The policy response to COVID-19 pandemic and its impact on the equity market sentiment: The Indian experience

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We examine the dynamics of the impact of the evolving policy response during the COVID-19 pandemic on the equity market sentiment in India. We operationalise our study by examining the India VIX, the fear gauge of the Indian equity market as an indicator for the market sentiment, and the country level Government Response Index of the Blavatnik School of Government, Oxford University as an indicator for the policy response. The relation is examined through the Markov-switching model using high-frequency daily data from January 30, 2020, to May 31, 2021. The evidence suggests that the policy response has a positive impact on the market sentiment when the market is fearful. Further, the evidence suggests that both the high-fear state and the low-fear state of the market sentiment given by the model are short-lived indicating heightened volatility and possible speculation during the ongoing pandemic in the Indian equity market.

KEYWORDS
COVID-19, equity market sentiment, government policy response, India, Markov-switching model

1 | INTRODUCTION

The COVID-19 pandemic which qualifies as a ‘Black Swan Event’ (Antipova, 2021; Morales & Andreosso-O’callaghan, 2020) has caused unprecedented challenges on the policy front concerning health, social, political and economic imperatives. Governments around the world have adopted diverse policy initiatives in the form of social distancing norms, closure of work places, restrictions on large public gatherings and public events, restrictions on domestic and international travel, stay at home norms and total or partial lockdowns to contain the virus outbreak during the ongoing pandemic (Cheng et al., 2020; Hale et al., 2021). Of course, this has come with a huge economic cost (Phan & Narayan, 2020). To address the economic challenges, governments have resorted to initiatives in the form of income support and cash transfers to households and stimulus packages through use of fiscal and monetary policy to get economies back on track in the wake of the economic devastation caused by the pandemic. In this context, the study of the impact of the evolving policy response by governments on different institutions critical to health, social and financial systems during the pandemic seeks attention of researchers to guide informed policy action.

The pandemic has led to heightened uncertainty around the globe concerning health, social, political and economic imperatives. Although the uncertainty due to the pandemic did not originate in the financial sector but the severity of the crisis in the real economy has led to the transmission of the crisis in the financial system (Buszko et al., 2021; Goodell, 2020; Ito, 2020). The uncertainty has impacted global equity markets also. The pandemic had led to fear and financial hardships among investors (Frazier, 2021). In the early days of the pandemic, equity markets around the world went into a freefall (Bora & Basistha, 2021; Morales & Andreosso-O’callaghan, 2020). To put things into perspective, we take the reference of the MSCI indices1 for the developed, emerging and frontier market economies. Between January 1, 2020 till its March, 2020 lows, the MSCI World

1MSCI stands for Morgan Stanley Capital International. The MSCI indices are popularly tracked by industry practitioners for global equity investment decisions. The World index relates to the performance of 23 developed markets. While the Emerging market index reflects the performance of 27 emerging markets. The Frontier Market index reflects the dynamics of 28 frontier markets.
index lost 32.07%. During the same period, the Emerging Markets and the Frontier Markets indices lost 31.97% and 41.5% respectively. Equity markets globally have witnessed many episodes of rallies and corrections as the outbreak evolved in different countries of the world and so did the policy response of governments to contain the outbreak. It may be pointed out that studying the impact of COVID-19 on equity markets has received its due attention by researchers. The heightened volatility in equity markets due to the rise in infections and deaths because of the virus has been documented in studies such as Al-Awadhi et al. (2020), Ashraf (2020), Baig et al. (2021), Liu et al., 2020. The policy response by governments in the form of lock downs and restrictions has also led to increased volatility during the pandemic (e.g., Baker et al., 2020; Zaremba et al., 2020). Although the nuances of the policy action to address the concerns with regard to equity market volatility varied between countries, globally policy action by primarily the central banks and the governments has taken the form of increased fiscal spending, liquidity injection into the financial system and foregone revenues through tax reliefs adding to 15.3% of the world economy to stabilise the financial markets and to provide the much needed support to businesses and households in particular and the economy in general (Ito, 2020; RBI, 2021).

In this context, behavioural finance which allows investor irrationality attributes the volatility of stock returns or market fluctuations/crashes to investor sentiment which shapes equity market behaviour (Baker & Wurgler, 2006; Haritha & Rishad, 2020). It may be mentioned that sentiment is the expectation of investors about returns and risks associated with investments (De Long et al., 1990) and plays a crucial role in market behaviour (Brown, 1999; Schmeling, 2009; Yadav et al., 2019). Thus, the study of the impact of the evolving policy response by governments in shaping the dynamics of the market sentiment during the pandemic seeks the attention of researchers. This would in turn provide insights on the impact of policy initiatives in fighting the pandemic on the market behaviour.

