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An Empirical Study on Role of the capital markets (Equity) for Economic Development of India in Long run

Rakinee Jaya*
U.Chiranjeevi**

MBA II year
St. Pious X MBA College

MBA II year
Matrusri P.G. College

ABSTRACT:

The following paper tries to examine the capital market effect on economic development in India. The determinants considered in this topic are data of Nifty ,Gross domestic product, Index of industrial production , foreign direct investment ,Saving bank balances of commercial banks with Reserve Bank of India, Foreign Institutional Investments.

The equity market in India contributes to 9 years data that is data of the period 2004-2005 to 2012-2013. India being the second largest and fastest growing economy in the BRICS countries (Brazil, Russia, India, China and South Africa) is still not a developed nation and the reason for this is examined in the study with emphasis on capital market.

KEY WORDS: Business Growth rate, foreign reserves and Initial public offering, Index of industrial production, Market capitalization, Number of companies (IPO's) in India.

INTRODUCTION:

A capital market is a market where the buying and selling of long-term debt- or equity-backed securities take place. The capital market is a highly specialized and organized financial market and is essential agent of economic growth and development because of its ability to facilitate and mobilize saving and investment continuously and instantaneously (without incurring significant cost) of companies or governments making long-term investments. Capital markets facilitate the allocation of funds between savers and borrowers. Capital Markets help investors to earn returns based on their risk taking capacity.

The capital market consists of number of individuals and institutions (including the government) The stock exchange, commercial banks, co-operative banks, saving banks, development banks, insurance companies, investment trust or companies ,etc., are important constitutes of the capital market.

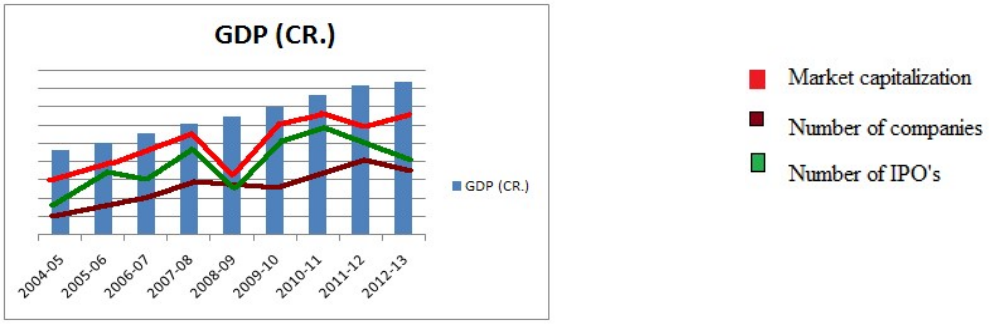
The Capital markets consist mainly of two types Debt or bond market and equity or stock market. Debt markets are the markets for fixed income securities that is investments beyond a year where the cash flows are according to a predetermined amount of interest, paid on a fixed schedule. Examples of debt instruments are mortgages, promissory notes, bonds, and Certificates of Deposits etc. Equity or stock market where trading of company stock (shares) takes place. Through stock market the companies get capital which they can access and investors get potential gains based on the company's future performance.

The capital market plays an important role in the development of an economy or an country because through capital Markets idle money in the economy are put to most productive use that is economy savings are moved to borrowers of huge capital through capital Markets or through Banking Financial. Capital Markets also assists the Government to close resource gap, and complement its effort in financing essential socio-economic development, through raising long-term project based capital. Capital markets provide an India for global and foreign portfolio investors, which is critical in supplementing the low domestic saving ratio. Capital Markets facilitates investors to earn returns based on their risk taking ability.

