



# EMPIRICAL ANALYSIS OF THE INDIAN CAPITAL MARKET AND IT'S IMPACT ON ECONOMIC GROWTH

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## Abstract

This paper aims to investigate how capital market has affected the Indian economic growth between 2013 and 2023. The performance of the capital market acts as a stimulant for the expansion and growth of an economy. One of key elements in the process of any country's economic development has been its capital market. The data from BSE, NSE and MSEI was used to analyse the influence of market capitalisation growth rate and its impact on the country's GDP growth rate. Applying regression analysis, it shows that capital market and economic growth are co-integrated and the P values were significant at 1% confidence level. This shows quite clearly how much of a positive influence the Indian capital market has on the nation's economic expansion. As a result, it is advised that the regulatory body start implementing laws that would enable more businesses to enter the market and also take a more active role in conducting surveillance to prevent unscrupulous activities that damage the integrity of the market and destroy investor confidence.

The present study is significant to evaluate and prove statistically about the impact of Indian capital market on the growth of economy.

**Keywords:** Economic growth, Capital market, GDP, BSE, NSE, Market Capitalization.

## 1. INTRODUCTION

The capital market is regarded as a sophisticated network of financial institutions that are specialised in their operations. It is made up of a variety of infrastructure, processes, and mechanisms that assist suppliers and investors in medium- and long-term enterprise financing in order to increase capital for investments in the form of socio financial development projects. To increase the economic growth, access to capital markets were found to be most predominant factor. Through the support of capital market, the individual households as well as organizations can receive advantage from flow of income, savings and credit, other financial services. One of the best tools for creating economic opportunity is the financial sector, but it's also critical to understand that having access to money is crucial to lowering poverty. Many economic elements influence India's sustainable development and economic growth. The country's capital market has been one of the important areas in economic development process.

The capital market has risen tremendously in terms of investors base and the volume in the last decade. The advancement in the technology as well as sustainable governance policies have been contributing significantly to this growth. The previous fifteen years have seen stable governments providing favourable backing, opening up a wealth of opportunities for international businesses and prospective investors to explore and take advantage of the notable advancements in the Indian capital market. Especially, the equity market has been one of the principal contributors to the nations GDP. According to the World Bank press release dated October 3, 2023, stated that, with 7.2 percent growth, India's economy was among the fastest growing global economies in financial year 2022-23. Growth rate of India is over double that of emerging market economies and ranked second among G20 countries. Strong domestic demand, growing financial sector, significant investments in public infrastructure served as the foundation for this resiliency.



## 2. REVIEW OF LITERATURE

Several studies have explored the intricate relationship between capital market development and economic growth, highlighting different dimensions such as market capitalization, stock market prices, and the role of financial innovations. Mogaka J Omoke (2019) identified a positive correlation between GDP and stock market prices, concluding that market capitalization, trading volume, and price fluctuations in the stock market significantly influence economic growth. Similarly, Devi M and Hinduja (2019) and Yoon Je Cho (2020) examined the impact of market capitalization on India's GDP and emphasized the importance of government-guaranteed bonds in supporting Indian companies to take risks and venture into new projects, which in turn contributes to economic expansion. Nahla Samargandi Faisal Alqahtani (2020) reiterated the role of government-backed bonds in boosting Indian enterprises, particularly when taking significant risks for new initiatives. Nyamwero Bwire Nyamwero (2021) explored how changes in economic growth, including factors like GDP growth, inflation, money supply, and fiscal deficits, affect the stock market, highlighting the major influence of these economic indicators on capital market trends. Ramji Gautam and Jeevan Kumar (2021) examined the relationship between economic growth and stock market development, finding a long-term, one-way causal link, with market capitalization as a key indicator of stock market efficiency and growth. KumarYathish Kulal and Abhinandan (2022) analyzed the evolving dynamics of India's stock market, linking financial innovations to the capital market's growth process and suggesting that the effective implementation of these innovations is essential for the market's development. Akshaya Kamalnath (2022) highlighted the positive relationship between capital market performance and financial development, showing that growth in the financial sector leads to broader economic growth, while further financial sector expansion enhances economic contribution.

From the survey on literature, it is observed that, despite various studies have concentrated on economic growth in India and capital market performance in India, there is a research gap exists particularly in the area of capital market influence on economic growth in India.

