

ANALYTICAL STUDY OF INVESTMENT BY FII'S ON INDIAN STOCK MARKET WITH SPECIAL REFERENCE TO EQUITY PRICES OF REAL ESTATE SECTOR

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ABSTRACT

Overseas institutional investments are important for developing nations and feature extensively impacted capital inflows into India. Even while FDI remains the preferred approach of bringing in overseas capital, FIIs have established to be pretty beneficial. Since FIIs were approved in India in 1992, there was a sizable change inside the manner people make investments. The governance shape for FIIs in India has passed through modifications as properly. India turned into the preferred equities marketplace for worldwide traders in 2015, with 43% of the vote, followed with the aid of China with 26%, in keeping with a financial institution of the United States - Merrill Lynch (BofA-ML) survey in which 50 traders took component. The complete quantity of FII equity investment in India for the year 2020 became INR 103156 crores. This is commonly because of the fact that buyers are searching to take advantage of their investments in Indian equity markets, demonstrating that there may be a few courting among FII funding and stock market success.

If there is a correlation between FII investments and inventory market performance, it's essential to decide whether FII investments drive up stock marketplace overall performance or whether higher stock marketplace performance drives up FII funding. This research article intends to investigate a relationship that has been the concern of ongoing empirical and theoretical inquiry. After demonstrating a link between FII investment and inventory market overall performance, the cause-effect courting will therefore be examined due to the fact it's miles practicable for variables to be associated however but no longer have a purpose-and-impact dating.

by means of measuring the returns on extensive market indices, it is viable to gauge inventory marketplace performance. SENSEX and NIFTY had been selected for this examination's purposes, and information can be collected for an 18-yr length if you want to conduct the evaluation. FII facts also accumulated over 18 years (2002-2020).

Key Phrases: FII, Indian Capital market, Correlation and Regression, BSE SENSEX, NIFTY 50,

Introduction

In India, inventory exchanges began running in 1875. The BSE is the country's oldest stock exchange. 318 humans joined local share and stock agents affiliation, these days known as the Bombay stock trade or BSE for quick, at the beginning of the records of Indian inventory trading. The Indian authorities officially recognized BSE in 1965. BSE is more than the countrywide inventory exchange in terms of reputation. BSE and NSE promote themselves as interchangeable terms for the Indian stock market. The histories of the Indian stock marketplace and the BSE are remarkably similar. Sensex, a 30-inventory sensitive index, was created for the primary time in 1986. The performance of the equities of 30 financially strong benchmark organizations is used to calculate the Sensex. The BSE first surpassed the 1000 threshold in 1990. In 1992, it surpassed the 2000, 3000, and 4000 mark. The liberal financial regulations brought by Dr.Man Mohan Singh, then-finance minister, had been the reason for the stock marketplace's first-rate growth. With the Harshad Mehta scam, the market's fantastic vibe changed into misplaced. The public learned that Mr. Mehta, widely called the massive-bull of the Indian inventory market, had fraudulently siphoned giant sums of cash from banks. He used 270 million stocks from around ninety unique groups to gamble. as the Sensex lost 570 points and dropped flat, hundreds of thousands of small buyers fell prey to the scam. The authorities established The Securities and Exchange Board of India by using an Act in 1992 to forestall such frauds. The statutory organization called SEBI oversees and controls the operations of stock exchanges, brokers, sub-agents, portfolio managers, funding advisors, etc. according to top SEBI officials, with the appearance of online trading and day by day settlements, the likelihood of fraud is now negligible. SEBI imposes some strict safeguards to guard the pursuits of traders. In 1999, the Sensex surpassed 5000, and in 2000, it reached 6000. On June 7 and September 8 of 2005, the 7000 and 8000 milestones, respectively, had been attained. massive numbers of foreign institutional buyers (FII) are making large investments within the Indian stock markets. The liberal financial guidelines accompanied by using succeeding governments attracted a substantial quantity of institutional worldwide investors.

