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Economic Governance and Liquidity Management

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Abstract

This paper is based on a theorem derived by the researchers to explain the patterns of corporate governance, firms' financial policies and liquidity position. A deductive approach has been adopted to reconcile and examine the models in the theorem. The study has concluded that corporate governance is a significant variable in determining the liquidity position of firms. In this way, corporate governance becomes a crucial determinant of the liquidity management. This study also indicates that capital structure and the patterns of ownership play important roles in the determination of corporate governance of an institution. The issue of circular debt in the form of liquidity crisis, exist in the Energy sector of Pakistan, must be readdressed with the view point of corporate governance rather than from the aspect of financial management.

Keywords: E60 M48, O10

1. Introduction

Economic governance is a theoretical concept that covers issues in many pastures. It includes economic development and growth, organizational behavior, political economy and the like. Williamson, 2005 [1] explains the economic governance as the "study of good order and workable arrangements". It studies processes which support economic transactions and different activities. These processes are followed within formal and informal institutions. The formal and informal institutions in a country progress by undertaking different economic activities. Problem arises when some informal activities are found within the formal system of organizations. They may take undue benefits of concentrated ownership, poor protection of shareholders in minority and accepting projects which may destroy the wealth of shareholders. These activities are termed as a problem of corporate governance. Economic governance studies the institutions and organizations while corporate governance deals with internal management of a corporation Dixit, 2008 [2]. Vitols, 1995 [3] compared the New Institutional Economies (NEIs) perspective and economic governance perspective. The study found that later perspective focuses on macro level. This paper takes up economic governance perspective to support the argument that it can lead to proper liquidity management in a corporation. For this purpose, corporate governance is taken as one of the offshoots of the economic governance. The aim of this paper has two folds. First, it attempts to investigate the corporate governance practices being followed in the public listed firms in Pakistan. Managerial remuneration to capital is taken as the proxy of corporate governance. Secondly, the study aims to examine

the issue of liquidity problem exists in the form of circular debt mainly in the energy sector of Pakistan in relation to corporate governance. It is an attempt to explain not only the factors contributing good corporate governance but also to seek an understanding of its relationship with liquidity crisis with respect to circular debt. The study has a fundamental premise that bad corporate governance is responsible for circular debt and liquidity crisis. Pakistan has been facing this phenomenon for almost one decade. This study is an endeavour to recommend a long lasting as well as beneficial solution for both the government as well as all stakeholders.

2. Liquidity Management

There are multiple reasons for a firm to keep a specific amount of liquid balances at a given point of time. What may be the appropriate level of liquid balance in a firm is composed of elements like transaction costs, informational asymmetries and opportunity costs Bruinshoofd and Kool, 2004 [4]. It results an optimum liquidity level, which is called the static trade off level, following Opler al., 1999 [5]. Liquidity management of firms is essential as it is the base of arguments of overinvestment or understatement Jensen, 1986 [6]: Jensen and Meckling, 1976 [7]: Myers and Majluf, 1984 [8]. The significant value of cash cannot be denied and therefore a liquidity management practice of a firm is vital for success of a firm. Huberman, 1984 [9] explained that high level of external financing is desired when firms anticipate low earnings in future. Therefore, low earnings may be associated with low liquidity. Kim, 1998 [10] developed a model based on cost-benefit trade-off between the holding cost of liquid assets and benefit of minimizing the need of profitable investment opportunities with costly external financing. The results show

positive relationship between liquidity and cost of external financing. The study found that firms with higher market to book ratio have larger liquid assets while firm size is negatively related to liquidity. Growing firms are normally financed by equity as they do not have cash flow problem. They accumulate retained earnings and invest them as needed instead of using the options of debt or stock issue. On the other hand, mature firms employ the option of bank financing as they have good access Shleifer and Vishny, 1997 [11].

