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A Study on Sectoral Performance of the Indian Stock Market During Economic Downturns

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A B S T R A C T

Economic downturns are responsible for a considerable amount of volatility in the financial markets, whereby their effects differ on industries on account of demand patterns, cost structures, and resiliency factors. This study is directed towards investigating how the three economic crises—the Global Financial Crisis of 2008, the Indian Demonetization of 2016, and the COVID-19 lockdown of 2020—shaped the performance of sectoral indices in the Indian stock market. The research examines secondary data from the National Stock Exchange (NSE) on sector performances, namely, Nifty 50-index and 5 major sectoral indices: NIFTY FMCG, NIFTY IT, NIFTY Auto, NIFTY Pharma, and NIFTY Bank. Various descriptive statistics, such as mean returns and standard deviations, were applied in determining sectoral resilience and volatility during these downturns. Findings show that the FMCG and Pharma sectors have been very resilient, having exhibited stable return profiles and low volatility, while Banking, Auto, and IT sectors remained on the receiver's end, sustaining higher losses and perturbations. The Banking sector sustained the highest volatility when compared across all periods. This gives credence to the counter-cyclical nature of essential goods and healthcare, while cyclical industries are more highly exposed to economic shocks. The results will support investors, policymakers, and industry participants in maintaining their footing amid financial crises. This introduction by understanding sectoral behavior in downturns should offer some key imperatives for informed strategic investments, risk management, and economic policies.

Keywords: Economic downturns, Stock market, Sectoral indices, NSE, Financial crises, Resilience, Volatility

1. Introduction

Economic downturns create significant volatility and uncertainty in financial markets, impacting industries unevenly based on their demand patterns, cost structures, and elasticity to respond. While some industries experience a downturn due to decreased consumer spending and reduced business activities, other industries display resilience or even growth, driven by the essentiality of their services. Therefore, a deep understanding of the performance of industries during economic downturns is crucial to facilitate informed decision-making by investors, businesses, and policymakers. This paper discusses the performance of five key industries—Fast-Moving Consumer Goods (FMCG), Information Technology (IT), Automobile, Pharmaceuticals, and Banking— and compares them to Nifty 50, through the cycle of economic downturns Through the analysis of the diverse reactions of these industries to economic recessions, this study aims to make valuable contributions on sectoral resilience as well as inform the formulation of effective investment strategies. The findings presented in this study are hoped to assist investors and companies to navigate economic recessions, as well as contribute to the understanding of what determines sectoral performance during economic recessions

2008 Global financial crisis

The global financial meltdown of 2008 stands out as a downturn, in recent times that began in the United States and swiftly impacted the entire world stage. It all started with the bursting of the housing bubble in the U.S. coupled with risk behaviors within the industry and the subsequent collapse of mortgage backed securities. This crisis resulted in the collapse of giants like Lehman Brothers and triggered widespread panic in international markets along with a steep drop, in economic activities. Governments and central banks had to step in with bailout plans and monetary policy actions to stabilize the system. While India did not have a role, in the subprime mortgage crisis it did feel the impact on its economy significantly. The stock market in India saw a drop due to the withdrawal of capital by institutional investors (FIIs) causing liquidity issues and market instability. The devaluation of the rupee decreased exports and a slowdown in growth added to the economic insecurity. Businesses encountered reduced demand job losses rose and overall economic progress decelerated. This crisis revealed weaknesses in connections and underscored the necessity, for stronger economic protections.

2016 Demonetization

On November 8, 2016, the Indian government announced the demonetization of ₹500 and ₹1,000 currency notes as a measure to curb black money, eliminate counterfeit currency, and encourage digital transactions. This sudden action caused an instant liquidity shortage, which had a significant effect on industries that rely heavily on cash, including consumer goods, small enterprises, and real estate. Due to the uncertainty, the stock market responded violently, and in the days after the announcement, indices such as the Sensex and Nifty 50 saw notable drops. Investors became more cautious as lower cash flow and delays in business operations caused concerns about economic growth. The industries that were most affected were those that relied on cash transactions, although the formalization of the economy and the rise in digital transactions caused different responses in banking and fintech stocks.