Objectives:

- to analyze the trend of investment by means of FIIs in the Indian stock marketplace.
- To understand the relation between FIIs investments and inventory marketplace volatility.
- To look at whether FIIs have any influence on diverse BSE indices and NSE indices.

Hypothesis:

- H01: there's no full-size relation among FII and CNX truth
- H02: there is no tremendous impact among FII and CNX truth
- H03: there's no tremendous relation among FII and BSE SENSEX.
- H04: there is no considerable impact of FII on BSE SENSEX.

Literature Review:

FII's have now not extensively contributed to the Indian inventory markets whilst as compared to GDR from 1992-1999 According to the ADF test, FII is steady at level whereas Nifty is not. According to a correlation test, FII and Nifty have a positive correlation that is larger in the bear phase than the bull phase. By applying the Granger causality test to the relationship between Nifty and FII, the connection was further confirmed for the direction of influence. (Rao 1999)

Increased inflows have accompanied these marketplace improvements and the link between the Indian inventory marketplace and the rest of the financial system can also get weaker. (Bantaji 2000). FII flows in India had been more of an effect than a purpose of market performanc. The direction of causality between institutional investment and stock performance was examined using the Granger causality test (BSE). FII investments and market returns have been found to be causally related in both directions (Ilangovan 1997).

To require extra capital and generation are drawing a bigger percent of overall overseas investment (Rajesh 2001). FII policy changes affected FII portfolio flows to Indian fairness markets. (Bose 2004). FII flows do not appear to have had a materially damaging effect on internet inflows. (Paramita 2004). To determine whether the variable's mean for a specific weekday differs significantly from the variable's mean for the rest of the week, an independent t-test was employed. There is a casual relationship in mean and variance between stock returns and FII in India. Takeshi (2008). FII plays a vital role in moving the stock market in upward or downward direction. Trivedi (2012). facilitators for FII inflows, including disclosure-based legislation, exchange rates, worldwide confidence on Indian markets, obligatory corporate governance, etc. There is a unidirectional causation between FII and Indian stock market Warther (1995)

Top 5 Real Estate Companies in India are

- . DLF Ltd.,
- Godrej Properties Ltd.,
- Indiabulls Real Estate Ltd.,
- L&T Realty Ltd.,
- Oberoi Realty Ltd.,
- Omaxe Ltd.,

Data Analysis:

Statistical technique and facts collection: A quantitative technique has been used by ascertaining variables and the usage of statistical strategies to apprehend the impact of FII investment on stock market performance. The existing take a look at is empirical in nature as it's far a facts-pushed research in which proof is sought that sure variables affect different variables in some manner.

Statistics

Specification: FII/ FPI facts – monthly data has been received from the website of NSDL (countrywide Securities Depository limited). Records have been extracted from the every year reviews on FII investment. NSE Nifty 50 Index statistics – legit NSE website. month-to-month final statistics has been taken which is then used to calculate returns. S&P BSE Index statistics- legitimate BSE internet site. Monthly last facts have been taken. Selected agencies from the real estate sector on the premise of market capitalization. (Five every).

The study is based totally on a regression and correlation version representing courting between Indian inventory marketplace (structured variable) and FII (independent Variable). This study is primarily based on secondary records. The required data related to FII had been amassed from diverse sources i.e. announcements of Reserve financial institution of India, guides from Ministry of commerce, SEBI guide of statistics, executive. of India. CNX Nifty statistics is downloaded from the web sites of NSE. Day by day ultimate index fees are taken and averaged to get the index value for every 12 months, that's taken into consideration as a greater representative figure of index for the entire year.

