



ROLE OF MARKET REFORMS IN INVESTORS' PROTECTION FOR CAPITAL MARKET DEVELOPMENT: A STRUCTURAL EQUATION MODELLING APPROACH

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ABSTRACT

This study empirically examines, with the help of Structural Equation Modelling, the role of market reforms in ensuring investors' protection for the capital market development. It is seen that though IPO fraud has become a bane for the development of the capital market through loss of investors protection, but this can also be taken due care of by market reforms. Put differently, though empirically IPO frauds have been seen to have an inverse relationship with Investors' protection and since IPO frauds have become more rampant but market reforms have not been in conjunction with that resulting in an inverse relationship between IPO fraud and market reforms, investors' confidence gets lost. Investors' confidence via protection can be regained even in presence of IPO frauds if markets reforms, in the truest sense of the term, are proper in place. Though from this study we can only say that empirically market reforms have not been consonance with IPO frauds to keep a check on the latter, but how and where do they lack can be only be known if we go in for an attribute-based multidimensional scaling using factor analysis or discriminant analysis.

KEYWORDS: Investors' Protection, Market Reforms, Structural Equation Modelling

INTRODUCTION

A burgeoning research on a fundamental aspect of corporate governance shows that superior investor protection enhances corporate valuation (Claessens et al., 2002; La Porta et al., 2002; Mitton, 2002; Klapper and Love, 2004; Beiner et al., 2006; Black et al., 2006). These studies compare cross-firm or cross-country differences in the levels of investor protection on firm values using proxies such as (1) the firm's corporate governance index, (2) the legal tradition, i.e. the origin of a country's legal system, (3) index measuring how strongly the country's legal system favours minority shareholders against directors in the corporate decision making, (4) the wedge between controlling shareholder's cash flow rights and control rights and (5) the firm's choice to voluntarily cross-list in the United States whose legal system protects minority shareholder interests as well as any in the world. All these studies used a sample of large, well-established companies.

Investor's confidence is of great importance for the stability of capital market in particular and Indian economy in general. A major proportion of investment in primary and secondary markets comes from small investors in India, where in developed countries institutional investors constitute a major proportion of investment. Small investors approach primary markets for both regular income and capital gains. When they invest in companies either at par or at a reasonable premium they will receive dividends and appreciation in financial markets. Primary market is important as it is significantly related with the index of industrial production. Investor

protection turns out to be crucial because, in many countries, expropriation of minority shareholders and creditors by the controlling shareholders is extensive. When outside investors finance firms, they face a risk, and sometimes near certainty, that the returns on their investments will never materialize because the controlling shareholders or managers expropriate them. Corporate governance is, to a large extent, a set of mechanisms through which outside investors protect themselves against expropriation by the insiders (we refer to both managers and controlling shareholders as "the insiders").

It is now well recognised that the legal rules that govern corporate law matter a lot for the economy. There is a large body of both empirical and theoretical literature that suggests that a country's level of investor protection has a substantial effect on how efficiently firms are run, on the development of stock markets and on economic growth. Because insufficient investor protection can be costly, it is important to understand why such protection might fall short of being optimal. Why do countries vary so much in their level of investor protection? Why do levels of investor protection within any given country change over time? And when investor protection is too low, is such sub-optimality due to insufficient understanding by relevant public officials, which should be expected to disappear as officials become more knowledgeable about what level of investor protection is optimal, or are there some political impediments to providing efficient levels of investor protection that might permit excessively lax corporate rules to persist even after they are recognized to be inefficient?

From the perspective of the protection for the individual, she or he is best protected by being able to choose the service that she or he wants and the conditions that she or he wants in a transparent and well regulated market place where there are alternative offerings and different competitors seeking her or his business. Attempts to constrain the market into a monopoly or quasi monopoly, however good the intention may be, are likely to result in reduced competition and higher costs for the users.

