Institutional Investors and Firm Performance of Listed Companies in Indian Telecom Sector

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Abstract: **Research Question/Issue: The study seeks to test the implications of institutional investors' shareholdings on the performance of listed companies of Indian Telecom Sector.**

Research Findings/Insights: **Using a panel data for 2008-11, the study covers almost all the telecom companies (both services and equipment sector) listed in India, for which data is available for the study period. Data was compiled from the annual reports of the companies. Public shareholdings in the form of institutional investments contribute positively towards performance. However, domestic financial institutions do not have any significant impact on performance of firms and it is only FII's that have a bearing on performance. The results were controlled for firm size, age, leverage, year dummies and industry effects and were robust for various market-based as well as accounting based performance measures.**

Theoretical/Academic Implications: **Almost all previous studies in the field of corporate governance cover top companies among countries or even in country specific studies only large and mostly actively traded companies are covered. An attempt is made to look deeper into institutional shareholdings and performance of almost all the companies of a rapidly growing sector of an emerging economy. This study provides empirical support to a positive relation between the variables.**

Practitioner/Policy Implications: **The domestic financial institutions fail to act as a monitor of performance and their role in the same shall be strengthened to increase investor confidence in companies in which they invest.**

A firm's ownership structure has an impact on its performance due to various reasons. Disparity among the owners on the basis of characteristics, intensity of stake in the firm and availability of resources leads to differences in their relative power, motivation and ability to monitor managers. Moreover their basic motive behind the investment in the firm may be different.

Therefore, there are inherent variations on these grounds among the shareholdings by institutional investors, insurance companies, banks, corporations, mutual funds, individuals and government. There are a number of studies assessing the effect of ownership structure and firm performance.[i] Evidences on these effects, however, have been mixed.

Institutional investments are generally much larger in size than those of disbursed shareholders and are in a better position to invest time and resources in information, hence are capable of reducing the agency costs by monitoring the management through their voting rights. The presence of institutional shareholdings especially if they are actively involved in assessing their investments acts as a deterrent to involve in self serving behaviour by the managers. The effect of such holdings on the performance on Indian telecom sector is thus undertaken in the study. Accordingly, the null hypothesis can be set as:

1. **H01: THERE IS NO SIGNIFICANT RELATIONSHIP BETWEEN INSTITUTIONAL SHAREHOLDING AND PERFORMANCE.**

The behaviour of institutional investors also differs depending upon their investment horizon, management philosophy, their ownership type etc. Hence a distinction is made between foreign institutional investors and public financial institutions. Foreign financial institutions are privately owned and managed and hence are more concerned about protecting and enhancing their investment as compared to public financial institutions. Moreover, they have access to more efficient tools to monitor self seeking behaviour of managers as compared to local financial institutions in developing economies like India(Khanna and Palepu, 2000a).

This results in an improved performance of firm with an increase in investment by these institutions(Patibandla, 2002). But at the same time a particular FII's stake in a company is limited and they have an easier option of selling the stocks of an underperforming company than to invest time and energy to institute the process of corporate restructuring and hence do not significantly affect performance(Douma et.al, 2006). In the light of these mixed results the researcher sets the null hypothesis as follows:

2. H02:THERE IS NO SIGNIFICANT RELATIONSHIP BETWEEN FOREIGN INSTITUTIONAL INVESTOR SHAREHOLDING AND PERFORMANCE.

Public financial institutions have their own agency problems, where they use funds of public at large and invest it (Black, 1992). Their own actions can't be controlled by disbursed public and this provides lesser incentive for them to protect and enhance their investments and control agency costs in the companies in which they invest.

In India most of these institutions belong to public sector and hence nominee directors appointed by them are generally bureaucrats having minimal experience on corporate matters. Secondly, these institutions don't work for only profit maximisation objective and hence, are less watchful towards checking agency costs. The contribution by public financial institutions is explored by setting the following hypothesis:

3. H03: THERE IS NO SIGNIFICANT RELATIONSHIP BETWEEN PUBLIC FINANCIAL INSTITUTIONS SHAREHOLDING AND PERFORMANCE.

Nature of Data

The empirical analysis uses firm level panel data for 35 telecom companies covering 4 year period form 2008-11(140 observations for each variable); the panel data analysis incorporates both the time series and cross-sectional elements of data and extracts information on both inter-temporal dynamics and cross company distinctiveness of sample being investigated. By combining time-series of cross section observations, panel data gives more informative data, more variability, less collinearity among variables, more degrees of freedom and more efficiency. By studying the repeated cross-section of observations, panel data is better suited to study dynamics of change. Ownership pattern is compiled from the company filings with the Bombay Stock Exchange (all companies are listed on BSE). Annual reports of the companies were used to extract information on corporate governance variables along with information about board composition and committees. Performance parameters were also taken from the annual reports of the companies.