Correlation Matrix Between BSE, NSE, FII:

	BSE_RET	NIFTY_50	FII
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BSE_RET	1	0.3104	0.3423
NIFTY_50	0.3104	1	0.3507
FII	0.3423	0.3507	1

Table 1- correlation matrix between BSE, NSE, FII

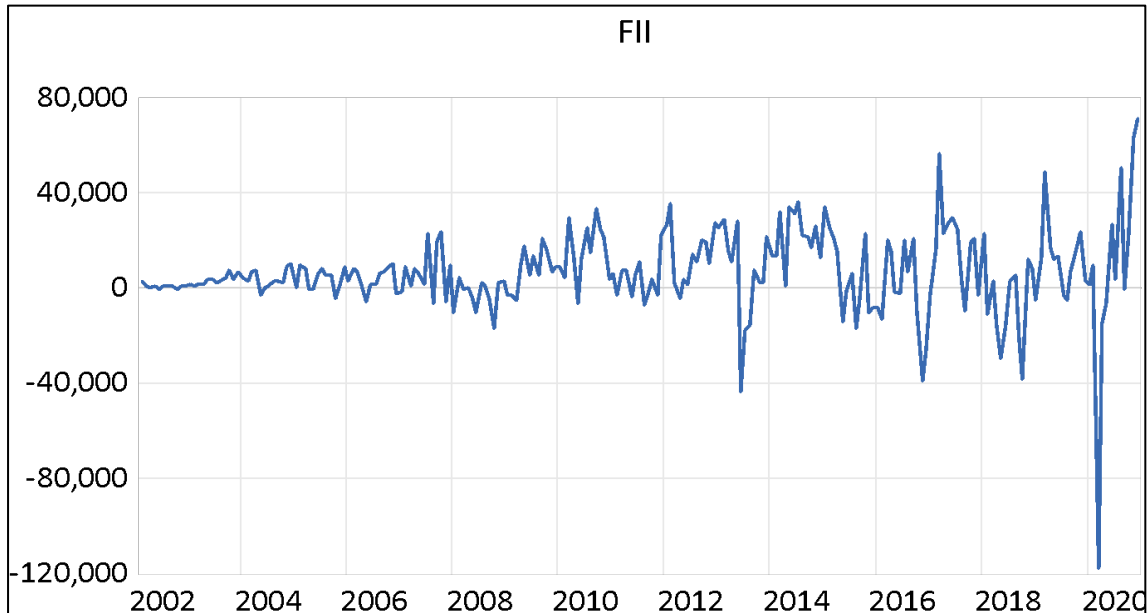


Fig 1 Investment Trend of FII (2011-2020):

YEAR	FII
2011	39352
2012	163350
2013	62287
2014	256211
2015	63662
2016	-23079
2017	20048
2018	-83254
2019	101122
2020	170261