LITERATURE REVIEW

In quest of examining the impact of corporate governance encompassing investors' protection *Sarkar Prabirjit (2007)*, with the help of leximetric dataset examines whether better corporate governance leading to higher shareholder protection influences the stock market. In a suggestive note, *Subbarao, P. Srinivas (2009)*, contends that it is the primary market imperative that the regulator ought to bring in stringent regulations to protect the retail investors from fraudulent and unhealthy practices in the market and thus help the investors to repose confidence in the system. Delving deeper into investors' protection, *Gurunathan K. Balanga (2007)*, finds that positive attitude of investors is heartening though investor sentiments have been shaken by the various scandals and for gaining the confidence of investors in the securities market there is a need to provide an adequate rate of return and fair operating efficiency of corporates in the securities market, which can be done by a series of systematic measures which would build their confidence in the systems and processes and protect the interest of investors. Giving a twist to the whole story of investors' protection, *Lucian Bebchuk and Zvika Neeman (2005)*, developed a political model that analysed how lobbying by interest groups affect the level of investors' protection. Accepting the fact but putting a slightly divergent view, *Rafael La Porta, Florencio Lópezde- Silanes, Andrei Shleifer, and Robert Vishny (1997)*, empirically confirmed that laws protecting investors differ markedly around the world, law enforcement too differs a great deal and lack of good accounting standards, rule of law and shareholder protection may be costly for if small investors are not protected companies will not be able to raise capital from them. But, in an optimistic note for India, *Ankur Singla (2009)* shows that legal regime over the issue of shares has become more investor friendly over the years. With introduction of new methods of issuing shares, investor friendly amendments to the DIP Guidelines and the success of its investor grievance redressal system, Securities and Exchange Board of India (SEBI) has played a key role in this (though more reactive than proactive) and has done a commendable job in this regard. The above fact is vouched by *Babu KVSJN Jawahar and Naidu Damodhar (2012)*, who contend that measures such as Disclosure and Investor Protection (DIP), Asset Supported by Blocked Amount (ASBA) etc. have been able to spread an equity cult, still immediate attention of the apex body is required to frame and effectively implement the measures to protect interests of the small investors to restore their confidence in the market.

MOTIVATION

There is a multitude of literature, enunciating investors' protection as well as role of market reforms in ensuring investors' protection, but no gainsaying the fact, there is dearth of literature establishing an empirical link between market reforms and investors' protection through structural equation modelling. This paucity of academic literature literally induced us to evince special interest to go in for this study to supplement the growing literature on investors' protection, in general, and role of market reforms in ensuring investors' protection, in particular.

OBJECTIVE

To find empirically the role of market reforms in ensuring investors' protection for capital market development.