Sample Selection

Being a sector specific study, in order to have a comprehensive view, all the telecom companies in India were considered for inclusion in the study. A comprehensive list of all telecom companies was constructed from various sources namely; BSE database, NSE database, Department of Telecommunication website, Telecom Regulatory Authority website and CMIE Database. Out of these companies sample was selected on the basis of following criteria.

Main criteria used for sampling the firms were:

Company must have been listed for the entire period of study i.e. year 2007-08 to 2010-11. The companies suspended or delisted during this period for any reasons were dropped. The sample was restricted to listed companies only because reliability of data pertaining to performance and share ownership is better with regard to listed companies. Governance parameters are also not disclosed properly for unlisted companies. Therefore, all unlisted telecom companies are excluded from the sample. Some companies which are unlisted subsidiaries of listed companies in some other business sector are also excluded to maintain uniformity in data. This exercise resulted in a final sample of 35 listed Telecom companies which were subdivided into telecommunication services and telecommunication equipment.

Key Variables

Performance variables

Performance of a company can be measured either on a market based criteria where the company's market performance and future earnings prospects can be incorporated or accounting based criteria where historical costs and past performance is accounted for while assessing performance. Keeping this in mind two measures of performance namely Tobin's Q and Return on Assets (ROA), as supported in the finance and accounting literature are chosen primarily for the purpose of analysis. **Tobin's Q:**The Q ratio, taking into account the future prospects of the firm provides a measure of the management's ability to generate a certain income stream from an asset base (Short and Keasey, 1999) It is an important measure of firm performance in the sense that it represents the value investors put in the assets of the firm above or below the total value of firms assets thus representing investor confidence.

Companies displayingTobin's Q greater than unity are considered to be using scarce resources effectively, while those with Tobin's Q less than unity as using resources poorly. Tobin's Q has been computed as:

(Market Value of Equity + Book Value of Preference Shares + Book Value of Debt)

Total Assets

Return on assets (ROA): This accounting variable chosen was calculated as the *ratio of operating income (EBIT) to total assets*. Total assets include value of fixed assets, investments, and current assets.

Control variables

In order to control for various other possible determinants of firm performance not captured by the independent variables in

the study, the researcher has included some observed firm characteristics as control variables. The control variables used in the study have been selected with reference to those employed in earlier empirical studies and are discussed below.

- **Size**: Firm size has an ambiguous effect, a priori on the firm performance. Log transformation of this variable is used to correct for high degree of skewness in the firm size, thus ensuring that data is properly distributed. It takes care of the problem of heteroskedasticity.

- **Age:** The effect of age is also ambiguous. Age is measured by using natural logarithm of the number of years between the observation year and the year of incorporation of the firm.

- **Debt intensity:** This measure is used to account for risk characteristic of firm. To measure the effect of this measure, natural logarithm of leverage is used which is calculated as debt to total asset ratio.

- **Industry effect:** Within the same sector, performance may be affected by the nature of industry, therefore, a dummy variable to capture this effect between telecom service providers and telecom equipment industry is also taken. The variable is coded as 1 for service providers and 0 for equipment sector.

- **Year Dummies:** Since the study uses both time series and cross sectional data. There are two ways to deal with this type of data. First can be a panel model with fixed firm effects, but such variables virtually eliminate much of the cross-sectional variability across firms. Thus the study uses the procedure with random firm effects allowing for cross-sectional firm variations while the time variability has been captured by year dummies. Dummy variables D_9, D_{10} and D_{11} are used for year 2008-09, 2009-10 and 2010-2011 respectively.

The control variables along with various explanatory variables were used to gauge their impact on the performance of the firm. The statistical technique used for the same is discussed below.