Fig 2 Investment Trend of FII

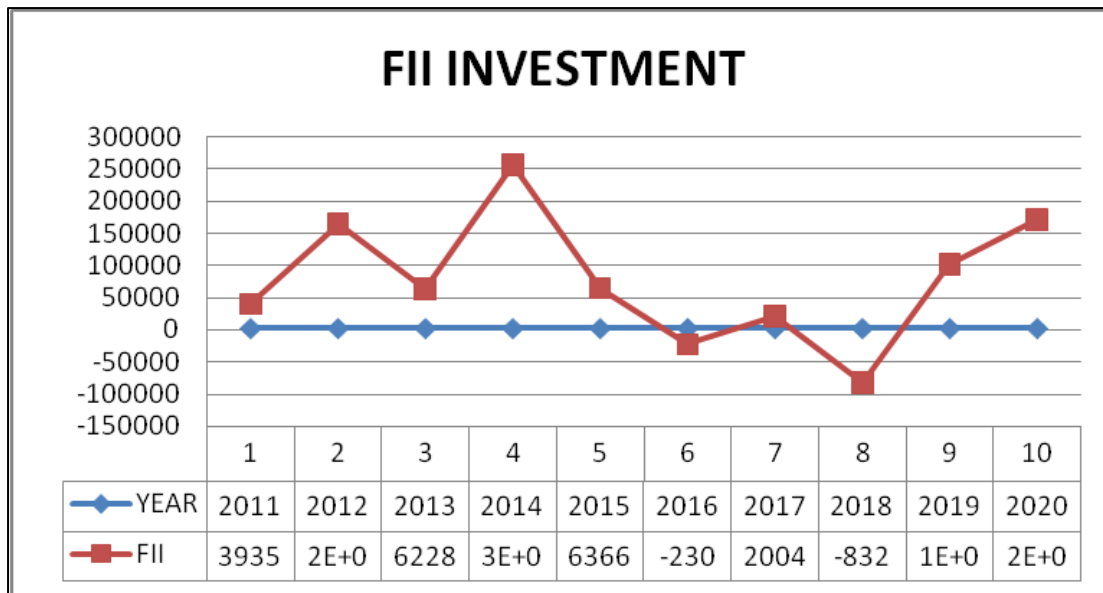


Fig 3 FII INVESTMENT TREND ANALYSIS

YEAR	NIFTY	NIFY REALITY	FII (CR)
2011	4624.3	184.2	39352
2012	5905.1	281.3	163350
2013	6304	184.6	62287
2014	8282.7	203.1	256211
2015	7946.35	172.6	63662
2016	8185.8	165.35	-23079
2017	10530.7	346.9	20048
2018	10862.55	232.35	-83254
2019	12168	298	101122
2020	13981	313	170261

Fig 4 Data of Sectoral Indices

Unit Root Test:

Nifty Reality Return unit root test:

Null Hypothesis: NREAL_RET_NA has a unit root				
Exogenous: Constant				
Lag Length: 0 (Automatic - based on SIC, maxlag=29)				
			t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic			-53.23608	0.0001
Test critical values:	1% level		-3.432049	
	5% level		-2.862176	
	10% level		-2.567152	
*MacKinnon (1996) one-sided p-values.				
Augmented Dickey-Fuller Test Equation				
Dependent Variable: D(NREAL_RET_NA)				
Method: Least Squares				
Date: 04/11/22 Time: 10:18				
Sample (adjusted): 2 3468				
Included observations: 3467 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
NREAL_RET_NA(-1)	-0.899851	0.016903	-53.23608	0.0000
C	-0.000303	0.000451	-0.671734	0.5018
R-squared	0.449920	Mean dependent var		7.58E-07
Adjusted R-squared	0.449761	S.D. dependent var		0.035823
S.E. of regression	0.026573	Akaike info criterion		-4.417256
Sum squared resid	2.446743	Schwarz criterion		-4.413708
Log likelihood	7659.314	Hannan-Quinn criter.		-4.415989
F-statistic	2834.080	Durbin-Watson stat		2.004679
Prob(F-statistic)	0.000000			

Fig 5 Nifty Real Return unit root test.

Decision criteria: $P < 0.05$ reject the Null Hypothesis.

Interpretation: we can conclude that if p value is less than 0.05 then we reject the null hypothesis. As the series has no unit root. Then we conclude that series is stationary