METHODOLOGY

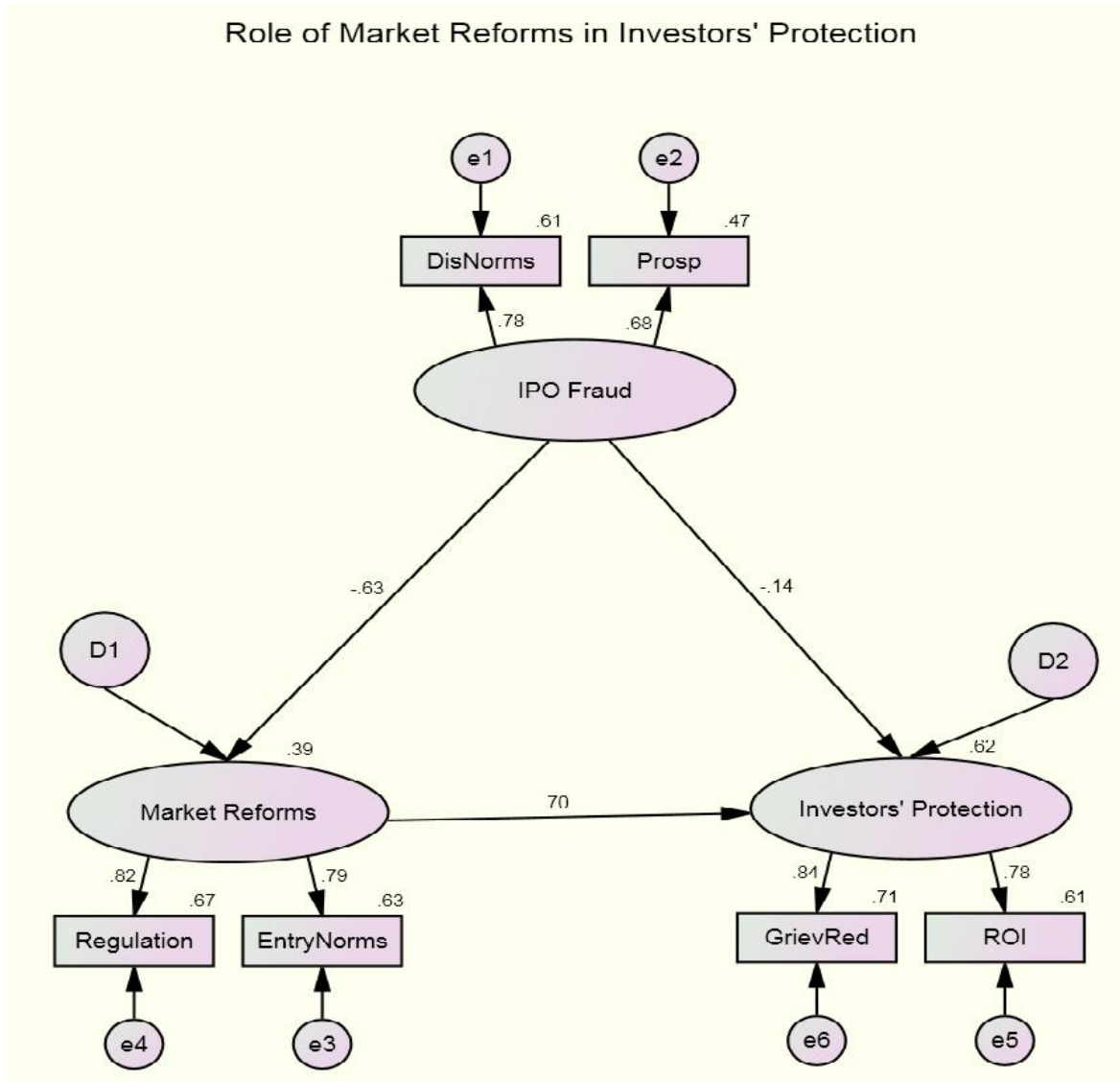
In order to assess the role of market reforms in ensuring investors' protection for primary market development, we surveyed a total of 700 investors (respondents), 50 each from various state capitals, like Ahmadabad, Bangalore, Bhopal, Bhubaneswar, Chandigarh, Chennai, Hyderabad, Jaipur, Kolkata, Lucknow, Mumbai, New Delhi, Patna and Trivandrum with the help of registered share brokers. We prepared a questionnaire, where a total of 6 such variables as; a) compliance of disclosure norms and misstatement in the prospectus, all reflecting *IPO fraud*, b) Entry norms for companies and regulatory strictness exercised by authorities in case of non-compliance all reflecting *Market Reforms* and c) Grievance redressal and Return on Investment (ROI), all reflecting *Investors' Protection*, were asked to be rated in a 5-point Likert Scale by each respondent.

Here, *IPO fraud*, *Market reforms* and *Investors protection* are all latent constructs reflected in the 6 observed variables. Since, in this study, we want to show the importance of market reforms, in presence of IPO frauds, for ensuring investors' protection towards capital market development, we have taken recourse to '*Structural Equation Modelling (SEM)*' approach. But, before jumping onto doing that to find out significant structural relationship between the constructs, we have to go in for '*Confirmatory Factor Analysis (CFA)*' for assessing the validity of the measurement model. This will help us to confirm empirically that the predictor variables statistically represent the latent constructs, which are going to be used for assessing structural relationships.