Statistical Techniques

As discussed before the study uses a panel regression model which involves pooling of observations on a cross-section of units over several time periods and provides results that are simply not detectable in pure cross-sections or pure time-series studies. The panel regression equation differs from a regular time-series or cross section regression by the double subscript attached to each variable.

The general form of panel data model can be specified as:

$$Y_{it} = \beta_1 + \beta_2 X_{2it} + \beta_3 X_{3it} + \ldots\ldots + \beta_k X_{kit} + \mu_{it}$$

$i = 1, 2, 3\ldots, N$

$t = 1, 2, 3\ldots, T$

$k = 2, 3, 4\ldots, K$

where i stands for the ith cross-sectional unit, t for the tth time period and k stands for k^{th} variable.

Multivariate regression analysis on panel data is used to empirically test the hypotheses stated above. Using combination of variables, models of linear regression equations were constructed. Model 1 entered only concerned variables as independent variables with dependent being the performance variable. Model 2 then enters control variables in a way so that the stability of the regression coefficients to the main independent variables could be assessed

The relationship between institutional shareholdings and performance is assessed using the following model:

Performance $= \beta_1 + \beta_2$ (Public_institution)$_{it}$ + β_3 (Ln_Lev)$_{it}$ + β_4 (Ln_Sale)$_{it}$ + β_5 (Ln_Age)$_{it}$ + β_6 (Industry)$_{it}$ + β_7 (D9)$_i$ + β_8 (D10)$_i$ + β_9 (D11)$_i$ + μ_{it}

TABLE 1: OLS Results for Public institutional holding and performance measured by Ln_Q

Model		Dependent Variable: Ln_Q		
		Standardized Coefficients		
Model		**Beta**	**T**	**Sig.**
1	(Constant)	-1.361	0.176	
	Public_institution	0.461	5.52	0.000
	p- Value	0.000	F Value	30.471
	Adj. R Square	0.205	R Square	0.212
2	(Constant)	-0.813	0.418	
	Public_institution	0.336	3.724	0.000
	Ln_Lev	0.389	4.936	0.000
	Ln_Age	0.163	2.109	0.037
	Ln_Sale	-0.009	-0.1	0.92
	Industry	0.106	1.25	0.214
	D9	-0.099	-1.099	0.274
	D10	0.012	0.139	0.89
	D11	-0.128	-1.428	0.156
	p- Value	0.000	F Value	9.5
	Adj. R Square	0.374	R Square	0.418

TABLE 2. OLS Results for Public institutional holding and performance measured by ROA

		Dependent Variable: ROA		
		Standardized Coefficients		
Model		Beta	t	Sig.
1	(Constant)	2.237	0.027	
	Public_institution	0.468	5.536	0.000
	p- Value	0.000	F Value	30.652
	Adj. R Square	0.212	R Square	0.219
2	(Constant)	-0.974	0.332	
	Public_institution	0.387	4.456	0.000
	Ln_Lev	-0.396	-5.17	0.000
	Ln_Age	-0.142	-1.889	0.062
	Ln_Sale	0.3	3.5	0.001
	Industry	0.046	0.557	0.579
	D9	0.067	0.772	0.442
	D10	0.078	0.901	0.37
	D11	0.029	0.339	0.736
	p- Value	0.000	F Value	11.533
	Adj. R Square	0.434	R Square	0.475

TABLE 3: OLS Results for FII holding and performance measured by Ln_Q

		a. Dependent Variable: Ln_Q		
		Standardized Coefficients		
Model		Beta	T	Sig.
1	(Constant)	0.187	0.852	
	FII	0.365	4.163	0.000
	p- Value	0.000	F Value	17.328
	Adj. R Square	0.125	R Square	0.133
2	(Constant)	-1.344	0.182	
	FII	0.273	3.301	0.001
	Ln_Lev	0.402	5.061	0.000
	Ln_Age	0.208	2.634	0.01
	Ln_Sale	0.033	0.383	0.702
	Industry	0.17	2.056	0.042
	D9	-0.099	-1.084	0.281
	D10	0.006	0.067	0.947
	D11	-0.124	-1.366	0.175
	p- Value	0.000	F Value	8.936
	Adj. R Square	0.358	R Square	0.403