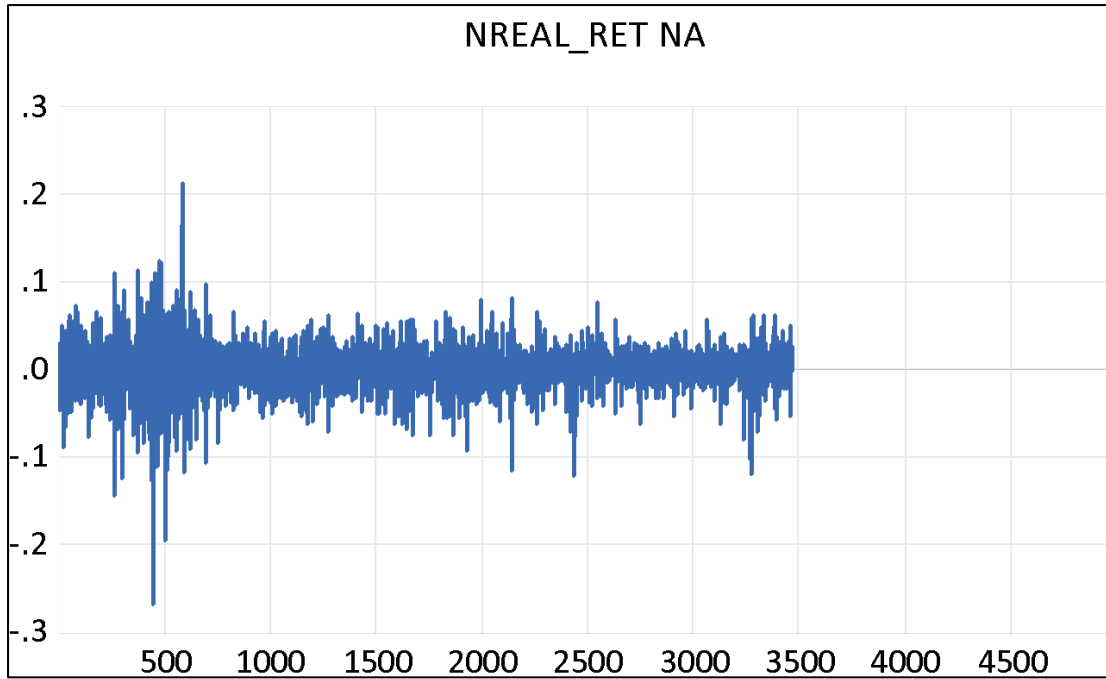


Fig 6 Nifty Realty Index Returns

Analysis of Real Estate sector:

Pair wise Granger Causality Test between BSE Realty Returns and companies stock Prices:

Pairwise Granger Causality Tests			
1181			
Lags: 2			
Null Hypothesis:	Obs	F-Statistic	Prob.
DLF_RET does not Granger Cause BSE_REL_RET	145	0.57299	0.5652
BSE_REL_RET does not Granger Cause DLF_RET		0.14806	0.0486...
GOD_RET does not Granger Cause BSE_REL_RET	145	2.29079	0.1050
BSE_REL_RET does not Granger Cause GOD_RET		1.09573	0.0337...
IBULLS_RET does not Granger Cause BSE_REL_RET	145	0.96782	0.3824
BSE_REL_RET does not Granger Cause IBULLS_RET		0.26054	0.0477...
OBOROI_RET does not Granger Cause BSE_REL_RET	145	0.48118	0.6191
BSE_REL_RET does not Granger Cause OBOROI_RET		0.43264	0.0564
GOD_RET does not Granger Cause DLF_RET	145	0.85297	0.4283
DLF_RET does not Granger Cause GOD_RET		1.64501	0.1967
IBULLS_RET does not Granger Cause DLF_RET	175	2.06505	0.1300
DLF_RET does not Granger Cause IBULLS_RET		0.24350	0.7842
OBOROI_RET does not Granger Cause DLF_RET	136	0.14532	0.8649
DLF_RET does not Granger Cause OBOROI_RET		0.36025	0.6982
IBULLS_RET does not Granger Cause GOD_RET	145	0.40214	0.6697
GOD_RET does not Granger Cause IBULLS_RET		0.19243	0.8252
OBOROI_RET does not Granger Cause GOD_RET	136	0.09757	0.9071
GOD_RET does not Granger Cause OBOROI_RET		0.17216	0.8420
OBOROI_RET does not Granger Cause IBULLS_RET	136	0.91902	0.4015
IBULLS_RET does not Granger Cause OBOROI_RET		1.01701	0.3645

Fig 7 Pairwise Granger Causality Test between BSE Realty Returns and companies stock Prices:

Decision criteria: $p > 0.05$ accept the Null Hypothesis. $P < 0.05$ reject the Null Hypothesis.