## 3. NEED FOR THE STUDY

There has been a very wide distribution of investors participating in capital markets notwithstanding the uncertainty and difficulties with the capital market flows. An increase in capital market investments has made funds available for business expansion. This enhancement in the investments payed way to the economic growth of the country. The current study is important since it assesses and statistically validates the impact of the capital market on India's economic expansion.

## 4. OBJECTIVES OF THE STUDY

The primary objective of the research study is to determine the performance of the capital markets and the Economic Growth of India. More specifically, the study covers the following sub objectives.

1. To evaluate the impacts of market capitalisation of BSE on GDP growth rate.
2. To evaluate the impact of market capitalisation of NSE on GDP growth rate.
3. To analyse the proportion of value of shares traded in Stock Exchanges to Gross National Disposable Income.
4. To analyse the resources procured from Primary Market under different categories.

## 5. METHODOLOGY OF THE STUDY

The study is based on secondary data sources. The required data is gathered from the reports of SEBI, RBI, data from select stock exchanges and reports of ASSOCHAM and data from net sources. Select statistical techniques such as mean, standard deviation, Co-efficient of Variation, compound annual growth rate are used for analyzing the year wise trends in the performance of various financial variables. Further, correlation and regression analysis applied to analyze the relationship and impact of independent variables on dependent variables.

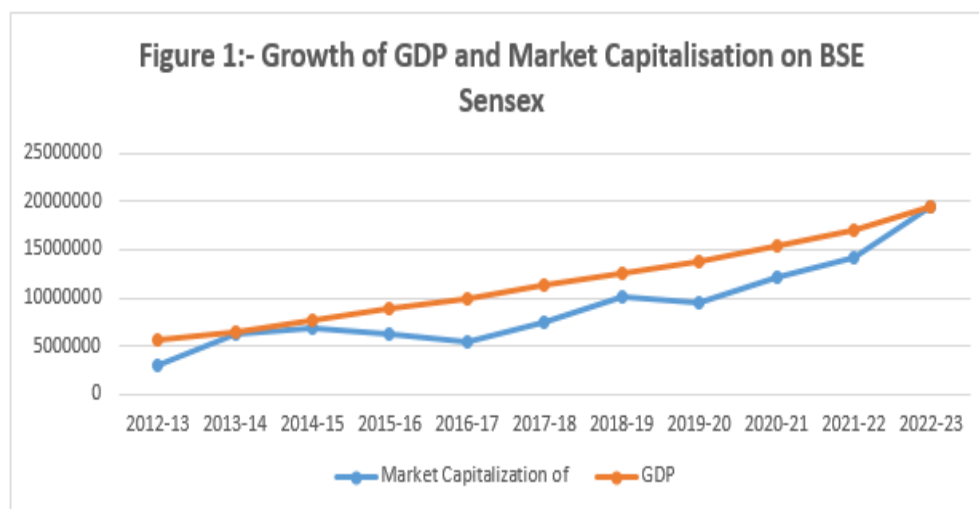
### 5.1 Study on Impact of Market Capitalisation of BSE on GDP Growth rate

From the table-1, it was observed that, Market Capitalisation value of BSE has increased from Rs.3086075 crores to Rs. 19525554.00 crore in between 2012-13 to 2022-23 period. The growth rate varies in between -13.94 percent to 99.79 percent. Highest growth rate is observed during 2013-14 and the least growth is observed during 2016-17 period.

**Table 1: Impact of Market Capitalisation of BSE on GDP Growth rate**

Period	Market Capitalization of BSE (crore)	Growth rate	GDP	Growth rate	Proportion of Market Capitalisation of BSE to total GDP
2012-13	3086075		5630063		51.44
2013-14	6165619	99.79	6457352	14.69	93.06
2014-15	6839084	10.92	7674148	18.84	87.34
2015-16	6214941	-9.13	8855797	15.40	68.84
2016-17	5348645	-13.94	9944013	12.29	52.62
2017-18	7415296	38.64	11233522	12.97	64.79
2018-19	10149290	36.87	12467959	10.99	79.65
2019-20	9475328	-6.64	13771874	10.46	67.60
2020-21	12154525	28.28	15362386	11.55	77.97
2021-22	14224997	17.03	17095005	11.28	82.15
2022-23	19525554	37.26	19510000	14.13	99.79
Average	9145395.82	-	11636556.27	-	-
STDEV	4697139.45	-	4475276.05	-	-
CV	51.36	-	38.46	-	-
CAGR	20.26	-	13.23	-	-

Source: Accumulated from RBI and SEBI reports from 2012-13 to 2022-23



Source: Compiled from RBI and SEBI reports from 2012-13 to 2022-23

The Compound Annual growth rate in market capitalization value of BSE is 20.26 percent. The Co-efficient of variation is higher in market capitalization value of BSE in comparison with GDP value. The proportion of market capitalization value of BSE to the total GDP varies in between 54.81 to 99.79 percent.