3. Liquidity Crises in the Form Of Circular Debt

Circular debt arises when one entity faces problems in its cash inflows and consequently fails to discharge its obligations. Similarly, second entity does not receive its payments; it further withholds the disbursement to other entity. As a result, this perturbs all segments of the payment chain. Payable of one organization becomes receivable for another organization. When subtract one from the other, these should be cancelled out or the difference should be smaller in number. In case of energy sector in Pakistan, this amount was estimated to be Rs.537 billion as on June 30, 2011 and Rs.872 billion as on June 30, 2012, account for roughly 4% of the nation GDP, Planning Commission of Pakistan, 2013 [12]. PEPCO is an umbrella company which is responsible to collect tariffs from its customers and Government and disburse to its suppliers like IPPs, OMC and gas companies. Cash outflows of the PEPCO are sure because these are obligation which has to be fulfilled. Cash inflows are uncertain because of absence or delay in tariffs payments. Sometimes government delays in subsidies while on the other hand, some powerful individual and government institutions withhold their payment. Ultimately this accumulates the receivable amount in the PEPCO account which results delay in payment to its suppliers which in turn seize payment to top of the segment. This imbalance of cash flows is one of the reasons of circular debt. Table 1 shows the receivables from all distribution companies, called DISCOs from 2008-09 to 2011-12 alongwith their share in the total receivables. This is evidenced in the table 1 that poor revenue collection by PEPCO from DISCOs is one of the causes of circular debt.

Table 1: Receivables from DISCOs (Million Rs.)

DISCOs	2008-09	2009-10	2010-11	2011-12	% Share
PESCO*	26,809	32,902	41,282	51,360	26%
HESCO*	18,856	25,454	33,344	44,237	22%
QESCO	4,297	5,238	24,780	48,193	24%
LESCO	10,957	15,968	17,081	23,080	12%
GEPCO	3,585	5,322	5,631	5,912	3%
FESCO	3,719	5,676	5,866	7,068	4%
IESCO	2,287	2,286	2,762	2,703	1%
MEPCO	7,252	10,505	11,900	14,638	7%
Total	77,762	103,351	142,646	197,191	100%

Source: Monthly Economic Review Saturday, 29th November 2014;

*PESCO includes TESCO and HESCO includes SEPCO

Table 2: Receivables of DISCOs from Provinces and AJK (Million Rs.)

Province	2005	2006	2007	2008	2009	2010	2011	2012
Punjab	-481	(9)	-381	162	-7	3,263	5,371	5,842
KPK	239	398	652	254	601	1,144	19,427	19,792
Balochistan	538	119	146	709	1,064	2,419	4,662	52,696
Sindh	341	2,382	3,224	7,603	14,241	25,790	39,230	6,200
AJ&K	(50)	485	756	1,216	2,391	4,393	9,888	15,953
Total	587	3,375	4,397	9,944	18,290	37,009	78,578	100,483

Primary Source: PEPCO DISCOs Performance Statistics Report (FY 2005 – FY 2012)

Table 3: Distribution of Circular Debt Receivables (Billion Rs.)

Company	Receivables	Payables	Net Position		Change
			30-Apr-11	30-Apr-10	
PSO	149	98	51	30	21
SSGCL	51	44	7	-1	8
SNGPL	11	25	-13	-9	-5
PEPCO	304	302	3	-40	42
OGDCL	116	0	116	80	36
PARCO	38	-	38	30	8
KESC	68	40	28	-24	51
GHPL	10	-	10	11	-1
PPL	22	-	22	26	-4
KW&SB	7	8	-1	0	-1
Grand Total	775	517	259	104	155

Source: Ministry of Finance

It is reality that there are bulk amount of receivables in the books of PEPCO from DISCOs but on the other hand, DISCOs also have a huge amount of receivable from different provinces of Pakistan. Table 2 gives the fact of these receivables.

Table 3 shows some highlights of the receivables and payables of public corporation in Pakistan for 2010 and 2011. It can easily be comprehended that receivables are greater than payables which implies that circular debt is the governance issue which can be overcome through good governance. Zhaka, 2007 [13] suggested positive relationship between improved liquidity position and good corporate governance practices. Garcia-Teruel, Pedro and Juan, 2009 [14] found inverse relation between accounting accruals quality and the cash level by firms.

4. Propositions

Proposition 1

- Firm specific factors explain corporate governance practices.

