

Self-Reliance of Indian Capital Markets: A Transitory Phase or Sustainable Phenomenon?

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Abstract

This study explores the factors, which are saving Indian Capital Markets from drowning into the ocean of uncertainty. The analysis is done on the basis of daily Nifty 50 closing prices from January 1, 2011 to March 31, 2024 and market ownership reports available at NSE website. It is observed that the growing stake of private promoters, retail investors and domestic mutual funds in the Indian Capital Market are restraining it from falling, when FIIs are net sellers from last 8 years. Furthermore, stable ownership of Government, banks, insurance and financial institutions are also contributing to this cause. However, application of EGARCH model shows that these factors have also contributed to increased volatility in the capital market. With rise in the policy rates to pre-pandemic levels, increased economic activity and repeated incidents of financial crisis like COVID-19 and Ukraine-Russia war, Israel-Palestine war, the patience of retail investors is being tested and only time can tell that for how long the Indian retail investors can sustain such volatility. The findings of this study are consistent with Poshakwale and Thapa (2010), Didier and Schmukler (2013), Bhattacharjee and Singh (2017) and Raut (2020).

Keywords: Self-Reliance, FIIs, Crisis Periods, Retail Investors

the development of India as a global economic power (Didier & Schmukler, 2013). The development of any economy is heavily reliant on the structure of financial system in that country (Levine, 2003). Indian financial structure has grown remarkably from a closed one to being open and deregulated (Shahbaz et al., 2018). Since major reforms of 1991, India made multiple attempts to get investment from FPIs (Mishra et al., 2009). As a result, from a long period of time, FPIs have been holding major stake in the Indian Capital Markets (Jain & Saha, 2023). Indian capital markets became preferred investment choice for foreign institutional investors (Shukla et al., 2011). Therefore, in India, it is a well-established fact that stock markets are fueled by investment of Foreign Portfolio Investors (FPIs).

Increased presence of FPIs in the Indian capital markets has also resulted in deepening of financial markets, diversification of market participants and heightened liquidity (Chandra, 2012). The funds invested by FPI's in an emerging economy is known to be 'Hot Money' as they can pull it out anytime (Jalota, 2017). Therefore, FPI investment may provide impetus for growth on one hand, however, on the other hand, it can make destabilising effect on the financial structure of an economy (Sharma et al., 2023).

A plethora of studies have studied the effect of FII on a country's economy. Dhingra et al. (2016) found destabilising effect of FII on the Indian equity market (Islam & Hussain, 2018). However, Hiremath and Kattuman (2017) found no such volatility and destabilising effect of FII on Indian equity market and observed that policies implemented by the regulators in India are in fact effective and sufficient in regulating the role of

Introduction

Capital markets are most significant financial institutions that mobilise savings from the persons who have it, to the needy ones (Mishra et al., 2010). One of the most significant development that has happened in the global economy is

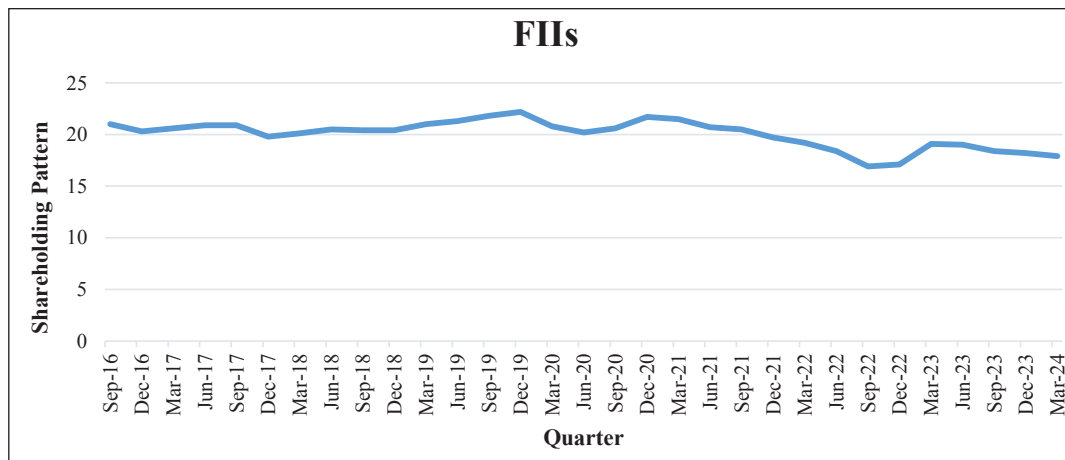
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FII in India. In addition, Poshakwale and Thapa (2010) observed that increased flow of FIIs in India has led to the integration of Indian financial markets with the world. Moreover, Jagdeesh and Tang (2011) states that increased activity of FIIs makes an impact on the corporate houses and FIIs get insider information before other market participants and react accordingly, which may result in heavy losses to retail investors. However, Ferreira et al.