To attain this objective, we have to go in for CFA which shows whether the observed or manifest variables truly represent the latent constructs or not. For this we specify a diagram where we all the latent constructs shown with their observed variables are linked to each other through covariance or bidirectional curved arrow. The measurement model being a reflective one, the arrows in this diagram are directed from unobserved to the observed variables. That is to say, arrows are directed from the latent constructs and from the error residuals to the measured variables, expressing the fact that error residuals are the result of inability of the latent constructs to fully explain the indicator or measured variables. Whether the measurement model is valid or not that can be confirmed through '*Construct Validity*' and '*Construct Reliability*'.

Construct validity may be face validity, convergent validity, discriminant validity and nomological validity. Let us explain these concepts after drawing a combined CFA and SEM diagram with their standardized coefficients with the help of the software AMOS 18. Here in this analysis compliance of disclosure norms defined as *DisNorms*, misstatement in the prospectus defined as *Prosp*, entry norms for companies defined as *EntryNorms*,

regulatory strictness exercised by authorities in case of non-compliance defined as *Regulation*, grievance redressal defined as *GrievRed* and Return on Investment defined as *ROI* are all observed or manifest variables, whereas IPO Fraud, Market Reforms and Investors' Protection are latent constructs getting reflected in these observed variables.



If we fit such a model drawn above, where IPO Fraud, Market Reforms and Investors' Protection are related to each other through path coefficients and the observed variables are related to the latent constructs through factor loadings and run SEM regression, we get various stylised facts giving overall fitness, assessment of the measurement model and assessment of the structural model. Fitness measures with their desired values, which reflect model fitness, are;

A) Absolute Fit Measures

- i) Chi-square p-value > .05,
- ii) Goodness of Fit Index (GFI) > .9,

- iii) Root Mean Square Residual (RMSR) < .05,
- iv) Root Mean Square Error of Approximation (RMSEA) < .06

B) Incremental Fit Measures

- i) Normed Fit Index (NFI) > .9,
- ii) Tucker-Lewis Index (TLI), also known as Non-normed Fit Index > .95,
- iii) Adjusted Goodness of Fit Index (AGFI) > .8,
- iv) Comparative Fit Index (CFI) > .9

C) Parsimonious Fit Measures

- i) Normed chi-square (CMIN/df) < 5,

ii) Parsimonious Goodness of Fit Index (PGFI) and Parsimonious Normed Fit Index (PNFI) considerably high values.

Generally a model is accepted if the following six criteria are met;

- i) Chi-square p-value > .05,
- ii) CMIN/df <5,
- iii) CFI >.9,
- iv) NFI > .9,
- v) TLI >.95 and
- vi) RMSEA < .06

