transparency in the stock market.
		5	Companies (issue of capital) Rules	CCR	Capital Issues Act, 1947 was replaced with Companies (Issues of Capital) Rules in 1996.
		6	Buy Back of Shares	BBS	In 1999 Companies Rules were amended to allow Companies to buy back its shares.