(2017) observed that FIIs may not have better knowledge of local market conditions. Hence, they are not able to earn superior returns and beat the market. Therefore, there is a debate in literature about the role of FIIs in the development of an emerging economy.

Since March 2020, brutal selling by FPIs have been witnessed in Indian stock market as shown in Fig. 1.

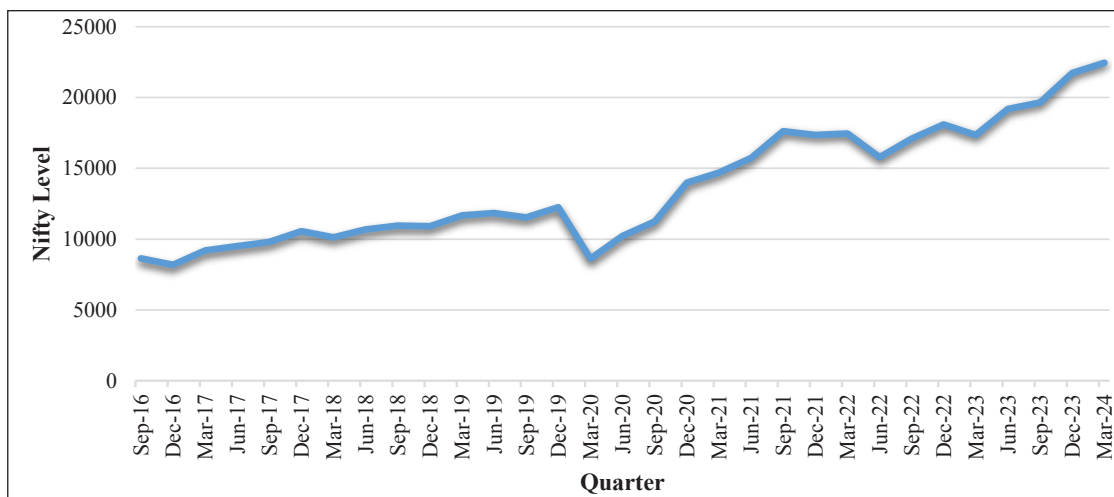


Source: Based on data extracted from report 'Who owns India Inc?' available in market insights section under 'Publications & Reports' head on the official website of NSE from June, 2020 to March, 2024. (<https://www.nseindia.com/research/publications-reports-nse-market-insights>)

Fig. 1: Quarterly Foreign Institutional Investors (FIIs) Shareholding Pattern at NSE

There has been a brief recovery in post-COVID 19 period, however, after December 2020, the sell-off again gained momentum on the fear of rising interest rates by FED and signs of recessions.

However, NIFTY index has shown bullish-run. From March 2020, there has been a continuous rise in NIFTY 50 index with brief period of bearish phase as shown in Fig. 2.



Source: Based on NIFTY50 index closing prices data available on official website of NSE.