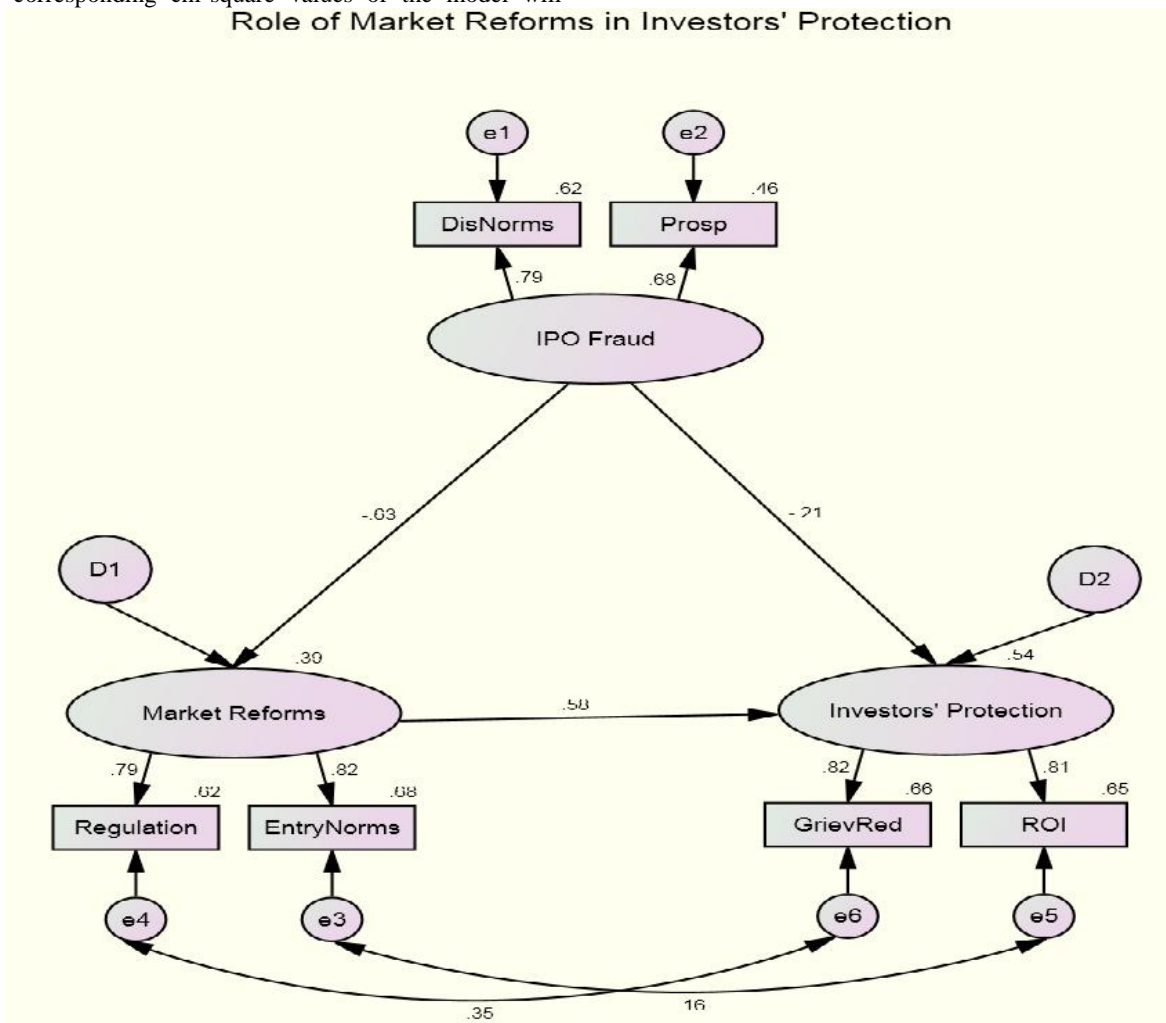
From the text output value provided by the software, we see that our model fitness chi-square (CMIN) value is 76.102, which is highly statistically significant, meaning thereby that our model is not a god-fit one. So we have to go in for modifying the model. From the modification indices given by the software, we see that positive changes are there in modification indices for e3 & e5 and e4 & e6 by .901 and 1.227 respectively with modification indices (MI) 30.127 and 36.407 respectively. That is say, if we repeat analysis treating the covariances between e3 & e5 and e4 & e6, as free parameters, their estimates will become larger by approx .901 and 1.227 respectively and the corresponding chi-square values of the model will

decrease by 30.127 and 36.407 units, giving a non-significant chi-square values and subsequent model fitness.

Thus it has become clear that if we draw covariances between e3 & e5 and e4 & e6, it will be a best fit model. This is logically justified also. For the same respondent, entry norms may highly be related to ROI as stricter entry norms restrict fly-by-night promoters and warrant considerable lock-in to ensure fair return on investment. By the same token, for the same respondent regulation may highly be related to grievance redressal as presence of strong regulation gives s bright ray of grievance redressal. If we fit a model drawn as below, where these residuals are correlated, then the fitness of the model improves considerably.

Here we see that the chi-square value has become much lower 7.817, which is also insignificant giving the overall fitness of the model. If we look for the six criteria of model fitness we get to see that for the model, as drawn below, i) Chi-square p-value = .099 (> .05), ii) CMIN/df = 1.954 (<5), iii) CFI = .998 (>.9), iv) NFI = .996 (> .9), v) TLI = .993 (>.95) and vi) RMSEA = .032 (< .06). So the model is a good fit one as shown below.