Interpretation: From the table 5.20 we can conclude that if p value is less than 0.05 then we reject the null hypothesis, if p value greater than 0.05 then we accept the null Hypothesis.

1. BSE Realty indices causes DLF Returns
2. BSE Realty indices causes Godrej Properties Returns.
3. BSE Realty indices causes Oberoi Properties Returns
4. BSE Realty indices causes IndiaBulls Returns

Correlation Analysis Between FII Holdings and Stock Price DLF. Table -1

Historical shareholding details of Foreign Portfolio Investors in DLF Analysis OF Real Estate sector:

Quarter	Percent Holding	Share Price
Sep-21	17.00%	417
Jun-21	16.99%	281
Mar-21	17.39%	287

Dec-20	18.28%	232
Sep-20	18.33%	152
Jun-20	18.54%	148
Mar-20	18.33%	137
Dec-19	18.40%	230
Sep-19	16.61%	155
Jun-19	16.93%	188
Mar-19	21.27%	201
Dec-18	16.77%	177
Sep-18	16.71%	162
Jun-18	16.69%	188
Mar-18	16.25%	201
Dec-17	16.99%	259
Sep-17	16.67%	164
Jun-17	17.21%	190
Mar-17	18.15%	148
Dec-16	17.38%	111
Sep-16	17.02%	146
Jun-16	16.67%	150
Mar-16	16.38%	114
Dec-15	17.98%	116
DLF	PERCENT HOLDING	share price
PERCENT HOLDING	1	
share price	-0.121689389	1

Table-2 Correlation Analysis Between FII Holdings and Stock Price DLF

Analysis of Godrej Properties:

Correlation Analysis Between FII Holdings and Stock Price of Godrej Properties:

Historical shareholding details of Foreign Portfolio Investors in GODREJ PROPERTIES

Quarter	Percent Holding	Share Price
Sep-21	2.99%	2311
Jun-21	3.61%	1396
Mar-21	3.83%	1408
Dec-20	4.40%	1431
Sep-20	4.25%	860
Jun-20	3.92%	869
Mar-20	4.26%	602
Dec-19	4.23%	988
Sep-19	3.31%	1037
4-Jul-19	2.67%	953
Jun-19	2.67%	1000

Mar-19	1.60%	814
Dec-18	1.22%	850
Sep-18	1.28%	593
Jun-18	1.30%	717
Mar-18	2.46%	725
Dec-17	2.21%	694
Sep-17	2.52%	619
Jun-17	2.19%	519
Mar-17	2.80%	492
Dec-16	1.07%	302
Sep-16	1.03%	346
Jun-16	0.57%	365
Mar-16	0.07%	330
Dec-15	0.19%	337
GODREJ	PERCENT HOLDING	share price
PERCENT HOLDING	1	
share price	0.553403726	1

Table-3 Correlation Analysis Between FII Holdings and Stock Price of Godrej
Analysis OF OBEROI Reality:

Correlation Analysis Between FII Holdings and Stock Price Oberoi Reality
Historical shareholding details of Foreign Portfolio Investors in OBEROI REALITY

Quarter	Percent Holding	Share Price
Sep-21	22.21%	963
Jun-21	23.49%	629
Mar-21	24.85%	575
Dec-20	25.61%	583
Sep-20	25.40%	394
Jun-20	26.15%	349
Mar-20	24.91%	334
Dec-19	25.33%	530
Sep-19	25.77%	507
Jun-19	26.07%	607
Mar-19	25.38%	527
Dec-18	25.40%	445
Sep-18	25.54%	403
Jun-18	26.44%	477
Mar-18	21.98%	508
Dec-17	22.58%	479