Fig. 2: Closing Levels of NIFTY 50 at the End of Each Quarter

Now, question arises, what is filling the void created due to massive sell-off by FPIs? Has Indian stock market become self-reliant or is it a bubble that shall crash sooner or later? This study aims to specify the causes that may have resulted in sustaining capital market in India. By examining the causes behind sustainability of Indian capital markets, this study also contributes to the debate of self-reliance of Indian capital markets.

The rest of the study is structured as follows. *Section 2* defines rationale of conducting this study. *Section 3* details sources of data and research methodology. *Section 4* presents analysis of data. *Section 5* concludes the study, whereas, *section 6* defines practical implications of the study.

Rationale of the Study

Acquah-Sam and Salami (2013) observes that financial awareness and literacy are two crucial factors that contributes to the development of financial markets in a country. Moreover, in a country like India, where population is characterised by diverse economic and social profile (Chauhan & Chaklader, 2023), financial awareness can help to compound their savings and this awareness determines the behaviour of investors in the financial markets (Rajeswari, 2014). As capital markets in India are sustaining their levels, this study shall help us to determine the factors that contributes to such resistance of Indian capital market. Moreover, this study shall also help in determining the level of financial literacy and awareness in a country like India (Raut, 2020), where a majority of population is resource-poor and vulnerable to financial pressures (Bhattacharjee & Singh, 2017). In addition, this study shall also evaluate the impact of the efforts of policymakers during crisis periods to protect the markets from global spillover threats.

Data and Methodology

Data for the purpose of this analysis is extracted from official website of National Stock Exchange of India Limited (NSE). NSE provides reports of ownership structure of Indian capital markets on quarterly basis. These reports are available from the year 2016 onwards. For the purpose of analysis, bar graphs and line charts are

constructed to show the trends of increase or decrease in ownership of various market participants and the effect of change in their ownership pattern on the Indian capital markets. Thereafter, daily closing prices for Nifty 50 index are extracted for a period starting from January 1, 2011 to March 31, 2024 and EGARCH model is applied on the first difference log returns of Nifty 50 index to examine the impact of increased retail participation on the resilience of capital market. The analysis is conducted using Eviews software.

The basic EGARCH(p, q) model can be written as follows:

Mean Equation:

$$y_t = \mu + \epsilon_t$$

where,

y_t is the return series,

μ is the mean of the series, and

ϵ_t is the error term.

Variance Equation:

$$h_t = \gamma_1 + \gamma_2 \left| \frac{\epsilon_{t-1}}{h_{t-1}} \right| + \gamma_3 \frac{\epsilon_{t-1}}{h_{t-1}} + \gamma_4 h_{t-1}$$

Here:

- h_t is the conditional variance.
- $\gamma_1, \gamma_2, \gamma_3$ and γ_4 are constant parameters.

It is pertinent to state here that EGARCH model is estimated over other GARCH extensions to measure the effect of asymmetric response of different market participants in response to new information coming into the macro-economic environment (Kaur & Gupta, 2023).

Analysis and Interpretation

The analysis covers three major aspects, which shall determine the strength of this phase of Indian capital market. However, before proceeding further, we shall look into the descriptive statistics of the time-series under study to have brief idea about its characteristics. Table 1 reports descriptive statistics of the time series under study.

Table 1: Descriptive Statistics

Mean	0.001
Standard Deviation	0.011
Kurtosis	97.30
Skewness	4.04
Jarque-Bera	850373.5
Probability	0.0000
No. of Observations	2278

Source: Based on author's calculations.

As reported in the table, mean is approximately zero, which depicts mean reversion behaviour of time series under study. Furthermore, standard deviation is high and co-efficients of skewness and kurtosis are significant, which shows that returns of this time series are volatile, leptokurtic and asymmetric. Furthermore, Jarque-Bera is significant, which shows that data is not normally distributed.

