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The Impact of Stock Market on Growth of Industry in India during Post Reform Periods

Dr.Gangaraju S

Assistant Professor, Deparatment of Economics, Government First Grade College, Harihara

Indian Stock market performs multitasks and help the cause of industrial development and economic growth. It helps to raise capital for enterprises, mobilizes savings for investment, facilitates the growth of the enterprises, create investment opportunities for small investors and facilitates rising of capital for various projects. The stock exchange facilitates the industrial growth by providing finance for the enterprises. A well developed and ably regulated stock market facilitates sustainable development of the country in general and industry in specific, by providing long run funds in exchange for financial assets to the inverters. It creates market for company's shares. It also helps in increasing the esteem and status of the company. The stock exchanges also promote the company by creating public interest in it with additional fund by means of issuing new shares or other securities.

Industrialization or perish is the development mantra Sir M Visvesvaraya gave to India. But the path to industrialization is not an easy path, It requires lost of infrastructures including that of finance. The growth of the Corporate Industrial sector, apart from its own savings depends on the inflow of financial resources into it. The importance of financial sector to industrial growth as well as economic growth is debated by various economists. Some economists like Robinson (1952), Lucas (1988) do not consider financial system as important tool for economic growth. John Robinson stated 'where enterprise leads, finance follows' but economists like Bagehot (1911) Schumpeter (1911), Demirguc-Kunt and Maksimovic were fully convinced of the importance of financial sector in economic growth. As the financial system becomes strong, the stock market becomes more active and becomes important segment in financial sector.

BSE is the biggest stock exchange of India. It represents the stock market development of India. The turnover of Bombay stock exchange at cash segment was 45,696 Crore in during 1992-93 which increased to 13,38,225 Crore In 2021-22. The market capitalization of BSE was 3,23,363 Crore in 1991-92 which increased to 2, 64, 06,501 Crore in 2021-22. Sensex which reflect the pulses of stock market was 1842 points in 1991-92 which increased to 55775 points in 2021-22. And industrial production which determine the economic growth of Indian economy was 3,25,150 crore in 1991-92 which increased to 37, 49,971 crore in 2021-22

Statement of the problem

The issue of whether the stock market growth has the bearing on industrial growth or otherwise has to be tested as there have been many contrasting observations as some economists like Mayer (1988) who observed that only small fraction of corporate investment is financed through equity issues. Hence there is no much impact of on the industrial growth while others like Levine; Zervos (1988) founds the positive impact of stock market on industrial growth and thereby economic growth. Hence in order to test the stock market influence on the industrial growth the granger causality test was done to ascertain the existence of unidirectional relations or otherwise between the economic growth and industry.

Objectives

The important objectives of the study are;

1. To review the stock market and industrial production scenario in the country during the post reform period
2. To assess the influence of stock market on industrial growth

Hypotheses

1. H_1 = Stock market growth is not correlated with industrial growth in India
   H_0= stock market growth is correlated with industrial growth in India
2. H_1 =IP is not influencing Market Capitalization, Gross Market Turnover and Sensex
   H_0=IP is influenced by Market Capitalization, Gross Market Turnover and Sensex

Methodology

This study is based on the secondary sources of data and review the historical as well as current information. The data is collected from SEBI's, Annual reports of various years, SEBI's Hand Book of statistics on Indian Securities Market, RBI's Annual reports of various years, RBI's, Hand Book of Statistics of Indian Economy of various years and Government of India's Economic Survey of relevant years, Journals and Articles. In order to analyze the data, apart from regular tabular analysis, percentages, averages. Standard statistical tools like simple and multiple regression analysis, ANOVAs, is used to derive analytical inference with respect to the objectives of the study. The 31 years data from 1991-2022 has been considered for the analysis.

Development of Industrial sector after post economic reform period

The year 1991 ushered a new era of economic liberalization. The License Control Raj was removed as several barriers to entry were removed. The system of widespread industrial licensing which required Government permission for establishment, extension, expansion, utilization of surplus capacity, was abolished. Licensing limited to small list of industries, due to strategic environmental and pollution deliberation. The corresponding but separate controls over investment and expansion by large scale industrial houses through the Monopolies and Restrictive Trade Practices (MRTP) Act have also been abolished. FERA was replaced with FEMA Companies Act was thoroughly amended to that it is simplified modernized in tune with changing time and liberalization in the background. Liberalization of trade and exchange rate policies, rationalization and reduction of customs and excise duties and personal and corporate income tax etc. Industrial sector showed signs of higher growth from 1991-92, it is explained below table.