To this end, the dynamics of the impact of the policy response during the COVID-19 pandemic on the equity market sentiment in India are examined. The choice of India as a context to examine the impact of policy response on the equity market sentiment assumes significance on primarily two grounds. First, according to WHO data, the country is one of the worst affected in terms of the number of infections and deaths. The second wave of the outbreak has been particularly devastating for the country and came at a time when it was gradually coming out of the brunt of the first wave of the viral outbreak. Second, before the pandemic hit, India was one of the fastest-growing emerging market economies in the world with a booming equity market which has attracted investment flows from around the world. At the time of writing this paper, Indian equity market was the eighth largest market in the world in terms of market capitalisation (India Infoline, 2021). The growth in market capitalisation of the Indian equity market has outpaced the global growth in market capitalisation for the past 5 years (Shyam, 2021). However, in the wake of the pandemic, the country’s benchmark index Nifty 50 fell 37.5% between January 1, 2020 and its March, 2020 lows. A closer look reveals that the index fell 31.6% in a span of mere 15 trading sessions between March 2, 2020 and March 23, 2020. This may be taken as a clear indication of the prevailing state of widespread fear among market participants during the period. The evolution of the India VIX\(^2\) (referred to as the equity market fear gauge) and the Government Response Index for India is depicted using Figure 1.

From the peak of March 24, 2020 when the market was most fearful amidst the announcement of a country wide lockdown on March 24, 2020 by the government, the fear in markets has come down gradually during the period of our study. The improved sentiment translated into 87% gain for the benchmark index Nifty 50 between March 25, 2020 and May 31, 2021. The equity markets have gone on to touch new highs after having reclaimed their index levels at the beginning of the pandemic indicating the markets have rediscovered their mojo in less than a year’s time even though the pandemic is far from over signifying the shift in the market sentiment. On the policy front, the country saw one of the strictest lockdowns according to the Stringency index of the Blavatnik School of Government, Oxford University (Jha & Mullick, 2020) to contain the infection rate in the early days of the pandemic in the country. To address the economic crisis posed by the pandemic, the government came up with an economic stimulus package worth 265 billion US dollars, one of the largest in the world and only behind the developed nations United States, Japan, Sweden, Australia and Germany (PTI, 2020). This was accompanied by a slew of other measures including social distancing norms, restrictions on domestic and international travel, closure of workplaces, educational institutions and even religious places and restrictions on large gatherings and events besides initiatives to augment the severely challenged health infrastructure. The country’s strategy has evolved with a focus on gradually unlocking (relaxation of restrictions imposed by the government) in phases to strike a delicate balance between ‘lives and livelihood’. The emergence of the second wave saw the gradual return of restrictions by the government in different parts of the country with varied nuances to contain the high infection rate. This gives us a pertinent context in which the impact of the policy response to the evolving pandemic on the equity market sentiment can be examined. To this end, the Markov-switching Model is employed to identify regime changes in the equity market sentiment given by the proxy indicator India VIX and examine the impact of the evolving status of the policy response during the ongoing pandemic in different regimes (states) of the market sentiment using country level data from the Oxford COVID-19 Government Response Tracker. Further, we also estimate the probability of transition between different states of market sentiment and thus, provide valuable insights in making informed investment decisions. Our work adds to the growing research on the impact of COVID-19 on the equity markets. Further, the study adds to the debate on the impact of policy response to contain the spread of the pandemic on equity markets. The study also adds to the scant research to explore the dynamics of

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\(^2\)Retrieved from https://covid19.who.int/table on 10 June 2021.

\(^3\)Retrieved from https://www1.nseindia.com on 10 June 2021.
the market sentiment in an emerging market context (Haritha & Rishad, 2020).

We organise the rest of the paper as follows: an account of the related literature is provided in section 2 followed by the discussion on the data and methodology used in the work in section 3. The discussion of the results of the study is provided in section 4. In section 5, we provide the concluding remarks.