**Table 2: Regression Analysis results**

Summary of the Regression model						
Form	R	co-efficient of determination	Adjusted co-efficient of determination	S.E.E.		
1	.935 <sup>a</sup>	.874	.858	1270557.12448		
a. Repressor: (Invariable), GDP						
ANOVA <sup>a</sup>						
Form		SS	Q	Average of squares	F	P,-value
1	Regression	89194214195721.050	1	89194214195721.050	55.252	.000 <sup>b</sup>
	Enduring	12914523252560.955	8	1614315406570.119		
	Total	102108737448282.000	9			
a. Dep.Var: Market_capitalisation_of_BSE						
b. Regressors: (Invariable), GDP						
Coefficients <sup>a</sup>						
Form	Unidentical regression coefficients		Identical Reg.Co-eff		t	P-Value
	B	Std. Error	Beta.			
(Invariable)	-807805.092	1264887.368			-.639	.541
GDP	.822	.111	.935		7.433	.000
a. Dep.Var: Market capitalization of BSE						

Source: Computed from SPSS result

Results shown in the table- 2, it is clear that, the computed 'r' value is 0.935 and this show that there exists a high degree of positive relationship in between market capitalization of BSE and GDP. The 'r' square computed is 0.874 and this reveal that 87.4 proportionate of the variance is explained by the market capitalization to the GDP. The ANOVA results proved that there is a significant difference in the market capitalization of BSE and the GDP.

The results of regression co-efficient reveal that, 1-unit change in the GDP makes 0.82 units increase in the market capitalization of BSE Sensex. The significant P-value computed is 0.000 which is lesser than 1 percent confidence level.

Market capitalization = f {GDP and other factors} Market capitalization = -807805.09+0.822

From the equation, it is observed that the other constant factors are negatively influencing the market capitalization, however, GDP is more positively influencing the market capitalization.

## 5.2 Study on Impact of Market Capitalisation of NSE on GDP Growth rate

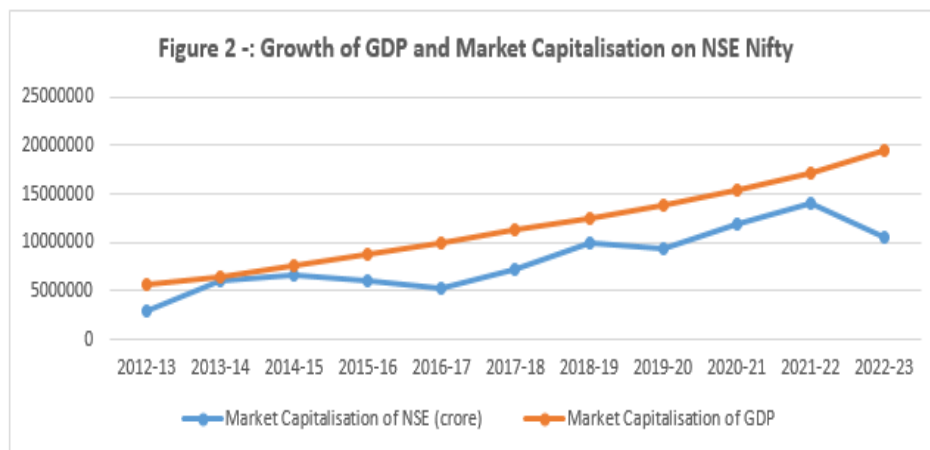
Results shown in the table-3, The average of GDP is Rs. 11636556.3 crore and the standard deviation is Rs. 4475276.05 crore. The proportion of market capitalisation value of NSE to the total GDP varies in between 51.44 to 93.06 percent.