Table No.1

Year	Industrial production in constant price (in crore)
1991-92	325150
1992-93	336716
1993-94	357237
1994-95	389903
1995-96	436863

1996-97	468146
1997-98	483585
1998-99	504485
1999-00	535730
2000-01	570571
2001-02	585971
2002-03	627374
2003-04	676833
2004-05	744755
2005-06	824272
2006-07	928626
2007-08	1023998
2008-09	1071681
2009-10	1173089
2010-11	1262722
2011-12	2373988
2012-13	2458558
2013-14	2561081
2014-15	2733213
2015-16	2993343
2016-17	3219288
2017-18	3413837
2018-19	3668368
2019-20	3605490
2020-21	3359718
2021-22	3749971

Source: Economic survey 2021-22

After liberalization industrial sector showed signs of gradual growth from 1991-92, to 2018-19. Amount 325150 crore in 1991-92 and moderate increase year by year to 3749971 crore in 2021-22 in constant price provisional estimates by NSO, reason for slow growth are Sudden exposure to foreign competition, slowdown in investment sluggish growth in demand and exports The bottlenecks in infrastructure falling business confidence in face of global uncertainties and political factors, firm commodity prices amidst inflationary pressures, tightening of monetary conditions and weak supply response.

Distribution of Turnover at Cash Segment of BSE

It is the barometer of the size of the stock market and market value of investors' wealth. The turnover signifies market liquidity which is calculated by dividing the total number of shares traded over a period by the average number of shares outstanding for the period. The higher the share turnover, the more liquid is the share of the company.

Table No. 2

YEAR	Turnover (Rs. Crore)
1991-92	71,777
1992-93	45,696
1993-94	84,536
1994-95	67,749
1995-96	50,063
1996-97	124,284
1997-98	207,644
1998-99	311,999
1999-00	685,028
2000-01	1,000,032
2001-02	307,292
2002-03	314,073
2003-04	503,053
2004-05	518,715
2005-06	816,074
2006-07	956,185
2007-08	1,578,857
2008-09	1,100,074
2009-10	1,378,809
2010-11	1,105,027
2011-12	667,498
2012-13	548,774
2013-14	521,664
2014-15	854,845
2015-16	740,089
2016-17	998,261
2017-18	1,082,968
2018-19	775,590
2019-20	578,924
2020-21	1045090
2021-22	1338225

Source: Hand book of Statistics of the Indian Security market-2022, SEBI

The above table presents distinction of turnover at cash segment of BSE. It shows a sustained increase in the turnover on Bombay stock exchanges which from Rs. 71777 Crore during 1991-92 and it increased to Rs. 1578857 Crore during 2007-08. Unfortunately since then 2009-10 it kept on declining and it reached Rs. 1338225 crores in 2021-22.

7. Market Capitalization of BSE

The market capitalization, is the total value of the issued shares of a publicly traded company; it is equal to the share price times the number of shares outstanding. It could be used as a proxy for the public opinion of a company's net worth and is a determining factor in some forms of stock valuation. It is the barometer of the size of the stock market and market value of investors' wealth.

Table No. 3

YEAR	Market capitalization (Rs. Crore)
1991-92	323,363
1992-93	188,146
1993-94	368,071
1994-95	468,837
1995-96	563,748
1996-97	505,137
1997-98	630,221
1998-99	619,532
1999-00	912,842
2000-01	571,553
2001-02	612,224
2002-03	570,568
2003-04	1,201,206
2004-05	1,698,428
2005-06	3,022,190
2006-07	3,545,041
2007-08	5,138,014
2008-09	3,086,075
2009-10	6,165,619
2010-11	6,839,084
2011-12	6,214,941
2012-13	53,48,645
2013-14	74,15,296
2014-15	1,01,49,290
2015-16	94,75,328
2016-17	1,21,54,525
2017-18	1,42,24,997
2018-19	1,51,08,711
2019-20	1,46,87,010
2020-21	2,04,30,815
2021-22	2,64,06,501

Source: Hand book of Statistics of the Indian Security market-2022, SEBI

The Table presents the BSE market capitalization that had a compound growth of from 1991-92 to 2019-20. The market capitalization of BSE was Rs. 323363 Crore in 1991-92 which increased to 2,64,06,501 Crores in 2021-22. There was negative growth rate in 1992-93, 1996-97, 1998-99, 2000-01, 2002-03, 2008-09,2015-16 and 2019-20 But as a whole the market capitalization is doing well. The growth rate was 110.53 percent in 2003-04. The highest growth was in 2003-04 where the growth was 110.53% followed by 2009-10 where to growth 99.79%. The market capitalization has grown over the period indicating that more companies are using the trading platform of the stock exchanges. It is the barometer of the size of the stock market and market value of investors.