Table 1: Market Capitalization Growth comparison with Indian GDP (2004 to 2013):

YEAR	GDP (cr.)	Market Capitalization (cr.)	% of m.cap of GDP	No. of comp's established.	No. of IPO'S	% change of GDP	% change of market value
2004-05	92900	1585585	5.86	970	20	-	-
2005-06	101700	2813201	3.62	1069	71	1.095	1.774
2006-07	111400	3367350	3.31	1228	65	1.095	1.197
2007-08	121800	4858122	2.51	1381	74	1.093	1.443
2008-09	130000	2896194	4.49	1432	14	1.067	0.596
2009-10	140900	6009173	2.34	1470	39	1.084	2.075
2010-11	153900	6702616	2.30	1574	44	1.092	1.115
2011-12	163600	6096518	2.68	1646	25	1.063	0.910
2012-13	168100	6274560	2.68	1666	8	1.028	1.029

Table 2: The table indicates the averages of gross domestic product, the market capitalization data, the number of listed companies and the number of initial public offering.



The above table is represented in the form of a graph where GDP is represented in the form of bar graph (blue), market capitalization data which is represented in red, number of companies which is represented in brown and the number of IPO's indicated in green.

OBJECTIVES OF THE STUDY:

The specific objectives of the study are as follows

1. To evaluate the performance of capital market in relation to the economic growth.
2. To examine the operations of the Indian capital market.
3. To examine the rate at which stocks are issued on the capital market.
4. To make recommendations as to how the operations of the market could be improve to boost the development in India.

NEED FOR THE STUDY:

1. To understand the reason why Indians continue to be underinvested in the stock market.
2. Though Indian saving rate being as high as 30 % the reason why only about 3 % invest in stock market.
3. To study the reason why Indian markets are not reflecting the actual performance of Indian economy.

LIMITATIONS:

1. The data has been collected for period 9 years i.e., 2004-2013
2. The variables have been considered as an average figure.
3. The study considers GDP as an economic scale but they also exists many scales to measure economic development.
4. India being the fourth largest economy in the world due to a strong economic growth but still has a low per capita income.
5. 2004 & 2005 IIP data value is not included for the analysis.

LITERATURE REVIEW:

Garretsen, Lensink and Sterken in his study found out a causal relationship between economic growth and financial markets development and observed a 1% improvement of economic growth determines a 0.4% rise of market capitalization/GDP ratio .Yet, according to their results; market capitalization/GDP ratio does not represent a significant determinant of the economic growth.

Lundberg and Majnoni found a positive correlation between capital market development which was measured by a dummy variable computed to reflect if the market capitalization exceeds 13.5% of GDP and economic growth.

Bose made a financial model that explains the positive correlation between two variables that is stock market development and economic growth; the model is based on the hypothesis that for

levels of GDP per capita higher than a certain threshold the information costs become lower than bankruptcy costs, determining the development of capital markets.

Minier's study analyzed the influence of the stock market dimension on economic development by regression tree techniques who found evidence that the positive influence of stock market development on economic growth held only for developed stock markets in terms of turnover, in the case of underdeveloped stock markets the influence is negative.

Ergungor analyzed the impact of financial structure on the economic growth on the period 1980-1995; he concluded that in countries with inflexible judicial systems the stronger impact on economic growth is generated by the development of the bank system, whereas in countries with greater flexibility of judicial systems the development of the capital market had a stronger influence.

Ben Naceur and Ghazouani in their study on a sample of 11 countries studying the influence of stock markets and bank system development on economic growth concluded that financial development could negatively influence the economic growth in countries with underdeveloped financial systems; they stressed the role of building a sound financial system.

Mohtadi and Agarwal in their study using a panel data examined the capital market and economic growth in developing countries approach that covers 21 emerging markets over 21 years (1977 - 1997), they found that turnover ratio is an important and is statistically insignificant determinant of investment by firms and that these investment in turn are significant determinant of aggregate growth. Foreign direct investment is also found to have a strong positive influence on aggregate growth. The result of their study indicates that both turnover ratio and market capitalization are important variables as determinants of economic growth.