Thereafter, we proceed to examine the presence of unit root in the time series to check if data is stationary as conclusions drawn from non-stationary data can be spurious and misleading. Table 2 reports the results of unit root test.

Table 2: Unit Root Test

	<i>No Drift No Trend</i>	<i>With Drift</i>	<i>With Drift and Trend</i>
ADF	-43.93 (0.0001)	-44.02 (0.0001)	-44.05 (0.0000)
PP	-43.82 (0.0001)	-43.88 (0.0001)	-43.91 (0.0000)

Source: Based on author's calculations.

As shown in Table 2, the time-series under study is stationary at first log difference, which means that data is fit for further analysis and conclusion drawn from the analysis are reliable. Therefore, we can proceed with analysis as follows: Sub-section 4.1 details major reasons, which may have contributed to resistance of capital market in India. Sub-section 4.2 discusses the impact of these shareholders on the volatility of the Indian capital market. Finally, sub-section 4.3 presents discussion on the risk tolerance level of these participants and repeated crisis events in the global economic environment.

Possible Causes of Sustainability

As explained earlier, even when FIIs are escaping the Indian capital markets, the markets are still sustaining its levels and rising every quarter, which raises concerns about creation of artificial bubble in the Indian capital markets. Although, data suggests contrary to any bubble. The data of shareholding pattern of following institutions, which is extracted from the reports on 'Market Insights' available at official website of NSE, suggests that markets may have sustained from falling due to following reasons. The detailed analysis of shareholding pattern of these institutions are presented in following sub-sections:

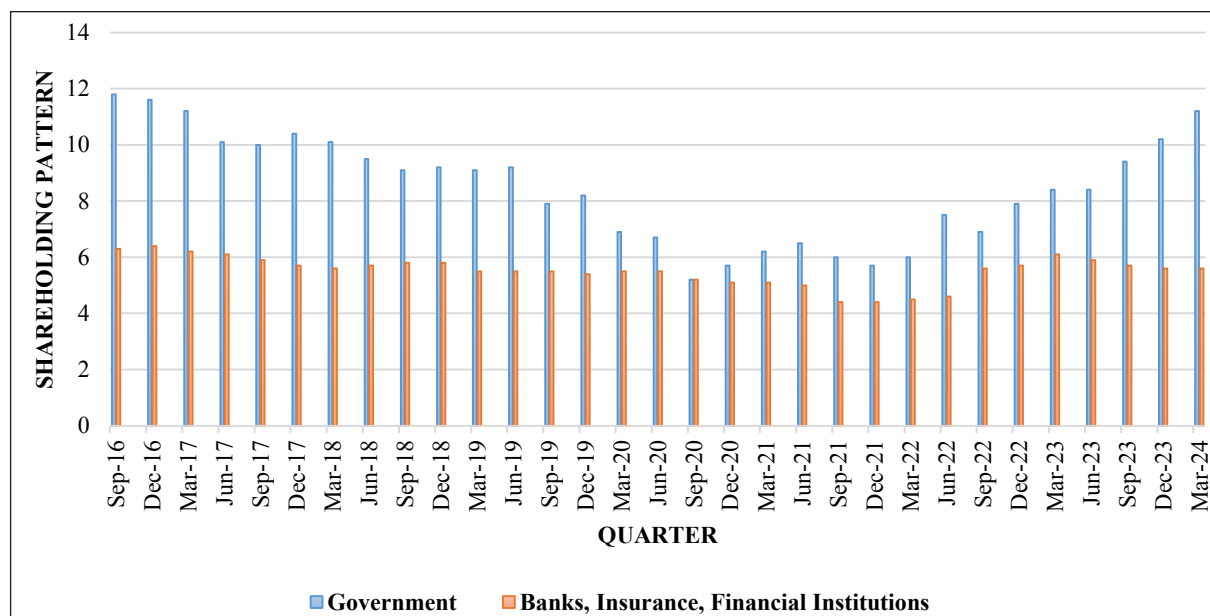
Stable Financial Institutional and Government Shareholding: Present Government, with an intent to stimulate capital formation through private investment and entrepreneurs, had announced a major disinvestment target in Public Sector Enterprises (PSEs). It is also evident from the Fig. 3 that Government had reduced its stake in PSEs from 12% in September, 2016 to 7.9% in December, 2022. In FY 2021-22 and 2022-23, Government sold its entire stake in Air India to Tata Sons Private Limited and also sold 3.5% stake in Life Insurance Corporation of India (LIC). Government has achieved target of disinvestment in 8 PSEs out of 36 selected for this purpose.