2020 covid lockdown

The early months of 2020 saw an unprecedented global economic crisis triggered by the outbreak of the "COVID-19 pandemic. As the virus spread rapidly, governments worldwide imposed strict containment measures, leading to severe disruptions in economic activity. In India, a nationwide lockdown was announced on March 25, 2020, bringing businesses, industries, and financial markets to a standstill. The sudden halt in economic operations, combined with global uncertainty, resulted in sharp market declines, job losses, and supply chain disruptions. The crisis not only affected domestic industries but also exposed the vulnerabilities of the Indian economy to global shocks. Investors faced heightened volatility, businesses struggled to adapt, and policymakers were forced to take urgent measures to stabilize the situation.

2. Literature review

Najeb M.H. Masoud (2013) in their study "The Impact of Stock Market Performance upon Economic Growth" examined the link between stock market performance and economic growth from theoretical and empirical view. It identifies the crucial roles of stock markets to enhance liquidity, aggregate capital, exercise corporate control, and bear risk. The results support the view that well functioning stock markets are good for economic growth, both directly and indirectly, by encouraging investment. It also distinguishes between market based and bank based financial systems and reviews the development of stock markets in both developed and developing economies. In general, the paper strengthens the hypothesis that stock markets are a key engine of economic growth, in conformity with the previous studies on financial development and growth.

Chatterjee and Banerji (2016) in their study "The Impact of Demonetization in India" discussed the general impact of demonetization on Indian economy and specific impact on various sectors. As per them the demonetization of 500 and 1000 notes will have significant and immediate impact on Indian economy. Demonetization resulted into increase in bank's deposit level due to more number of deposits with banks. Further financial savings are expected to increase as a result of shift from unproductive physical asset based savings to interest bearing financial assets. This in turn is expected to increase the banks liquidity position, which can be leveraged by them for lending purposes. As the demonetization is expected to result in low preference for informal funding sources, the real estate sector is expected to have an adverse impact in terms of demand. Luxury property rates are expected to fall as result of fewer purchasers with substantial liquidity. The demonetization measures are also expected to affect the cash transactions in Automobile Industry, predominantly in auto ancillary and two wheelers industry.

Rashmi Chaudhary (India), Priti Bakhshi (India), Hemendra Gupta (India) (2020) in their study "The performance of the Indian stock market during COVID-19" explore the impact of the pandemic on stock prices in India. It analyzes two major stock indices (BSE 500 and BSE Sensex) and eight industry specific indices from January 2019 to May 2020. The study reveals that stock prices were more volatile during the pandemic as prices moved more frequently and declined more sharply. The behavior of the Indian market was, to some extent, similar to the international markets such as the U.S., Japan, and the U.K., but the market had sharper corrections and quicker recovery.

B. Hari Prasad Rao, Dr. Venkateswara Rao Bhanotu, Arup Bramha Mohapatra (2024) in their study "Performance of Sectoral Indices and their relationship with NIFTY 50" compares the performance of various sector-based indices to the NIFTY 50 between 2014 and 2024. It discovered that sectoral indices beat the NIFTY 50 in six of ten years, with Nifty Metal and Nifty Realty exhibiting the largest gains and Nifty FMCG and Nifty Media underperforming. All indices fell during the COVID-19 pandemic, but Nifty FMCG was the least impacted. Following the pandemic, industries like Nifty Metal and Nifty Realty saw significant recoveries. The study also showed that while some indices, like Nifty IT and Nifty Media, had weaker correlations with the NIFTY 50, others, like Nifty Bank and Nifty Financial Services, had strong positive correlations.

Anindita Bhattacharjee, Jaya M. Prosad & Bikramaditya Ghosh (2025) in their study "Market persistence amidst financial crisis: an Indian investigation" explore how the Indian stock market has responded to financial crises from 2012-2022, ranging from economic slowdown, demonetization, the US China trade war, to COVID-19. The Hurst Exponent is used to determine if stock prices were trend following or trend reversing. It is observed that during crises most of the stocks had persistent trends, that is, investors tended to follow the lead of the market rather than charting their own path. This implies very strong herding, where people invest according to the behavior of others and not in the real value of the stock.