**Table 3: Impact of Market Capitalization of NSE on GDP Growth rate**

Period	Market Capitalisation of NSE (crore)	Growth rate	GDP	Growth rate	Proportion of Market Capitalisation of NSE to total GDP
2012-13	2896194	-	5630063	-	51.44
2013-14	6009173	107.49	6457352	14.69	93.06
2014-15	6702616	11.54	7674148	18.84	87.34
2015-16	6096518	-9.04	8855797	15.40	68.84
2016-17	5232273	-14.18	9944013	12.29	52.62
2017-18	7277720	39.09	11233522	12.97	64.79

2018-19	9930122	36.45	12467959	10.99	79.65
2019-20	9310471	-6.24	13771874	10.46	67.60
2020-21	11978421	28.66	15362386	11.55	77.97
2021-22	14044152	17.25	17095005	11.28	82.15
2022-23	10455526	-25.55	19510000	14.13	53.59
Average	8175744.18	-	11636556.3	--	-
STDEV	3270976.18	-	4475276.05	-	-
CV	40.01	-	38.46	-	-
CAGR	13.69	-	13.23	-	-

Source: Accumulated from RBI and SEBI reports from 2012-13 to 2022-23



Source: Compiled from RBI and SEBI reports from 2012-13 to 2022-23

Results shown in the table, it is clear that, the computed r value is 0.935 and this show that there exists a high degree of positive relationship in among market capitalization of NSE and GDP. The 'r' square computed is 0.875 and this reveal that 87.5 percent of the variance is explained by the market capitalization to the GDP. The ANOVA results showing that there is a significant difference in the market capitalisation of NSE and the GDP.

**Table 4: Results of Regression Analysis**

Summary of the Regression model						
Form	R	co-efficient of determination	Adjusted co-efficient of determination	S.E.E.		
1	.935 <sup>a</sup>	.875	.859	1258657.69510		
a. Regressors: (Invariable), GDP						
ANOVA <sup>a</sup>						
Form	SS	Q	Average of squares	F	P-value	
1	Regression	88601952716234.310	1	88601952716234.310	55.928	.000 <sup>b</sup>
	Enduring	12673753547549.703	8	1584219193443.713		
	Total	101275706263784.020	9			
a. Dep.Var: Market_capitalization_NSE						
b. Regressors: (Invariable), GDP						
Coefficients <sup>a</sup>						
Form	Unidentical regression coefficients		Identical Reg.Co-eff	t	P-value	
	B	Std. Error			Beta	
(Invariable)	-937770.784	1253041.039		-.748	.476	
GDP	.819	.110	.935	7.478	.000	
a. Dep.Var: Market_capitalization_NSE						

Source: Computed from SPSS results

The results of regression co-efficient reveal that, 1-unit change in the GDP makes 0.819 units increase in the market capitalisation of NSE Sensex. The significant P-value computed is 0.000 which is lesser than 1 percent confidence level. Hence, it is to understand that, the impact of market capitalization of NSE Sensex to the GDP is significant.

**Market capitalization** = f{GDP and other factors} Market capitalization = -937770.78+0.819 (GDP)

From the equation, it is observing the other constant factors are negatively influencing the market capitalization; however, GDP is more positively influencing the market capitalization.

### 5.3 Proportion of Value of Shares traded in Stock Exchanges to Gross National Disposable Income(GNDI)

The GNDI represents the total value of disposable income generated in India in a financial year. It presents the value of income that is available to the government for the consumption and gross saving. Among the total GNDI, the proportion of the value of shares indexed in BSE, NSE, MSEI together is computed and displayed in table.

**Table 5: Proportion of Value of Shares trade in Stock Exchanges to Gross National Disposable Income**

Period	Value of Shares traded in Stock Exchanges in India BSE, NSE and MSEI (in crore rupees)	Gross National Disposable income (in crore rupees)	Proportion of Value of shares to Gross National Disposable income
2013-14	21585.28	4531440	0.48
2014-15	33423.91	5180319	0.65
2015-16	28152.91	5949444	0.47
2016-17	22711.15	8964408	0.25
2017-18	22263.97	9116426	0.24
2018-19	20156.38	10293581	0.2
2019-20	32185.34	11383392	0.28
2020-21	29406.47	12575481	0.23
2021-22	33319.1	13974699	0.24
2022-23	44825.67	15534214	0.29
<b>Average</b>	<b>28803.02</b>	<b>9750340.4</b>	<b>0.33</b>
<b>Std Deviation</b>	<b>7582.36</b>	<b>3739134.69</b>	<b>-</b>
<b>CV</b>	<b>26.32</b>	<b>38.35</b>	<b>-</b>
<b>CAGR</b>	<b>8.46</b>	<b>14.67</b>	<b>-</b>

Source: Accumulated from RBI and SEBI reports from 2013-14 to 2022-23

From table-5, it is noticed that, the investments in shares traded in stock exchanges in India has grown from Rs.21585.28 crore to Rs.44825.7 crore in between 2013-14 to 2022-23. The Co-efficient of variation results reveals that, the variation is more in the Gross national disposable income in comparison with investments in value of shares traded in stock exchanges in India.