Moreover Banks, Insurance Companies and other Financial Institutions were also dropping their 5.7% holdings in capital markets and currently hovering around multi-decade low of 5.7% as shown in Fig. 3. This may have resulted due to tight liquidity position induced by rising interest rates in financial sector. In case of insurance sector, it may be due to the fact that Insurance Regulatory and Development Authority (IRDA) in April, 2020 stated that all claims related to COVID-19 can be covered in a standard insurance plan. Till May 2022, insurance sector had received 2.18 lakh COVID-19 claims creating an additional burden of ₹16,921 crore. This has hampered the liquidity position of insurance sector as well. Consequently, it may have decreased their stake in NSE ownership.

However, since Indian economy has recovered from COVID-19 impact, the shareholding size of Government started to increase once again. This may be largely

attributed to rally in the shares of Public Sector Enterprises (PSEs), which outperformed the returns of capital markets. Currently, Government's stake in the ownership pattern stands at 11.6%, which is at 28 quarter higher. On the other hand, financial institutions have also started to increase their shareholding marginally. This may have

been the result of easing liquidity positions of banks, which is attributable to constantly high interest rates maintained by Reserve Bank of India (RBI). Moreover, with introduction of IPO in LIC, the liquidity in insurance sector has also increased. Therefore, both these entities may have been holding the financial markets together.



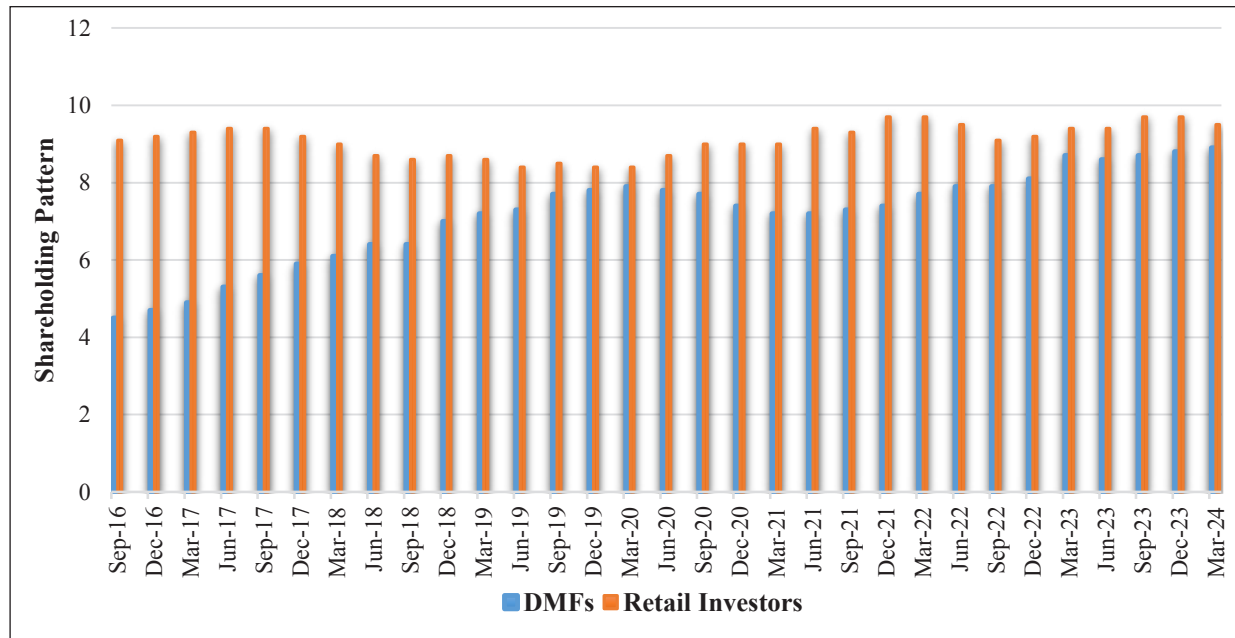
Source: Based on data extracted from report 'Who owns India Inc?' available in market insights section under 'Publications & Reports' head on the official website of NSE from June, 2020 to March, 2024. (<https://www.nseindia.com/research/publications-reports-nse-market-insights>)