Role of Market Reforms in Investors' Protection



After assessing the overall fitness of the model, we have to assess the measurement model. Face validity is the extent to which the contents of the items are consistent with the

construct definition. As researchers, we believe that compliance of disclosure norms and misstatement in the prospectus truly represent *IPO fraud*, entry norms for

companies and regulatory strictness exercised by authorities in case of non-compliance truly represent *Market Reforms* and grievance redressal and return on investment (ROI) truly represent *Investors' Protection*. So all the latent constructs have face validity. Convergent validity is the extent to which indicators of a specific construct converge and share high proportion of variance in common and is assessed through examination of factor loadings, average variance extracted (AVE) and

reliability. For the measurement model to be valid the factor loadings are to be statistically significant and should be greater than or equal to 0.5, rather, un-standardised regression weights are to be statistically significant and the standardised regression weights should be at least 0.5 or more, the average variance extracted (AVE) should be greater than 0.5 and construct reliability (CR) should be greater than 0.7.

Unstandardized Regression Weights: (Default model)

			Estimate	S.E.	C.R.	P
Market Reforms	<---	IPO Fraud	-.645	.054	-12.054	***
Investors' Protection	<---	IPO Fraud	-.225	.055	-4.084	***
Investors' Protection	<---	Market Reforms	.589	.056	10.558	***
DisNorms	<---	IPO Fraud	1.000			
Prosp	<---	IPO Fraud	.584	.043	13.698	***
EntryNorms	<---	Market Reforms	1.000			
Regulation	<---	Market Reforms	1.126	.068	16.624	***
ROI	<---	Investors' Protection	1.000			
GrievRed	<---	Investors' Protection	1.133	.071	15.938	***

Standardized Regression Weights: (Default model)

			Estimate
Market Reforms	<---	IPO Fraud	-.628
Investors' Protection	<---	IPO Fraud	-.215
Investors' Protection	<---	Market Reforms	.578
DisNorms	<---	IPO Fraud	.789
Prosp	<---	IPO Fraud	.679
EntryNorms	<---	Market Reforms	.824
Regulation	<---	Market Reforms	.785
ROI	<---	Investors' Protection	.806
GrievRed	<---	Investors' Protection	.815

From the above results of default or specified model, we see that all the factor loadings are significant and greater than 0.5 giving a partial aspect of measurement model validity. AVE can be calculated as $AVE = \sum_1^n \lambda_i^2/n$ and

CR can be calculated as $CR = (\sum_1^n \lambda_i^2) / [(\sum_1^n \lambda_i)^2 + \sum_1^n \delta_i]$, as shown below;

Factors	IPO Fraud	Market Reforms	Investors' Protection	Item Reliability	= (1-item reliability)
DisNorms	.789				.377
Prosp	.679			$(.789)^2 + (.679)^2$ $= .623 + .461$ $= 1.084$.539
EntryNorms		.824			.321
Regulation		.785		$(.824)^2 + (.785)^2$ $= .679 + .616$ $= 1.295$.384
ROI			.806		.350
GrievRed			.815	$(.806)^2 + (.815)^2$ $= .650 + .664$ $= 1.314$.336
AVE	$(1.084/2)*100$ = 54.2%	$(1.295/2)*100$ = 64.75%	$(1.314/2)*100$ = 65.7%		
CR	$(.789 + .679)^2 / [(.789 + .679)^2 + (.377 + .539)] =$ 0.7017	$(.824 + .785)^2 / [(.824 + .785)^2 + (.321 + .384)] =$ 0.7860	$(.806 + .815)^2 / [(.806 + .815)^2 + (.350 + .336)] =$ 0.7930		

Source: Data Analysis

Role of market reforms in investors' protection for capital market development

From the above analysis it is seen that for the three constructs, the AVE are more than 0.5 and CR are more than 0.7. So it is clear that the model has convergent validity. Next, we have to assess discriminant validity, which is the extent to which a construct is truly distinct from other constructs. From the covariances between the

constructs we see that all the constructs have statistically significant relationships between them and from the standardised covariances we get inter-construct correlations (ICs) and we can also compute squared inter-construct correlations (SICs) just by squaring ICs.