3. Objectives

- To analyze the performance of different sectoral indices in the Indian stock market during economic downturns.
- To identify which sectors are most resilient and which are most vulnerable during economic crises.
- To examine the volatility of each sector during downturns using statistical measures.

4. Research methodology

This study employs secondary data obtained from the National Stock Exchange of India (NSE), specifically the daily closing prices of selected stocks over a defined period. The data was sourced directly from the NSE website to ensure accuracy. Daily stock returns were calculated based on the percentage change in closing prices from one trading day to the next. To analyze the dataset, descriptive statistics were used, focusing on mean and standard deviation to assess stock price trends and volatility. IBM SPSS software was used to perform the analysis, allowing for the effective computation and interpretation of statistical measurements.

4.1 Tools used

a) Daily stock return calculation

To calculate the percentage change in closing prices from one trading day to the next, the daily returns were calculated. The formula used was

$R_t = P_t - P_{t-1} / P_{t-1} \times 100$

b) Descriptive statistics

1. Mean

To calculate the average stock return during the chosen time, the mean of the daily returns was computed. By adding up all the daily returns and dividing by the total number of observations, it determines the overall performance of the stock. While a negative stock indicates depreciation, a positive shows an overall increase in price.

2. Standard deviation

The standard deviation of the daily returns was used to measure the volatility of stock prices. It indicates how much the returns fluctuate from the mean, with a higher standard deviation reflecting greater risk and price instability.

c) IBM SPSS Software

SPSS was used for the analysis, more specifically the Descriptives function that was very helpful in calculating statistical measures and giving a clear picture of the data set.

5. Limitations

- The study solely relies on secondary data from NSE, which may have limitations in accuracy, completeness, or availability
- The study considers relatively short time frames for demonetization and COVID-19, which may not fully capture long-term market recovery or delayed effects.
- The study focuses on NIFTY 50 and five sectoral indices, excluding individual stocks, small-cap, or mid-cap indices
- The study relies on descriptive statistics (mean and standard deviation), without using advanced statistical models for deeper analysis.

6. Analysis and interpretation

Data used for this study was collected from the official website of NSE for the following periods

- 2008 Global financial crisis - 1st Jan 2008 – 30th Jun 2009
- 2016 Demonetization - 1st Nov 2016 – 31st Jan 2017
- 2020 Covid - 1st Feb 2020 – 30th Apr 2020

6.1 Analysing the performance of different sectoral indices and classify them as resilient or vulnerable during economic downturns

a. 2008 Global financial crisis

Table 1 : Mean of the indices during 2008 global crisis period

Descriptive Statistics		
	N	Mean
Daily_Return_NIFTY50	363	-.0604
Daily_Return_NIFTYAUTO	363	-.0301
Daily_Return_NIFTYbank	363	-.0221
Daily_Return_NIFTYFMCG	363	-.0094
Daily_Return_NIFTYIT	363	-.0417
Daily_Return_NIFTYPHARMA	363	-.0339
Valid N (listwise)	363	

When comparing the mean return of each sector with NIFTY 50 (-0.0604%), all the sectoral indices were better than the overall market and thus more resistant. NIFTY FMCG (-0.0094%) was the least likely to decline, and it was the most resilient sector because conventional goods and services will always be in demand. It was followed by NIFTY Bank (-0.0221%), NIFTY Auto (-0.0301%), NIFTY Pharma (-0.0339%), and NIFTY IT (-0.0417), all of which had higher mean returns than NIFTY 50, thus being more stable. Since no sector had a mean return lower than NIFTY 50, there were no vulnerable sectors in this comparison. This indicates that while the market as a whole faced challenges, certain sectors, including FMCG, Banking, and Auto, performed better, and showed more resilience, during the downturn.

b. 2016 Demonetization

Table 2 : Mean of the indices during 2016 demonetization period

Descriptive Statistics		
	N	Mean
Daily_return_nifty50	63	-.0080
Daily_return_niftyauto	63	-.0318
Daily_return_niftybank	63	.0115
Daily_return_niftyfmcg	63	.0405
Daily_return_niftyit	63	-.0153
Daily_return_niftypharma	63	-.1803
Valid N (listwise)	63	