Fig. 3: Quarterly Financial Institutions and Government Shareholding Pattern at NSE

Increased Shareholding of Domestic Mutual Funds and Retail Investors: According to National Stock Exchange Ownership data report published on quarterly basis, presented in Fig. 4, Domestic Mutual Funds (DMFs) and Retail Investors (RI) are raising their stake in Indian Stock Market (Kumar & Gupta, 2023). As on March 31, 2024 total count of demat accounts in India stands at 15.1 crores, which were only 3.6 crores on 31st March 2019. The possible factors that contributed to such a huge jump in number of demat accounts can be low rate of interest on term deposits in banks, rising inflation and IPO of LIC, which almost promised the policyholders a capital gain if they invest in the IPO. In addition, during lockdown, 'Work from Home' mechanism saved a lot of time of working

category and they had enough idle time to increase their knowledge about financial markets. Moreover, lowering strategic rates and easy loan conditions may have lured potential investors to take some risk by investing the borrowed money in stock market.

In addition, investment through Systematic Investment Plan (SIP) is also on an increasing trend. Many people, who want to invest in stock market but lacks financial know-how, takes SIP route through DMFs. Average monthly inflow through SIP has reached ₹ 181 billion plus in FY 2024 as compared to ₹ 80 billion in FY 2021 and ₹ 83 billion in FY 2020. Therefore, there has been a continuous increase in stake of DMFs from 4.5% in September 2016 to 8.9% in March 2024 at NSE.