Sep-17	24.66%	423
Jun-17	24.94%	358
Mar-17	25.35%	367
Dec-16	25.35%	294
Sep-16	24.23%	292
Jun-16	22.07%	271
Mar-16	21.30%	270
Dec-15	21.29%	268
	PERCENT HOLDING	share price
PERCENT HOLDING	1	
share price	-0.180566431	1

Table-4 Correlation Analysis Between FII Holdings and Stock Price of Oberoi Reality

Analysis of INDIA BULLS:

Correlation Analysis Between FII Holdings and Stock Price of India bulls:

Historical shareholding details of Foreign Portfolio Investors in INDIABULLS

Quarter	Percent Holding	Share Price
Dec-21	19.88%	151
Sep-21	19.43%	150
Jun-21	16.58%	117
Mar-21	15.90%	81
Dec-20	9.39%	82
Sep-20	14.20%	51
Jun-20	18.10%	48
Mar-20	21.09%	40
Dec-19	22.48%	65
Sep-19	23.14%	45
Jun-19	23.00%	113
Mar-19	28.50%	92
Dec-18	25.60%	87
Sep-18	24.44%	88
Jun-18	23.26%	156
Mar-18	24.81%	181
Dec-17	27.58%	223
Sep-17	35.18%	220
Jun-17	31.70%	200
Mar-17	18.08%	87
Dec-16	18.79%	71
Sep-16	12.14%	92
Jun-16	9.66%	93

Mar-16	8.66%	56
Dec-15	6.07%	63
INDIABULLS REALITY	PERCENT HOLDING	SHARE PRICE
PERCENT HOLDING	1	
SHARE PRICE	0.602094978	1

Table-5 Correlation Analysis Between FII Holdings and Stock Price of India Bulls

Analysis OF OMAXE:

Correlation Analysis Between FII Holdings and Stock Price of OMAXE:

Historical shareholding details of Foreign Portfolio Investors in OMAXE

Quarter	Percent Holding	Share Price
Dec-21	9.45%	76
Sep-21	9.44%	77
Jun-21	9.83%	80
Mar-21	9.88%	67
Dec-20	9.92%	82
Sep-20	10.05%	67
Jun-20	10.20%	141
Mar-20	10.73%	152
Dec-19	10.93%	155
Sep-19	11.29%	191
Jun-19	11.44%	199
Mar-19	11.58%	206
Dec-18	11.67%	213
Sep-18	11.72%	217
Jun-18	12.08%	219
Mar-18	12.56%	220
Dec-17	13.27%	230
Sep-17	13.80%	197
Jun-17	14.02%	202
Mar-17	13.37%	168
Dec-16	13.33%	158
Sep-16	13.72%	171
Jun-16	11.97%	160
Mar-16	11.42%	144
Dec-15	2.03%	135

OMAXE	PERCENT HOLDING	SHARE PRICE
PERCENT HOLDING	1	
SHARE PRICE	0.514087673	1

Table-6 Correlation Analysis Between FII Holdings and Stock Price of Omaxe

Findings:

Correlation analysis of actual property quarter:

1. there is positive correlation between FII Holdings and Godrej houses as correlation coefficient is 0.553
2. there's terrible correlation between FII Holdings and DLF as correlation coefficient is -0.121
3. there may be positive correlation among FII Holdings and India Bulls as correlation coefficient is 0.6020
4. there's poor correlation between FII Holdings and Oberoi fact as correlation coefficient is -0.1850
5. there's effective correlation among FII Holdings and Omaxe as correlation coefficient is 0.5140

Conclusion

If capital inflows lead to better inventory market overall performance or whether or not they arrive because of higher inventory marketplace overall performance is one of the longest-walking arguments in economics. By means of the usage of FII and studying its effect on the returns of the Sensex and Nifty, the cutting-edge observe examines the course of causation among stock market overall performance and FII funding inside the Indian context. utilizing information from 2002 to 2020, that is performed. The effects of evaluation, the use of regression and correlation imply that there is a relationship among the two variables. The Granger Causality take a look at evaluation well-known shows a one-way affiliation between stock market performance and FII, with the direction of the relationship moving from foreign investment to stock market returns. This discovery is steady with in advance studies within the vicinity.