Mishra examined the impact of capital market efficiency on economic growth of India using the time series data on market capitalization, total market turnover and stock price index over the period from the first quarter of 1991 to the first quarter of 2010. Their study reveals that there is a linkage between capital market efficiency and economic growth in India. This linkage is established through high rate of market capitalization and total market turnover. The large size of capital market as measured by greater market capitalization is positively correlated with the ability to mobilize capital and diversify risk on an economy wide basis. The increasing trend of market capitalization in India would certainly bring capital market efficiency and thereby contribute to the economic growth of the country.

EMPIRICAL STUDY:

This study relates to 9 years data i.e., for the period of 2004-2005 to 2012-2013 that is data of Nifty, Gross Domestic product, Index of Industrial production, Foreign Direct Investment, Market capitalization, Number of companies(IPO'S), Saving bank balances, FII and Foreign reserves.

RESEARCH METHODOLOGY:

The study is performed on a monthly data for a period of 96 months for each variable. Data obtained is subject to various statistical tools like

Average

Average is a value within the range of the data that represents all the values in the series. The value which lies between the two extreme observations (i.e., the smallest and the largest observation) of the distribution gives us an idea about the concentration of values in the central part of the distribution Known as Average or measure of central value.

Formula:

$$\text{Average} = \frac{\sum \text{Sum of all the values}}{\text{Number of Values}}$$

Correlation analysis

Correlation is the relationship between two variables where with the change in the value of one variable, the values of the other variable also change. Correlation determines the degree of relationship between variables.

Correlation can be either positive or negative

Formula:

$$r = \frac{n(\Sigma xy) - (\Sigma x)(\Sigma y)}{\sqrt{[\, n\Sigma x^2 - (\Sigma x)^2 \,][\, n\Sigma y^2 - (\Sigma y)^2 \,]}}$$

Where

N= Number of pairs of values, Σxy = Sum of products of x and y
Σx = sum of x , Σy = sum of y, $\Sigma x2$ = sum of squares of x, $\Sigma y2$ = sum of squares of y

Regression analysis

Regression analysis is statistic tool with the help of which prediction can be made of the unknown values of one variable from the known values of another variable. Regression analysis tries to examine the nature of relationship between variables.

Formula:

$$Y = a + bX$$

$$b = \frac{N\sum XY - (\sum X)(\sum Y)}{N\sum X^2 - (\sum X)^2} \qquad a = \frac{\sum Y - b\sum X}{N}$$

Where,
N = number of observations, or years
X = a year index (decade)
Y = population size for given census years

Kurtosis

Kurtosis is statistical tool to measure of the "peakness" of the probability distribution of a real-valued random variable.

Formula:

$$\text{kurtosis} = \frac{\sum (X-\mu)^4}{N\sigma^4} - 3$$

Skewness

Skewness is used when a series is not symmetric.

Formula:

$$Skewness = \frac{\sum (y_i - y)^3}{(n-1)^3}$$

DATA ANALYSIS:

Table 2: The table shows decision table for analysis

0 - 0.3	Slightly correlated	
0.3 - 0.7	Moderately correlated	Kurtosis , Skewness
0.7 - 1.0	Highly correlated	Regression analysis

In the study when correlation of any two variables is between 0.1 and 0.3 then it is slightly correlated and hence not considered and if the variables correlation is between 0.3 and 0.7 then it is moderately correlated and for this we found out skewness and kurtosis for the variables. And if the variables correlation is between 0.7 and 1 then we found regression for the variables.

Table 3: This table shows overall correlation of various variables:

In this table various determents are 1.Nifty 2.Gross Domestic product 3.Index of Industrial production 4.Foreign Direct Investment 5. Number of companies (IPO's) 6.Saving bank balances 7.FII 8. Foreign reserves 9.Market Capitalization.