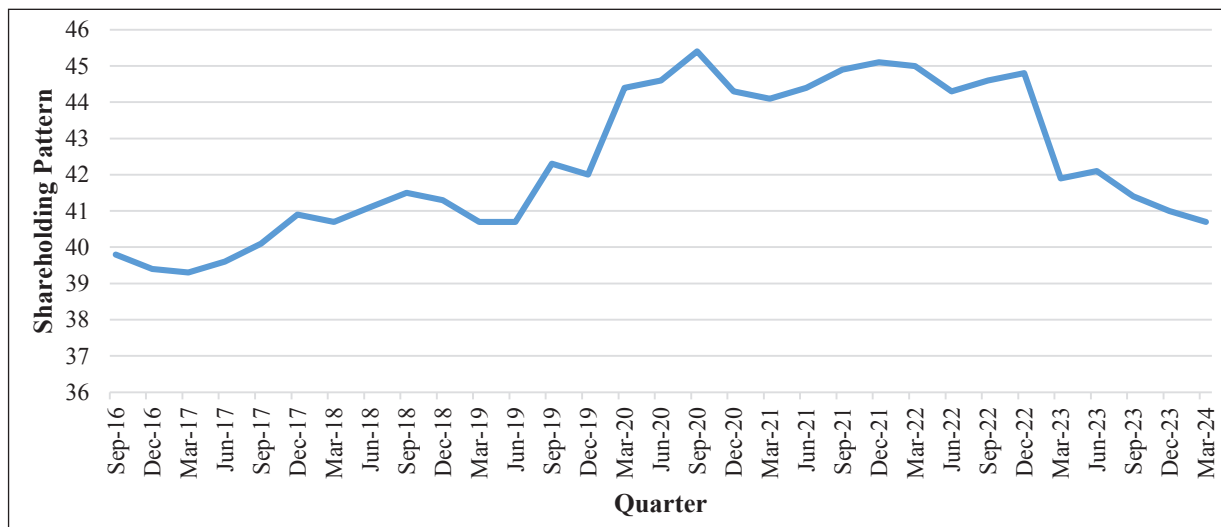


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Fig. 4: Quarterly Domestic Mutual Funds (DMFs) and Retail Investors Shareholding Pattern at NSE

Continuous Holding by Private Promoters: The stake of private promoters is also on an increasing trend as shown in Fig. 5. According to latest Securities and Exchange Board of India (SEBI) regulations, a promoter is required to keep minimum 20% contribution in post-issue capital of a listed company for a minimum period of 18 months

from the date of issue of Initial Public Offering (IPO) / Further Public Offering (FPO) in selected cases and for other cases, lock-in period remains 3 years. These regulations are placed to ensure that promoters themselves have major interest in company and they conduct the company's operation in best interest of all stakeholders.



Source: Based on data extracted from report 'Who owns India Inc?' available in market insights section under 'Publications & Reports' head on the official website of NSE from June, 2020 to March, 2024. (<https://www.nseindia.com/research/publications-reports-nse-market-insights>)

Fig. 5: Quarterly Private Promoters Shareholding Pattern at NSE

However, from Fig. 5, it is clear that after November 2019, promoter shareholding has increased and it is hovering around 45% up to December, 2022 with a slight fall upto 41% in March, 2024. This may be due to the fact that in 2020, 43 companies floated IPOs in India raising a capital of ₹ 32 thousand crores. In 2021, it saw a major uptrend as a record ₹1.2 lakh crores were raised in India by 63 companies through IPOs and 115 companies filed IPO for SEBI's approval. This shows the volume of capital, which is raised by new age companies through capital markets in India. Besides, to encourage investor confidence in their companies, promoters are keeping high stake in these new age companies like Paytm, Zomato, Nykaa etc. with themselves.

Effect of Increased Retail Participation

The EGARCH model is applied to check the volatility persistence before and after the introduction of retail participants in the equity market. For that purpose, a dummy variable is added to investigate, whether the investment decisions of retail investors are informed or not. This shall lead us to the conclusion whether equity market shall be able to retain its resilience or not.

The results of EGARCH model before (Panel A) and after (Panel B) introduction of dummy variable are shown in Table 3.

Table 3: EGARCH Estimation

Panel A: (Before Adding Dummy Variable)			Panel B: (After Adding Dummy Variable)	
Variable	Co-Efficient	P-Value	Co-Efficient	P-Value
C	0.00	0.1173	0.00	0.1184
AR(1)	0.07	0.0000	0.05	0.0000
Variance Equation				
C(3)	-0.07	0.0000	-17.91	0.0000
C(4) (Size Effect)	0.02	0.0000	-0.02	0.0330
C(5) (Sign Effect)	-0.08	0.0000	-0.01	0.1108
C(6) (GARCH Term)	0.99	0.0000	-0.94	0.0000
C(7) (Dummy Variable)	--	--	1.04	0.0000
R-squared	0.01		0.01	
Adjusted R-squared	0.01		0.01	
Durbin-Watson Stat	1.98		1.95	

Source: Based on author's calculations.

In Table 3, C(4) parameter signifies size effect which indicates the magnitude of shock transmitted to the market. Variable C(5) signifies sign effect, which shows the relationship between error term and volatility. C(6) parameter relates to GARCH term, which investigates volatility persistence. Finally, C(7) indicates dummy variable, which shall indicate the effect of increased retail participation on the capital market.