Annual Average of Shares Prices Indices of BSE Sensex

Table 4

YEAR	SENSEX
1991-92	1,842
1992-93	2,896
1993-94	2,892
1994-95	3,977
1995-96	3,289
1996-97	3,468
1997-98	3,812
1998-99	3,295
1999-00	4,659
2000-01	4,270
2001-02	3,332
2002-03	3,206
2003-04	4,492
2004-05	5,741
2005-06	8,280
2006-07	12,277
2007-08	16,569
2008-09	12,366
2009-10	15,585
2010-11	18,605
2011-12	17,423
2012-13	18,202
2013-14	20,120
2014-15	26,557
2015-16	26,322
2016-17	27,338
2017-18	32,397
2018-19	38,990
2019-20	42,274
2020-21	40826
2021-22	55775

Source: Hand book of Statistics of the Indian Security market-2022, SEBI

The table presents the annual average of share price increases inthe Bombay Stock Exchanges' 30-share Sensitive Index (Sensex) was1842 points in 1991-92. It reached to 3977 points in 1994-95 due to increase inflow of foreign funds and increase in investors' confidence. The union budget of 1999 brought cheers to the market. The Sensex stimulated up to 4659 points in 1999-00. The trend got reversed during 2000-01, which witnessed large sell-off in stocks due to worldwide market slow down and deceleration in the growth of the domestic economy. This brought down Sensex to 3206 at the end of 2002-03. Further Sensex points was rapidly goes on increase due to taken government improvement measure 55775 recorded at 2021-22.

1) The model is fitted to know whether the stock market influences GDP. In this model Market Capitalization factors (MC), Gross market turnover (GMT), Sensex, GDP are considered. In order to test the economic growth, GDP is identified as dependent on which are independent Sensex, GTO, and MC.
   The model is written as
   GDP= f (MC, GTO, SEN)

Multivariate Regression Model

In order to test the impact of stock market on industries the following model has been formed. In this model industrial production is dependent and market capitalization, gross market turnover and Sensex are independent variable. This Model presumes that Industrial production depends upon Sensex, Market turnover, and Market capitalization.

The model is written as;
IP= f (MC, GMT, SEN)
Where,
LIP= log Industrial Production
LMC = log Market capitalization
LGTO= log Gross Market Turnover
LSEN= log Sensex

In order to make the operation easier to handle the log of all the variables are taken, then

$$LIP = \alpha 0 + \alpha 1\ MC + \alpha 2\ GMT + \alpha 3\ SEN$$

Results of Regression Estimation

Variable	Coefficient	Std.Error	t-Statistic	Prob.
Constant	1.569	0.259	6.051	.000
LMC	0.393	0.181	2.163	.045
LGTO	0.203	0.073	2.765	.013
LSEN	0.177	0.256	0.691	.593
R^2	0 .939	Durbin-Watson		1.692
R^{-2}	0.928			

ANOVA(c)

Dependent Variable: LIP

Model		Sum of Squares	d.f	Mean Square	F	Sig.
1	Regression	2.221	3	.740	87.535	.000(a)
	Residual	.144	17	.008		
	Total	2365	20			

Discussion of the Result

The calculated F value is 87.535 with a corresponding value of .000 which states that it is significant at 5% level. Hence the overall fitness of the model is justified.

The value of R square is .939 which is nearing to one indicating that regression model is a good fit. The data implied that 93.9% of variance of the Industrial Production has been explained by the repressor of Market Capitalization, Gross Turnover and Sensex. The adjusted R square is 0.928 which means that about 92% of the variation in the observed behavior in dependent variable GDP. In order to test the presence of auto correlation Durbin Watson statistics was done which came to 1.692 which indicated that the problem of autocorrelation is fairly solved.

Industrial Production=a (1.569) + (.393) MC + (0.203) GTO + (0.177) SEN

(6.051) (2.163) (2.765) (0.691)

The model reveals that 1 percent increase in market capitalization will lead to increase in Industrial Production by 0.39 percent. The one percent increase in Gross Market Turnover will lead to an increase in Industrial Production by 0.20 percent. Where as one percent increase in Sensex will lead to an increase in Industrial Production by 0.17 percent

The findings of the study reveal that stock market positively influences the Indian Industrial Production. Hence the hypothesis that stock market is not related with industrial growth in India is rejected and null hypothesis that states stock market growth is correlated is accepted. Market Capitalization and Gross Market Turnover has the higher influence than Sensex.

Conclusion

The stock market help the industrial growth as it gives finance for the enterprises, creates market for company's shares. It also helps in increasing the esteem and status of the company. The stock exchange also helps to creates public interest in the company and thereby its products. It also helps the company with additional fund by means of issuing new shares or other securities. The findings of the study reveal that stock market positively influences the Industrial production Market Capitalization and gross turnover has the higher the influence. The global financial crisis impacted majority of the economies, but very few escaped from the wrath of crisis, of them India is one of the major country, as it has higher immunity to resists global melt down. The government of India, RBI, and SEBI guarded the capital market and Indian economy. BSE contribute almost the entire stock market turnover, market capitalization in India. Both the market is doing well and the volatility of market is the least in the world.

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