Seeing that FII investments in the state are correlated with the performance of the Indian stock marketplace, the contemporary observer advises capital market regulators to create suitable regulatory frameworks for his or her law. The shortage or shortage of such investments should have a bad impact on the inventory market, consequently it also suggests that suitable checks and balances need to be in region to control them. Additionally, the authorities ought to place an excessive priority on the growth of the inventory market via easing rules and listing requirements for traders in order to encourage more marketplace participants on the stock exchange. This could boost competition and the standard of securities investments, so as to have a tremendous impact on India's capital marketplace boom.

consistent with facts, FII has had an impact on the Indian inventory marketplace. each have a favorable courting with stock marketplace indices. We have covered in top notch intensity how FII impacts the stock marketplace. but, take a look at the variables for the inventory market indexes BSE-Sensex & S & S & S & S & S&P CNX Nifty are based on these assumptions. However, in actual existence, the stock marketplace is tormented by a variety of different elements that can be either bullish or bearish at any one time and do no longer usually rely upon FIIs.

The relationship between FII and the Sensex of Nifty is favorable, and FII is the essential direct investor within the capital market. The primary thing we may recollect is foreign institutional funding. FII's overall performance and outcomes in India for the duration of the debut segment had not been a hit at the stock market, which may be because of the extraordinarily small investment flows. but after ten years, it begins to develop, and both the amount of establishments and the waft of investment both grow. Because of the worldwide financial crisis, there has been a primary inventory market and FII disintegrated inside the year, which had a sizable effect on the Indian stock market. But, after 12 months the FII waft commenced to boom and stabilize, and if we exclude some stock market frauds, the inventory marketplace is also at a solid level.

Overall Contribution to The Research:

The study will provide a completely clear picture of the impact of foreign institutional investors on Indian inventory indices. it will additionally describe the market developments due to FIIs inflow and outflow.

The take a look at might be helpful for in addition descriptive studies at the ideas with a purpose to be explored. Moreover, it would be beneficial to gain know-how concerning foreign institutional investments, their system of registration and their impact on the Indian stock market.

This has a look that might be beneficial for the buyers, researchers and the studies analyst for the further research.

References

- Bantaji (2000) "Portfolio Preferences of Foreign Institutional Investors", Journal of Banking and Finance Volume 1,
- Bose (2000) "Trend Analysis of FII Investment in India of Monthly Flows During January 20006-October 2011", International Journal of Marketing, Financial Services and Management Research, Volume:1,
- Ilagovan (1997) "An Empirical Study of Determinants of Foreign Direct Investments in India", Academicia, Volume: 1, Issue:1, pp38-46.
- Paramita (2004) "A study of FII and stock market". A journal of Finance, Volume 3
- Rajesh (2004) "A Study of FII Investment Flow and SENSEX Movement", Working paper BIMTECH.
- Singla, Kumar (2011) "An Empirical Study of Determinants of Foreign Direct Investments in India", Academicia, Volume: 1, Issue:1, pp38-46.
- Saravanakrishnan V (2012) "Trend Analysis of FII Investment in India of Monthly Flows During January 20006-October 2011", International Journal of Marketing, Financial Services and Management Research, Volume:1, No:6, Pp 63-75.
- Takeshi (2008), "The casual relationships in mean and variance between stock returns and FII in India", South Asian Group, Area Studies Centre, IDE (Institute of developing economies) paper no.108 November, 2008.
- Trivedi (2012), "Macroeconomic Fundamentals as Determinants of Equity Prices: An empirical analysis for India", The IUP Journal of Applied Finance, vol. 18, No. 3, pp6-30.
- Warther (1995) "Aggregate Mutual Fund Flows and Security Returns", Journal of Financial Economics, Volume 39, Pages: 209-23.