Analysing the return of each sector with that of NIFTY 50 (-0.0080%), the most resistant sector was NIFTY FMCG (0.0405%) which had the highest positive return that shows strong results during this period. NIFTY Bank (0.0115%) also outperformed NIFTY 50 and could be considered relatively stable. Nevertheless, NIFTY Auto (-0.0318%), NIFTY IT (-0.0153%) and NIFTY Pharma (-0.1803%) had lower mean returns than NIFTY 50, and thus were vulnerable sectors, with NIFTY Pharma (-0.1803%) being the most vulnerable. This implies that while FMCG and banking sectors were more resilient, pharma, IT and auto were the most affected, with pharma being the worst affected during this period.

c. 2020 Covid

Table 3 : Mean of the indices during 2020 early covid period (February – April)

Descriptive Statistics		
	N	Mean
daily_return_nifty50	58	-.2265
daily_return_niftyauto	58	-.4243
daily_return_niftybank	58	-.4656

daily_return_niftyfmcg	58	-.0460
daily_return_niftyit	58	-.1871
daily_return_niftypharma	58	.3072
Valid N (listwise)	58	

Analysing each sector's mean return, the most resistant sector was NIFTY Pharma (0.3072%) as it was the only sector that had positive mean return that shows strong results during this period. NIFTY FMCG (-0.0460%) also had a strong showing as it's decline was much lower than that of NIFTY 50. By contrast, NIFTY Auto (-0.4243), NIFTY Bank (-0.4656), and NIFTY IT (-0.1871) had lower mean returns than NIFTY 50 and were thus vulnerable sectors with NIFTY Bank (-0.4656) being the most negatively impacted. This indicates that while the Pharma and FMCG sectors were very resilient, Banking, Auto and IT were the weakest, with Banking being the worst.

6.2 Analysing volatility of each sector

a. 2008 Global financial crisis

Table 4 : Standard deviation of the indices during 2008 global crisis

Descriptive Statistics			
	N	Mean	Std. Deviation
Daily_Return_NIFTY50	363	-.0604	2.78411
Daily_Return_NIFTYAUTO	363	-.0301	2.21373
Daily_Return_NIFTYbank	363	-.0221	3.49629
Daily_Return_NIFTYFMCG	363	-.0094	1.96034
Daily_Return_NIFTYIT	363	-.0417	2.92444
Daily_Return_NIFTYPHARMA	363	-.0339	1.91992
Valid N (listwise)	363		

NIFTY Bank (3.4963) was the most volatile sector that had the highest fluctuations in returns and was the riskiest. NIFTY IT (2.9244) and NIFTY 50 (2.7841) also had high volatility, indicating that both technology and overall market were quite unstable. NIFTY Auto (2.2137) had moderate volatility; the least volatile sectors were NIFTY FMCG (1.9603) and NIFTY Pharma (1.9199), which stayed relatively stable. This pattern shows that the Banking and IT sectors were most uncertain while Pharma and FMCG were the least likely to experience significant changes in performance, probably because of their stable demand and low sensitivity to market shocks.

b. 2016 Demonetization

Table 5 : Standard deviation of the indices during 2016 demonetization

Descriptive Statistics			
	N	Mean	Std. Deviation
Daily_return_nifty50	63	-.0080	.90433
Daily_return_niftyauto	63	-.0318	1.47412
Daily_return_niftybank	63	.0115	1.18594
Daily_return_niftyfmcg	63	.0405	1.14943
Daily_return_niftyit	63	-.0153	1.22762
Daily_return_niftypharma	63	-.1803	1.30600
Valid N (listwise)	63		

NIFTY Auto (1.4741) was the most volatile sector that indicated greater price fluctuations. NIFTY Pharma (1.3060) and NIFTY IT (1.2276) were also relatively volatile, which indicated volatility in these sectors. NIFTY Bank (1.1859) and NIFTY FMCG (1.1494) had moderate volatility and NIFTY 50 (0.9043) had the least volatility, hence was the most stable among the indices. This implies that Auto, Pharma, and IT sectors were most unpredictable, while NIFTY 50 was the least volatile, with FMCG and Banking likely being more stable due to their defensive nature and steady demand.

c. 2020 Covid

Table 6 : Standard deviation of the indices during 2020 early covid period (February – April)