**Table 6: Results of Correlation Analysis**

		Value of Shares traded in stock exchanges	Gross National Disposable income
Value of Shares traded in stock exchanges	Pearson' s r-value	1	.557
	P-value for two - tailed test		.094
	N	10	10
Gross National	Pearson' s r-value	.557	1

disposable income	P - Value for two-tailed test	.094	
	N	10	10

Source: Accumulated from SPSS data

From the results displayed in table-6 that, there exist a positive relationship in between shares traded in stock exchanges in India investments and gross national disposable income as the computed Pearson's r-value is 0.557.

The relationship between shares traded in stock exchanges in India and gross national disposable income found insignificant as P – value is 0.094 which is higher than 5 percent confidence level, the value of R is in between 0.3 to 0.5 and this show that there is a weak relationship in between investments in shares traded in stock exchanges in India and gross national disposable income in India in between 2013-14 to 2022-23.

#### 5.4 Analysis on Investments in Transactions on Stock Exchanges and Gross National Disposable Income

From table-7, it is observed that, the investments in transactions value on Stock Exchanges by mutual funds has grown from Rs.383026 crore to Rs.1979755 crore in between 2013-14 to 2022-23. The average of investments in transactions value on Security Exchanges by mutual funds is Rs.1119674 crore with a standard deviation of Rs.478213.5 crore.

**Table 7: Proportion of Transactions on Stock Exchanges by total Mutual funds to Gross National Disposable Income**

Period	Transactions on Stock Exchanges by total Mutual funds	Gross National Disposable income (in crore rupees)	Proportion of Transactions on Stock Exchanges by total Mutual funds to National Disposable Income
2013-14	383026	4531440	8.45
2014-15	649901	5180319	12.55
2015-16	690183	5949444	11.6
2016-17	915434	8964408	10.21
2017-18	1186440	9116426	13.01
2018-19	1128197	10293581	10.96
2019-20	1320825	11383392	11.6
2020-20	1336577	12575481	10.63
2021-22	1606399	13974699	11.5
2022-23	1979755	15534214	12.74
Average	1119674	9750340.4	11.33
Std Deviation	478213.5	3739134.69	-
CV	42.71	38.35	-
CAGR	20.02	14.67	-

Source: Accumulated from RBI and SEBI reports from 2013-14 to 2022-23

The Co-efficient of variation results reveals that, the variation is more in the investments on transactions value on stock exchanges by mutual funds in comparison with Gross national disposable income. From the results displayed in table-8 it is to notice that, there exist a positive relationship in between transactions value on Stock Exchanges by mutual funds investments and gross national disposable income as the computed Pearson's r-value is 0.977.

**Table 8: Results of Correlation Analysis**

Correlations			Transactions on Stock Exchanges by Mutual Funds	GNDI
Transactions on Stock Exchanges by Mutual Funds	Pearson's r-value	1	.977**	
	P-value for two-tailed test		.000	
	N	10	10	
GNDI	Pearson's r-value	.977**	1	
	P-value for two-tailed test	.000		
	N	10	10	

Source: Computed from SPSS results

The relationship between transactions value on Stock Exchanges by mutual funds and gross national disposable income found significant as P-value is 0.000 which is lesser than 1 percent confidence level. The computed  $R^2$  is 0.954 and this reveal that 95.4 percent of variance is explained by the transactions value on Stock Exchanges by mutual funds (dependent variable) from gross national disposable income (independent variable).

### 5.5 Analysis on Resources procured from the Primary Market

With a view to ascertain the performance of resources procured in primary market, the annual reports from the period in between 2013-14 to 2022-23 is undertaken for the study to ascertain the total resources procured in primary market.

With regard to Issuer type category, the listed securities valued in the range of Rs.6953 crores to Rs.43351 crores. The value of issues listed under IPOs category ranges in between Rs.1236 crore to Rs.83684 crores. The instrument wise, next highest performance of issues of securities can be seen in Bonds category. The average of value of securities issued under Bonds category is Rs.18645 crores.