Firm specific factors include type of organization (ORGTYP), ownership concentration (OWNCONCT), log of capital (LOGCAP) and distribution of assets (CAFA).

$$CG = \alpha_0 + \alpha_1 ORGTYP + \alpha_2 OWNCONCT + \alpha_3 LOGCAP + \alpha_4 CAFA$$

Where α is the parameter

This proposition leads to the following corollaries.

4.1.1 Corollary 1

Public sector ownership of a firm affects the pattern of institutional governance.

4.1.2 Corollary 2

Ownership concentration distorts the corporate governance practices.

4.1.3 Corollary 3

The combination of debt and equity plays a pivotal role in determining the governance practices of a firm.

4.1.4 Corollary 4

High amount of current assets lead to higher expenditures on top management.

4.2 Proposition 2

- Good corporate governance leads to better liquidity management in a firm.

Circular debt (CD) is the proxy of liquidity

$$CD = \beta_0 + \beta_1 CG + \beta_2 LOGLTD + \beta_3 CFTNAST + \beta_4 CAPEXPTNAST + \beta_5 LOGSALES$$

by incorporating model 1 into it, we have;

$$= \beta_0 + \beta_1 (\alpha_0 + \alpha_1 ORGTYP + \alpha_2 OWNCONCT + \alpha_3 LOGCAP + \alpha_4 CAFA) + \beta_2 LOGLTD + \beta_3 CFTNAST + \beta_4 CAPEXPTNAST + \beta_5 LOGSALES$$

So we have

$$= \beta_0 + \alpha_0 \beta_1 + \alpha_1 \beta_1 ORGTYP + \alpha_2 \beta_1 OWNCONCT + \alpha_3 \beta_1 LOGCAP + \alpha_4 \beta_1 CAFA + \beta_2 LOGLTD + \beta_3 CFTNAST + \beta_4 CAPEXPTNAST + \beta_5 LOGSALES$$

While CG is the predicted values of corporate governance taken from model 1

Where α and β are the parameters

Followings are the corollaries of the proposition 2

4.2.1 Corollary 1

Circular debt problem can be mitigated by good corporate governance practices. It will lead them to take decisions, for

instance leverage, which is aligning with all the shareholders of the firm.

4.2.2 Corollary 2

Decisions of board of directors like investment in fixed assets, management of cash flow and growth in sales are very much related to liquidity management.

Table 4: List of Abbreviations of Variables

S.NO.	Variable	Description
1	CG	Corporate Governance
2	ORGTYP	Type of the Organization
3	OWNCONCT	Ownership Concentration
4	LOGCAP	log of Capital
5	CAFA	Current Assets divided by Fixed Assets
6	CD	Circular Debt
	LOGLTD	Log of Long Term Debt
8	CFTNAST	Cash Flow to Net Assets
9	CAPEXPTNAST	Capital Expenditure to Net Assets

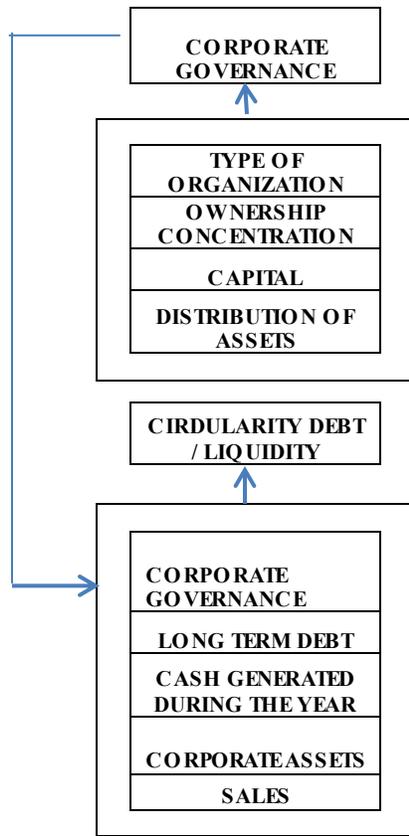
5. Theoretical Model

The theorem starts from the premise that corporate governance, as one of the offshoots of the economic governance, can be explained by firm specific as well as some exogenous variables. Any change in any of the exogenous explanatory variable will automatically change the corporate governance settings, and hence economic governance.