TABLE 4: OLS Results for FII holdings and performance measured by ROA

		a. Dependent Variable: ROA		
		Standardized Coefficients		
Model		Beta	T	Sig.
1	(Constant)	3.873	0.00	
	FII	0.417	4.787	0.00
	p- Value	0.00	F Value	22.918
	Adj. R Square	0.166	R Square	0.174
2	(Constant)	-1.551	0.124	
	FII	0.303	3.716	0.00
	Ln_Lev	-0.378	-4.842	0.00
	Ln_Age	-0.094	-1.197	0.234
	Ln_Sale	0.354	4.163	0.00
	Industry	0.119	1.46	0.147
	D9	0.066	0.744	0.459
	D10	0.07	0.789	0.432
	D11	0.033	0.373	0.71
	p- Value	0.00	F Value	10.328
	Adj. R Square	0.404	R Square	0.448

In Table 1, Model 1 gives baseline specification using only public institutional shareholding as independent variable showing a significant positive relationship between these shareholdings and performance with p-value 0.000. On introduction of various control variables Model 2 also predicts a significant positive association between performance and institutional shareholding with p-value 0.000, the sign and significance of point estimates did not change indicating stability of the model Results didn't change when Ln_assets and Ln_debt were used as control variables instead of Ln_Sale and Ln_Lev respectively. Similar results are depicted when ROA is used as a performance variable in Table 2. Therefore, *the null hypothesis H01that there is no relationship between institutional shareholding and performance is rejected.*

Among the financial institutions foreign institutional investors and public financial institutions are considered to be playing a dominant role. The following section discusses their relationship with performance of the companies under study.

Foreign institutional shareholding and performance

Foreign institutional investors take up shares of companies as an investment and are capable of monitoring management. The relationship is tested using the following model:

Performance = $\beta_1 + \beta_2$ (FII)$_{it}$ + β_3 (Ln_Lev)$_{it}$ + β_4 (Ln_Age)$_{it}$ + β_5 (Ln_Sale)$_{it}$+ β_6 (Industry)$_{it}$+ β_7 (D9)$_i$ + β_8 (D10)$_i$ + β_9 (D11)$_i$ + μ_{it}

The regression analysis in Table 3 and Table 4 depicts a positive linear relationship between Foreign Financial Institutions shareholdings and performance with a p- value 0.000 for both Tobin's Q and ROA, leading to *rejection of the null hypothesis H02*. Model 2 also shows a significant positive relationship between the two variables with a p-value 0.000, the point estimate of FII is 0.273(for ROA 0.303) with p-value

0.001 (0.000 for ROA). Adjusted R square of Model 2 is 0.358 for Q and 0.404 for ROA as performance variables.

Public Financial Institutional shareholding and performance

Public financial institutions also take up equity stake in companies as an investment; presence of stake by public financial institutions is coded as 1 and absence as 0. The effect of presence of these shareholdings is then assessed using the following model.

$$\text{Performance} = \beta_1 + \beta_2 (\text{PFI\_Present})_{it} + \beta_3 (\text{Ln\_Lev})_{it} + \beta_4 (\text{Ln\_Sale})_{it} + \beta_5 (\text{Ln\_Age})_{it} + \beta_6 (\text{Industry})_{it} + \beta_7 (\text{D9})_i + \beta_8 (\text{D10})_i + \beta_9 (\text{D11})_i + \mu_{it}$$

TABLE 5: OLS Results for Presence of Institutional Shareholding and Performance measured by Ln_Q

		a. Dependent Variable: Ln_Q		
		Standardized Coefficients		
Model		Beta	T	Sig.
1	(Constant)		-1.239	0.218
	PFI_Present	0.329	3.7	0.000
	p- Value	0.000	F Value	13.688
	Adj. R Square	0.1	R Square	0.108
2	(Constant)		-0.664	0.508
	PFI_Present	0.237	2.795	0.006
	Ln_Lev	0.432	5.408	0.000
	Ln_Age	0.101	1.214	0.228
	Ln_Sale	0.025	0.28	0.78
	Industry	0.214	2.563	0.012
	D9	-0.096	-1.037	0.302
	D10	0.026	0.28	0.78
	D11	-0.111	-1.199	0.233
	p- Value	0.000	F Value	8.35
	Adj. R Square	0.34	R Square	0.387