As shown in Table 3, all three parameters in panel A, i.e. C(4), C(5) and C(6) are significant, which shows that shock has significant impact on volatility and volatility persist for a long period of time. Furthermore, positive news shall reduce the volatility in the market. However, when dummy variable is added, it shows that C(5) parameter turns insignificant and C(7) variable turns significant, which shows that even occurrence of positive

news may not decrease the volatility in the market and very high volatility shall persist in the capital market.

This observation leads us to the notion that increased retail participation may have widened the capital base of the equity market, however, uninformed decision making and irrational thinking of these investors has created noise in the market (Sengupta & Mitra, 2023), which shall further lead to increase in volatility of the capital market. Similar results are also reported in the studies of Aggarwal et al. (2021) and Jain and Biswal (2022).

Uncertainty Regarding Future Shareholding Pattern

Reserve Bank of India, with a view to provide financial aid to people of country, who otherwise had no financial

security, announced some reliefs in loan conditions and reduction in strategic rates. These relaxations gave some easy money in the hands of people who were stuck at their homes due to lockdown and people utilised that time to increase or gain some knowledge of stock market. Consequently they opened demat accounts in large numbers. Large opening of demat accounts was also induced by the easy online account opening system and Electronic Know Your Customer (e-KYC) requirements, which mostly needed only customer's PAN and E-Aadhar Card.

However, now the economy is fully opened and almost all companies have instructed their employees to join offices and opted out of 'Work from Home' mechanism. On the other hand, RBI is continuously increasing strategic rates. In last Monetary Policy Review meet in June, 2024, RBI increased lending rate to 6.5%, which raised the lending rate to more than the pre-pandemic level of 5.15%. Therefore, a retail investor is neither left with idle time nor easy money. In this scenario, how long they shall stay invested in capital market. Moreover, repeated incidents of financial crisis like COVID-19 and Ukraine-Russia war is also testing the patience of investors (Kumar & Gupta, 2021). In addition, rising tensions between United States of America (USA) and China over Taiwan issue is also making global market very much uncertain.

Conclusion

From the above discussion, it is quite clear that Indian investors have raised their stake in the Indian capital markets. They have protected Indian capital markets from falling for almost 2 years and have shown unshakeable faith in fundamentals on Indian companies. However, as indicated by application of EGARCH model, there participation may have resulted in widening of capital base of Indian equity market, it may also have resulted in the heightened volatility. This may be due to uniformed trading by the retail investors, which signifies the transitionary phase of Indian capital markets. Nevertheless, the question arises, how long they can sustain this faith. How long retail investors can stay in market amidst extreme volatility. Till date they have sustained in the capital markets and increasing trend of demat account opening and SIP flow to equity

market also indicates to a bright future of capital market. Nevertheless, looming threats of crisis in the global economy can be the cause of concern for these investors as they cannot afford to lose their hard earned money. Therefore, only time can answer all these questions that if this self-reliance is a Transitory Phase or Sustainable Phenomenon. Our results are consistent with Chauhan and Chaklader (2023), Jain and Saha (2023), Sharma et al. (2023) and Kumari et al. (2023).

Practical Implications

In the backdrop of above discussion, it can be iterated that policymakers in Indian capital markets have done a tremendous job to ensure smooth functioning of indices, without any hiccups, even during the toughest crisis phases in the global economic environment. Continuing this approach, this study of self-reliance of capital markets is crucial for the policymakers for various reasons. This study helps them to determine the level of financial awareness and literacy among small investors in a developing country like India, which further leads to reduction in fragility of financial markets. Moreover, they can design advanced equity awareness campaigns, which shall help financial investors to gain further confidence in their investment decisions. As far as other participants are concerned, this study can help policymakers to understand the trend of shareholding pattern of different market participants and design such policy frameworks that shall not be detrimental to the interest of any market participant. Moreover, specific policies can be implemented to safeguard the interest of small retail investors.

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