Descriptive Statistics			
	N	Mean	Std. Deviation
daily_return_nifty50	58	-.2265	3.52500
daily_return_niftyauto	58	-.4243	3.83187
daily_return_niftybank	58	-.4656	4.30921
daily_return_niftyfmcg	58	-.0460	2.96547
daily_return_niftyit	58	-.1871	3.46881
daily_return_niftypharma	58	.3072	3.03460
Valid N (listwise)	58		

NIFTY Bank (4.3092) was the most volatile sector that had the highest price fluctuations, followed by NIFTY Auto (3.8319) and NIFTY IT (3.4688), which showed that these sectors were quite unstable. NIFTY 50 (3.5250) was also volatile, which shows the overall market risk. NIFTY FMCG (2.9655) and NIFTY Pharma (3.0346) were the least volatile, which means these sectors were least likely to change. This shows that Banking, Auto and IT had the most uncertainty, while FMCG and Pharma were the most stable, with Pharma even posting a positive mean return despite the downturn.

7. Findings

The findings of the analysis reveal key insights into the resilience and volatility of different sectoral indices in the Indian stock market during economic downturns. FMCG has been found to be one of the most resilient sectors with lowest decline in returns in most of the periods. This shows that consumer staples were still in demand and thus the sector was relatively stable during downturns. Pharma also showed resilience especially in one period where it was the only sector with positive mean return indicating its defensive nature in crises. On the flip side, Bank, Auto and IT were amongst the most vulnerable sectors with highest declines in returns and Banking was the worst hit in some instances.

In terms of volatility, NIFTY Bank was the most volatile sector in all the periods, followed by NIFTY Auto and NIFTY IT, which means high level of uncertainty and risk in these industries. On the contrary, NIFTY FMCG and NIFTY Pharma were the least volatile, which supports their position as stable, defensive sectors that are less sensitive to market shocks. The market volatility itself was also quite high, reflecting the general economic uncertainty during these downturns.

These findings show that although economic crises affect all sectors, FMCG and Pharma are relatively more stable, while Banking, Auto and IT are more sensitive. Moreover, a high level of volatility in the Banking, Auto and IT sectors is indicative of high risk and instability, while FMCG and Pharma are relatively safer investment ports especially during downtrend because of their relatively stable demand pattern.

8. Conclusion

In conclusion, this paper finds that economic downturns are accompanied by substantial impacts on the stock markets characterized by increased volatility and differences in sectoral performance. This study finds out that NIFTY FMCG and Pharma were the least affected and thus most stable sectors because they are core needs-based sectors while NIFTY Bank, Auto, and IT were the most affected and had the highest fluctuations. The banking sector, in particular, had the highest volatility, which shows that it is sensitive to economic risks. These results support the theory of defensive sectors acting as buffers against financial crises while cyclical industries are more susceptible to risks. These patterns are crucial for investors and policymakers to know in order to improve their risk management and investment decisions and therefore better navigate economic downturns.

References

- www.nseindia.com - https://www.niftyindices.com/reports/historical-data
- Najeb M.H. Masoud(2013). The Impact of Stock Market Performance upon Economic Growth. International Journal of Economics and Financial Issues Vol. 3, No. 4, 2013, pp.788-798 ISSN: 2146-4138

- Chatterjee and Banerji (2016), The Impact of Demonetization in India, Squire Patton Boggs
- Rashmi Chaudhary, Priti Bakhshi and Hemendra Gupta (2020). The performance of the Indian stock market during COVID-19. Investment Management and Financial Innovations, 17(3), 133-147. doi:10.21511/imfi.17(3).2020.11
- B. Hari Prasad Rao, Dr. Venkateswara Rao Bhanotu, Arup Bramha Mohapatra(2024). Performance of Sectoral Indices and their relationship with NIFTY 50 ,July 2024 IJRTI | Volume 9, Issue 7 | ISSN: 2456-3315
- Anindita Bhattacharjee, Jaya M. Prosad & Bikramaditya Ghosh (2025) Market persistence amidst financial crisis: an Indian investigation, Cogent Economics & Finance, 13:1, 2437007, DOI: 10.1080/23322039.2024.2437007
- https://doi.org/10.1080/23322039.2024.2437007