The second part explains the causes of circular debt which results the liquidity problem among firms. These causes are exogenous variables along with the predicted values of corporate governance taken from the first model. It is hypothesized here that corporate governance can mitigate the problem of rising circular debt exist in the economy.

6. Data Variables and Technique

This research is aimed at studying and exploring the corporate governance and liquidity crises through a theorem. This is systematically examined through a derivation of two interlinked theoretical models. In order to achieve these objectives, secondary data was collected through audited annual accounts of sampled companies from 2005 to 2011. Since some of government owned firms do not get their financials and other information disseminated, we have included only those firm for which audited annual accounts are available. Mainly, we focused on energy sector as it has been facing the liquidity problem in terms of circular debt for many years. In order to separate government-owned firms from IPPs, firms with more than 60% shares are assumed to be government owned. Because of the nature of the models, 2-stage least square regression is appropriate to explain the phenomenon. Because of the binary dependent variable in the second model, logit regression was applied.



of the company. As the capital increases, the ratio of salary and other perquisites of directors will be in a declining position and vice versa. Investment decisions show the strategic direction of a firm. Larger investment in liquid assets restricts the firm to get benefit from growth opportunities exist in the market. Moreover, liquid assets also include cash balance which may be used to undertake any project without going into the market, hence no more monitoring by outside investors are needed. The result reveals that firms heavily invest in current assets as compared to fixed assets. It may be deduced that directors use this money on their discretion.

Table 5: Results

Proposition 1			Proposition 2		
Variables	Coefficient	Std. Error	Variables	Coefficient	Std. Error
Intercept	-0.462	0.584	Intercept	-45.893	8.291
TORG	0.175* (1.941)	0.090	PREDCG	-2.547*	1.294
OWNCON	-0.012* (-4.744)	0.003	LOGLTD	1.845*	0.464
LOGCAP	-0.148* (-2.200)	0.067	CFTNAST	0.041*	0.016
CA/FA	0.015* (4.868)	0.003	CAPEXTNAST	-0.014*	0.008
			LOGSALES	4.201*	0.952
Adjusted R²	0.276				
F Statistics	16.837				

7. RESULTS AND ANALYSIS

7.1 Determination of Corporate Governance

Table 5 illustrates the regression results of proposition 1. As discussed, type of organization is introduced as a dummy variable, taking the value of 1 in case of government-owned listed firms and 0 for private-owned listed firms. The results show that in the absence of private-owned listed firms, there is positive and significant relationship with the corporate governance proxy. It reveals that directors in the government-owned listed firms get benefit by increasing their salary and other perquisites while this is not in case of private-owned listed firms. This evidence is supportive of the general arguments prevailed in the market and among institutional as well as individual investors. This depicts the bad corporate governance practices being practiced in government-owned firms. This is also one of the reasons as to why this sector is not helping common people in the form of providing proper electricity in the country. Ownership concentration has a negative impact on corporate governance practices of firms. Corporations with concentrated ownership allow directors to get maximum benefit from the firm. Their salary and other perquisites are increased for nothing. If some controlling shareholders are dominant in the firm, they will enjoy this opportunity to be benefited from this option. Capital also has negative and significant impact on corporate governance state

7.2 Reasons of Circular Debt

Since dependent variable in the proposition II is dichotomous, we applied logistic regression. Circular debt is taken as a proxy of liquidity problem exists in public listed firms of energy sector in Pakistan. It takes the value of 1 if any company faces this phenomenon and 0 otherwise. Table 5 presents the results of logistic regression. As expected, the negative sign of the corporate governance shows the acceptance of our hypothesis that circular debt exists because of bad corporate governance in the energy sector of Pakistan. As discussed that the figures of circular debt are the accounting treatment of receivables and payables. Since table 3 shows positive difference, it is evidenced that this problem is not because of financial management but of corporate governance. Corporate governance (PREDCG) is the predicted values taken from model 1 which means that it is itself the function of some exogenous variables. In other words, variables which explain the phenomenon of corporate governance is badly managed which causes the increase in circular debt. It is interesting to note that an increase in long term debt is linearly related to the problem of circular debt. Debt is used to finance any new project which is supposed to generate positive net present value in order to maximize