Table 5 shows that presence ofpublic financial institution shareholding has a significant positive impact on performance with a p-value 0.000 and point estimate of 0.237 which is also significant. However, when ROA was used as a performance variable the relationship turned out to be insignificant with a p-value 0.995. The reason for association with market based measure can be due to signalling effect of presence of investment by public financial institutions, as the companies must satisfy certain minimum criteria to be eligible for an investment by these institutions, which may be valued by the market and ROA being an accounting based measure, does not account for such premiums and hence gave no significant relation between the two. The researcher further tried to investigate into the contribution of public financial institutions shareholding on performance by using the following model.

$$\text{Performance} = \beta_1 + \beta_2 (\text{Fin\_Inst})_{it} + \beta_3 (\text{Ln\_Lev})_{it} + \beta_4 (\text{Ln\_Sale})_{it} + \beta_5 (\text{Ln\_Age})_{it} + \beta_6 (\text{Industry})_{it} + \beta_7 (\text{D9})_i + \beta_8 (\text{D10})_i + \beta_9 (\text{D11})_i + \mu_{it}$$

TABLE 6: OLS Results for Financial institutions' holding and performance measured by Ln_Q

		a. Dependent Variable: Ln_Q		
		Standardized Coefficients		
Model		Beta	T	Sig.
1	(Constant)		2.366	0.02
	Fin_inst	0.260	2.857	0.005
	p- Value	0.005	F Value	8.16
	Adj. R Square	0.059	R Square	0.067
2	(Constant)		-1.002	0.318
	Fin_inst	0.05	0.555	0.58
	Ln_Lev	0.424	4.943	0.000
	Ln_Sale	0.115	1.314	0.192
	Ln_Age	0.157	1.816	0.072
	Industry	0.188	2.103	0.038
	D9	-0.116	-1.212	0.228
	D10	-0.004	-0.039	0.969
	D11	-0.148	-1.548	0.125
	p- Value	0.000	F Value	6.927
	Adj. R Square	0.294	R Square	0.343

Table 6 depicts that there is a significant relationship between financial institutions shareholding and Ln_Q, The control variables were entered so that the stability of the regression coefficients of the main independent variables could be assessed. But with the introduction of control variable the point estimate of Fin_inst became insignificant. Moreover, similar results were obtained when ROA was used as performance variable, with significant p-value (0.000) but point estimate of Fin_inst being insignificant. Therefore the relationship is not very stable.

Hence, the model *fails to reject the null hypothesis H03 of no relationship between public financial institutions' shareholding and performance.* This can be interpreted as that public financial institutions are not effective as a monitor for corporate behaviour.

4. CONCLUSION

- Public shareholdings in the form of institutional investments contribute positively towards performance. Institutional stakeholders are better organised than public at large which invests as disbursed shareholders and hence are in a better position to monitor management. So, the combined effect of all kinds of institutional shareholdings like mutual funds, insurance companies, FII's, public financial institutions is positive on firm performance.

- Presence ofinvestments by financial institutions in a firm increases credibility as apart from monitoring aspect discussed earlier, these institutions do make certain checks on the companies before investing in them. So their investments are an indication that the company does meet their investment criteria which is reflected in higher performance measured by market based measures signalling that market provides premium for such shareholdings. When accounting based measures are used, no such relationship is present indicating that no benefit for such investments exists when book values and accounting measures are used to measure performance.

- Investments by foreign institutional investors is one of the most significant components of institutional shareholding and their stake positively effects performance. This may be because they are better equipped than their indigenous counterparts to assess and monitor management or maybe they track companies with better performance and invest in them thus having a positive association with performance.

- Domestic financial institutions do not have any significant impact on performance of firms. Another observation is that though the effect of public financial institutions on performance is insignificant, it is a positive association as against some previous work (Ramaswamy et.al. 2002) citing lack of incentive to monitor and pursuance of non-profit motives by these institutions as reasons for a negative association with performance in the Indian context. Mutual funds and insurance companies investment is also not large enough to serve as a monitoring device individually.

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Claessens, Djankov, and Lang, 2000; Khanna and Palepu,2000a; Khanna and

Rivkin ,2001; Wiwattanakantang ,2001; Chang and Hong ,2002; Joh, 2003; and

Lemmon and Lins, 2003; Douma, George and Kabir, 2006 to name a few.