	1	2	3	4	5	6	7	8	9
1	1								
2	0.91204	1							
3	0.91073	0.864989	1						
4	0.78021	0.838412	0.82936	1					
5	-0.13527	-0.462102	-0.07478	-0.43794	1				
6	0.90982	0.953506	0.86848	0.91105	-0.41949	1			
7	0.64776	0.645684	0.43707	0.22902	-0.12852	0.46655	1		
8	0.87345	0.968606	0.86380	0.91642	-0.53898	0.95136	0.51768	1	
9	0.95078	0.898332	0.84898	0.67749	-0.11070	0.83458	0.81655	0.82212	1

From table- 3, it has been observed in the above table that all economic variables are having correlation with other variables. In the above table red colour values are indicating strongly correlated between the economic variables. Whereas, blue colour indicates moderately correlated and rest of the black color figures indicates slightly correlated with the help of the above analysis the variables which got strongly correlation, to predict the future movement regression and T-Test Hypothesis has been applied. Skweness and Kurtosis has been applied for the moderately correlated economic variables.

Table 4: The table indicates the t and p test values of highly correlated data:

Sl.No	VARIABLES	t stat (calculate value)	Accepted/Rejected	P value	Significance/Not Significance
1	NIFTY & GDP	4.514795	Reject	0.004039847	Significant
2	NIFTY & IIP	5.949632	Reject	0.001008111	Significant
3	NIFTY & FDI	2.122114	Reject	0.078055077	Significant
4	NIFTY & Saving Balance	4.375536	Reject	0.004690816	Significant
5	NIFTY & F Reserves	3.464290	Reject	0.013396877	Significant
6	NIFTY & M.Captalization	6.016696	Reject	0.000950569	Significant
7	GDP & IIP	9.725915	Reject	6.78511E-05	Not Significant
8	GDP & FDI	2.935976	Reject	0.026083648	Significant
9	GDP & Saving Balance	6.420884	Reject	0.000673867	Significant
10	GDP & F Reserves	7.957539	Reject	0.00020956	Significant
11	GDP & M.Captalization	4.018082	Reject	0.006974023	Significant
12	IIP & FDI	3.662268	Reject	0.010550915	Significant
13	IIP & Saving Balance	9.283827	Reject	8.83396E-05	Not Significant
14	IIP & F Reserves	8.404664	Reject	0.000154578	Significant
15	IIP & M.Captalization	4.135057	Reject	0.006112312	Significant
16	FDI & Saving Balance	4.352272	Reject	0.004810686	Significant
17	FDI & F Reserves	4.532631	Reject	0.003964083	Significant
18	Saving Balance &	6.246829	Reject	0.000779834	Significant

	F. Reserves				
19	Saving Balance & M.Captalization	2.850601	Reject	0.029158643	Significant
20	FII & M.Captalization	4.994754	Reject	0.002465189	Significant
21	F Reserves & M.Captalization	2.703622	Reject	0.035405027	Significant

The above table shows the hypothesis test of T & P for the various economic variables. In the above table T-Hypothesis test is rejecting the Null Hypothesis for all the economic variables an accepting the alternative hypothesis, which indicates that all the economic variables are not completely influenced by the other highly correlated economic variable. P-Hypothesis is significant for all the variables except GDP vs IIP and IIP vs Savings Balance.

Table 5: The table indicates the skewness and kurtosis of variables that moderately correlated. That is the data whose correlation lies between (0.3 to 0.7).

Variables	Skewness	Kurtosis
Nifty/FII	0.414374	1.159838
GDP/FII	0.228917	-1.85496
GDP/No. of comp	0.220557	-1.902537
IIP/FII	1.064304	0.130133
FDI/No. of comp	0.826618	-0.999515
FDI/M.Cap	0.632234	-1.33149
No. of comp/S.Bal	0.664507	-1.25981
No. of comp/F.Reserves	0.482729	-1.542922
S.Bal/FII	0.891035	0.682125
FII/F.Reserves	0.486572	-1.53702

The above table economic variables were moderately correlated for that Skweness analysis has been applied, except IIP vs FII all the economic variables are unsymmetric values because, the calculated values of Skweness is below than 1. IIP vs FII is symmetric the calculated value is more than 1. The Kurtosis analysis is found to be platykurtic, the calculated values were falling below the base value of the 3.

Table 6: This table indicates the regression for the data that is highly correlated that is 0.7 to 1.