shareholders' wealth. If LTD is used for this purpose, then there is economic significance of this result. This result does not follow either pecking order or free cash flow theory. The evidence of trade-off theory with respect to leverage is unknown. Cash flow to noncash assets is also significantly positive which means circular debt tends to increase with cash flows. This is consistent with the pecking order theory which implies that when cash flows are high, corporations use this cash to finance new projects, settle their liabilities, pay dividends and finally accumulate cash to manage working capital requirements. When we look at the result of capital expenditure to noncash assets (CAPEXT/NAST), it is significantly negative, showing evidence that firms with high cash flows invest in fixed assets which cause to accumulate the amount of circular debt. The remaining cash is kept a side for day to day activity. Results show that an increase in sales also helps circular debt to pile up. Since all sales are made on credit, we assume this result is as per our expectations.

8. Conclusions

The present research is a blend of economic governance and corporate finance. It develops a theorem, identifying antecedent variables which can better expound the given phenomenon. It has now come into the fact that liquidity crisis in firms can be managed if corporate sector plays its rigorous role to improve the governance state within the firm. Government of Pakistan must focus on the issue of circular debt from the governance point of view rather from the perspective of finance. Government is responsible to create a business environment where transparent management of public finance becomes possible at the national level. In case the government regulation is not efficient, rules of conduct for the private sector are desired. Particularly, improving the corporate social responsibility and relevance of corporate governance are needed.

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Focussing on Multidisciplinary Research, Promoting Future Low Carbon Innovations, Transferring Knowledge and Stimulating Networking among Stakeholders to Ensure the UK Achieves World Leading Status in Energy and Sustainable Development. <https://www.weentech.co.uk/cesd-net/>

The 1st International Conference on Energy, Environment and Economics (ICEEE 2016) was held at Heriot-Watt University, Edinburgh, EH14 4AS, UK, 16-18 August 2016. ICEEE2016 focused on energy, environment and economics of energy systems and their applications. More than fifty eight delegates from 31 countries with diverse expertise ranging from energy economics, solar thermal, water engineering, automotive, energy, economics and policy, sustainable development, bio fuels, Nano technologies, climate change, life cycle analysis etc. made conference true to its name and completely international. During conference total 51 oral presentations and six posters were shared between delegates. The presentations showed the depth and breadth of research across different research areas ranging from diverse background. ICEEE2016 aimed:

- To identify and share experiences, challenges and technical expertise on how to tackle growing energy use and greenhouse gas emissions and how to promote sustainability and economical, cost effective energy efficiency measures.

In total 11 technical sessions and two invited talks both from academia and industry provided insight into the recent development on the proposed theme of the conference. Preparation, organisation and delivery of the conference started from July 2015 and further co-ordinated by vibrant team of Conference Centre, Heriot Watt University. Conference organisers would like to acknowledge support from the sponsors particularly World Scientific Publication Ltd and its team members for the delivery of the conference. Organisers are also thankful to all reviewers who contributed during peer review process and their contributions are well appreciated. At the end and during vote of thanks following awards have been announced and we would like to congratulate all well deserving delegates.

- Best Paper –Academia: Amela Ajanovic, EEG, TU Vienna, Austria
- Best Paper – Student : Christian Jenne, University of Duisburg-Essen, Germany
- Best Poster – Student: Yoann Guinard, University of New South Wales, Sydney, Australia
- Best Poster – Academia: E. Salleh, Universiti Kebangsaan Malaysia, Malaysia
- Active Participation Award - Yoann Guinard, University of New South Wales, Sydney, Australia

At the end we would like to extend our gratitude to all of you for your participation and hopefully welcome you again during ICEEE2017.

Editors:

Dr. Singh is Senior Scientist at Indian Agricultural Research Institute, New Delhi, India. Her area of expertise are bio energy and bio fuels, environmental engineering, carbon accounting and renewable energy integration for rural development.

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