**Table 9: Resources procured from the Primary Market (Rs. In crore)**

Period	Total		Equity Issue											
			Category wise				Issuer Type				Instrument wise			
	Number of issues	Amount (₹ crores)	Public (IPO+FPO)		(Rights)		Listed (Rights +FPO)		IPOs		At Par		At Premium	
			Number of issues	Amount (₹ crores)	Number of issues	Amount (₹ crores)	Number of issues	Amount (₹ crores)	Number of issues	Amount (₹ crores)	Number of issues	Amount (₹ crores)	Number of issues	Amount (₹ crores)
2013-14	79	52,492.75	55	46,434.83	24	6,057.92	28	19,101.82	51	33,390.93	2	15.55	77	52,477.20
2014-15	50	16,477.68	28	9,448.52	22	7,029.17	23	11,607.37	27	4,870.50	4	781.44	46	15,696.42
2015-16	45	11,985.62	29	6,429.83	16	5,555.79	16	5,555.79	29	6,429.83	4	469.88	41	11,515.74
2016-17	56	12,067.87	43	9,004.59	13	3,063.27	15	10,520.04	41	1,547.82	10	706.58	46	11,361.29
2017-18	61	9,434.04	43	1,646.77	18	7,787.27	18	7,787.27	43	1,646.77	10	40.15	51	9,393.89
2018-19	84	26,431.44	70	15,676.62	14	10,754.82	14	10,754.82	70	15,676.62	7	19.29	77	26,412.15
2019-20	118	32,483.37	106	29,209.65	12	3,273.72	13	3,283.71	105	29,199.66	7	24.12	111	32,459.25
2020-21	212	99,764.95	189	78,497.45	23	21,267.50	24	21,271.79	188	78,493.16	3	10.93	209	99,754.02
2021-22	145	23,721.85	136	21,720.38	9	2,001.47	9	2,001.47	136	21,720.38	5	14.97	140	23,706.88
2022-23	79	77,049.17	62	21,382.32	17	55,666.85	19	55,704.09	60	21,345.08	2	8.74	77	77,040.43
Mean	92.9	36190.87	76.1	23945.1	16.8	12245.78	17.9	14758.82	75	21432.08	5.4	209.17	87.5	35981.73
SD	52.18	30756.45	52.32	23158.19	5.01	16223.79	5.74	15668.27	52.51	23042.78	2.99	315.6	53.06	30916.8
CV	56.17	84.98	68.75	96.71	29.82	132.48	32.07	106.16	70.01	107.52	55.37	150.88	60.64	85.92
CAGR	0	3.91	1.21	-7.46	-3.39	24.83	-3.8	11.3	1.64	-4.38	0	-5.6	0	3.91

Source: SEBI Reports from 2013-14 to 2022-23





The compound annual growth rate in the IPOs is 29 percent in comparison with only 7 percent of compound Annual Growth rate recorded in issuer type, the value of equity sold at premium lies in the range of Rs. 8740 crore Rs.88742 crores.

## CONCLUSIONS OF THE STUDY

The statistical analysis proved that the exits a positive relationship in between market capitalization of BSE and GDP. Results of regression revealed that there is a significant impact of GDP on market capitalization. From the regression equation, it is observed that the other constant factors are negatively influencing the market capitalization; however, GDP is more positively influencing the market capitalization. The Co-efficient of variation is higher in market capitalisation value of NSE in comparison with GDP value.

The proportion of market capitalisation value of NSE to the total GDP varies in between 51.44 to 93.06 percent. The regression analysis proved that the impact of market capitalization of NSE to the GDP is significant. The Study on Impact of Market Capitalisation of BSE on GDP Growth rate show that Market Capitalisation value of BSE has increased between 2013-14 to 2022-23 period. The Co-efficient of variation is higher in market capitalisation value of BSE in comparison with GDP value. The proportion of market capitalisation value of BSE to the total GDP varies in between 54.81 to 95.48 percent.

The significant P-value for the independent variables show that, the constant, GDP growth rate are found significant and inflation rate, CAD are found insignificant. The Correlation results showed that relationship between primary market and gross savings found insignificant as P-value is 0.119 which is higher than 5 percent confidence level. Further, the value of  $R^2$  is less than 0.3 and this show that there is a weak relationship in among investments in primary market and gross savings in India in between 2013-14 to 2022-23. From the regression equation, it is observed the other constant factors were negatively influencing the market capitalization; however, GDP is more positively influencing the market capitalization.

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