VARIABLES	Regression value(y=a+bx)	Future Prediction
NIFTY & GDP	172339	Exp.to go upside
NIFTY & IIP	198	Exp.to be flat
NIFTY & FDI	10456	Exp.to go down
NIFTY & Saving Balance	4175	Exp.to go upside
NIFTY & F Reserves	1596268	Exp.to go upside
NIFTY & M.Captalization	6275646	Exp.to go upside
GDP & IIP	198	Exp.to be flat

GDP & FDI	16541	Exp.to go down
GDP & Saving Balance	25941	Exp.to go down
GDP & F Reserves	1633395	Exp.to go upside
GDP & M.Captalization	6295074	Exp.to go upside
IIP & FDI	10174	Exp.to go down
IIP & Saving Balance	3133	Exp.to go upside
IIP & F Reserves	1594594	Exp.to down
IIP & M.Captalization	6274606	Exp.to go upside
FDI & Saving Balance	6587	Exp.to go upside
FDI & F Reserves	1600414	Exp.to go upside
Saving Balance & F Reserves	1595846	Exp.to go upside
Saving Balance & M.Captalization	6275226	Exp.to go upside
FII & M.Captalization	6278489	Exp.to go upside
F Reserves & M.Captalization	6535222	Exp.to go upside

Conclusion & Recommendations:

Current economic position of the country is deteriorating day by day; INR got depreciated more than 75% since 5 years which is influencing current account deficit more than 62 % in the 2012 & 2013 Fiscal Year which is putting lot of pressure on the Indian economy and its external commercial borrowings. The fiscal deficit is currently standing at 4.8% of the G.D.P. which is expected to get wider in the coming quarters of the financial year. The stock markets were trading at P/E ratio is around 20 %. This data show that current stock markets are not trading on fundamentals with exact valuations, these prices are inflated by the FII fund flows. To find the role of a capital market in economic development of India this model has been formulated which we linked to capital markets (equity) performance factors to GDP, IIP, FII, FDI and Market capitalization.

i) It has been observed that after liberalization and privatization in the country NSE got incepted in the year 1993; India's actual growth started and many companies' opted stock markets for capital mobilization.

ii) Indian investors are still in nascent stage when it comes to investments in capital markets. In the year 2013 less than 5.5% of the Indian population are having demat accounts; whereas the developed country's 95% citizens will have the demat accounts. So there is a need to inculcate the professional investment knowledge by the market regulator SEBI and govt. of India.

iii) India is attracting the FII funds more than other countries among the BRICS nations. Flows of FII funds need to be regulated by the SEBI. India needs to adopt rules like china where it has imposed lock in period of 1 year for foreign institutional investor funds.

iv) India should ban the funds which are routed to stock markets through P-notes. FII's are dominating the Indian markets; when ever their flow of funds are more with DII's indices are moving according to positive region.

v) In the year 2003-04 stock market capitalization was 3.77% of the GDP but in the year 2012-2013 it has grown to 12.8% of the Indian GDP. In spite of the downside of the gross domestic production market capitalization has gone up by 4 times.

vi) It has been suggested to improve the primary market in India. 70% of IPO listed companies had given loss after listing in the exchange. SEBI should reduce the IPO processing days from 12 to 6 days.

vii) SEBI should introduce 24 hours trading for F&O segments. FII's can take the advantage of the timing so that serious investors can participate in the Indian markets.

viii) It has been suggested to encourage the companies to be listed in the national level stock exchanges by liberalizing the listing norms to the companies without compromising the retail investor's interest.

ix) SEBI need to be vigilant and proactive in protection of retail category 35% in the primary market. We suggest IPO should be available for trading in pre-open session's segment (i.e. 9.00-9.15) only on the listing day.

x) There is a wide consensus that the market is evolving but Indian system has attained the minimum level of strength and efficiency to be counted among the BRICS and the best in the world. It can be safely being said that patterns and signals of the stock exchanges are reacting to global cues.

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