	IC	SIC
IPO Fraud – Market Reforms	-.63	.3969
Market Reforms – Investors' Protection	.78	.6084
IPO Fraud - Investors' Protection	-.58	.3364

Source: Data Analysis

If AVE for any construct is greater than SIC of that construct, we say that indicators have more in common with the construct they are associated with than they do with other constructs, as shown below. That is to say, if

AVE for each construct is greater than the SIC of that construct, we say that the construct has discriminant validity, as shown below;

	AVE	SIC
IPO Fraud	.5420	.3969 or .3364
Market Reforms	.6475	.6084 or .3969
Investors' Protection	.6570	.3364 or .6084

Source: Data Analysis

From the above analysis, we see that for each construct, AVE is greater than SIC ensuring discriminant validity for the construct. However, the model does not have nomological validity as all the inter-construct correlations are not positive, meaning that empirical data does not support any sense to the correlations between the constructs in the measurement model, though the covariances between the constructs are statistically significant.

For assessing the structural model, from the AMOS output, we see that all the R^2 values are above 0.5 and path coefficients are statistically significant. Here the path coefficient between IPO Fraud and Market Reforms is -.63, which is acceptable and empirically means that though IPO Fraud has increased substantially but Market Reforms have not taken place in consonance with that, resulting in an inverse relationship. Path coefficient between IPO Fraud and Investors' Protection is -.21, which is though not acceptable (empirically unidentified) but has the right sign as when IPO Fraud increases, investors' Protection gets affected, resulting in an inverse relationship. The path coefficient between Market Reforms and Investors Protection is 0.58, which is acceptable and means that if Market Reforms take place, Investors' Protection increases (i.e., investors feel protected). This shows that not only theoretically but empirically even market reforms has greater role to play in ensuring investors' protection for the development of the capital market.

CONCLUSION

Thus from the above analysis we see that empirically IPO fraud has become a bane for the development of the capital market through loss of investors protection, but this can also be taken due care of by market reforms. Empirically it is seen that though IPO frauds have become more rampant but market reforms have not been in conjunction with that resulting in an inverse relationship between IPO fraud and market reforms. Though from this study we can only say that market reforms have not been in consonance with IPO frauds to keep a check on the

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REFERENCES

- [1]. Babu KVSJN Jawahar and Naidu Damodhar (2012), "Investor Protection Measures by SEBI", Arth Prabhand: A Journal of Economics and Management, Vol.1, Issue.8.
- [2]. Gurunathan K. Balanga (2007), "An Investor's Requirements in the Indian Securities Market", Delhi Business Review, Vol.8, No.1
- [3]. Lucian Bebchuk and Zvika Neeman (2005), "A Political Model of Investor Protection", Incomplete Working Draft.
- [4]. Rafael La Porta, Florencio Lópezde-Silanes, Andrei Shleifer, and Robert Vishny (1997), "Which Countries Give the Investors Best Protection", Public Policy for the Private Sector, The World Bank Group.
- [5]. Sarkar Prabirjit (2007), "Does Better Corporate Governance Lead to Stock Market Development and Capital Accumulation? A Case Study of India", Paper presented at Queens College, University of Cambridge (Political Economy Seminar Series).
- [6]. Singla Ankur (2009), "Issue of Shares and Investors' Protection", Thesis submitted in National Law School of India University, Bangalore.
- [7]. Subbarao, P. Srinivas (2009), "Measures to Improve the Investors' Confidence in Indian Primary Market: A Study", European Association for Comparative Economic Studies 9th Bi-Annual Conference "Development strategies – A Comparative View".
- [8]. Wan-Hussin, Wan Nordin, "IPO Valuation, Investor Protection and Deregulation: Evidence from Bursa Malaysia", Working Paper, Universiti Utara Malaysia.