2 | LITERATURE REVIEW

In this section, the related studies concerned with the impact of COVID-19 on equity markets are discussed. Topcu and Gulal (2020) using data from March 10, 2020 to April 30, 2020, documented the negative impact of the pandemic on the emerging markets. The study also provides evidence that the timing of the response and the size of the government’s stimulus package help in compensating the negative effects of the outbreak. Onali (2020) documented a significant increase in volatility of the US-based Dow Jones and S&P indices due to COVID-19 cases and deaths in different countries namely the United States, China, France, Iran, Italy, Spain and the United Kingdom using GARCH analysis. The study also documented a shift in the negative impact of the VIX on the returns in the United States markets using the Markov-switching model. Ashraf (2020) observed that the equity markets were negatively impacted by the increase in the confirmed cases of COVID-19 using data over the period January 22, 2020 to April 17, 2020 from 64 countries. Morales and Andreosso-O’callaghan (2020) used spectral causality and the Granger causality model and observed that the global uncertainty in the wake of the pandemic reached a global financial crisis level with equity markets globally entering in a free fall towards late February, 2020. The authors attributed this to the absence of an effective response from governments. Khan et al. (2020) investigated the impact of the pandemic on the equity markets of 16 countries using Pooled OLS regression. The authors observed that the Chinese government’s strong initiatives to contain the pandemic helped to regain the investors’ confidence in the Chinese equity market. Liu et al. (2020) using the event study methodology examined the short-run impact of the outbreak on market indices in major affected countries. Further, the study employed panel fixed effect regressions to document the negative effect on investors' expectations about future returns and uncertainties. Baker et al. (2020) used text-based methods to analyse large magnitude daily equity market movements dating back to 1900 and volatility dating back to 1985. The study documented that the government restrictions on travel and trade were the main explanations for the increased volatility in US markets during the COVID-19 pandemic as compared to previous pandemics. Zaremba et al. (2020) using panel regression studied the relation between interventions made by the government and the volatility of equity markets in 67 countries and observed that stringent measures increase the volatility. Ibrahim et al. (2020) studied the relation between COVID-19 and volatility in 11 markets in the Asia-Pacific region namely Japan, Vietnam, Malaysia, Laos, China, South Korea, Philippines, Indonesia, Myanmar, Singapore, and Thailand using continuous wavelet transformation and GARCH analysis. The study documented stringent government initiatives to fight the pandemic increased equity market volatility in different countries included in the study. Narayan et al. (2021) examined the effect of policy response to the pandemic on equity returns in G7 countries. The study used time-series analysis to show the positive effect of lockdowns, travel restrictions, and economic stimulus announcements on the G7 equity markets. Harjoto et al. (2021) undertook an event study analysis based on the events of the WHO announcement on March 11, 2020 and the stimulus announcement on April 9, 2020. The authors documented the negative impact of COVID-19 on the global equity markets, particularly the emerging markets. Further, the authors documented the positive impact on equity returns from the stimulus announcement. Singh et al. (2021) studied the role of global market linkages on the
effect of policy interventions on equity return and volatility in the context of Russia and China. The policy interventions were found to be effective in China but failed in Russia. In the context of India, Bora and Basistha (2021) explored the equity market volatility in India using the benchmark indices Nifty and Sensex. The authors observed that the volatility during the pandemic was higher compared to the pre-pandemic period.

The studies listed above are primarily concerned with the impact of the COVID-19 outbreak on price returns and price volatility in equity markets in different countries. There are a few published studies which has looked into the dynamics of the market sentiment during COVID-19 per se which is known to drive market behaviour and is critical to the stability of equity markets. Fallahgoul (2021) studied the evolution of the market sentiment about future returns during the pandemic using StockTwits data. The study documented that the market sentiment deteriorated in the initial days of the pandemic and improved sharply towards late March, 2020. Aggarwal et al. (2021) found panic to impact equity market returns during COVID-19. Further, the stringency of the lockdown also impacted equity returns. In our knowledge, no study primarily explores the dynamics of the impact of policy response on the equity market sentiment. We seek to fill this void in extant literature through our humble attempt in this paper.

3 | DATA AND METHODOLOGY

3.1 | Variables used in the study

The market sentiment is examined using high-frequency daily data for India VIX (volatility index). The index reflects the prevailing level of fear and uncertainty among equity market participants in India at a point in time. It is based on Nifty Index option prices and measures the expected volatility of the Nifty Index for the next 30 days on an annualised basis. The VIX is calculated in line with the US VIX of CBOE with necessary adjustments. For instance, if the VIX index is 10, it indicates that the market participants expect a 10% annualised change in the Nifty index in either direction (upside or downside).

Thus, a high VIX may indicate a high level of fear and uncertainty among market participants in India and vice versa. The data for India VIX is taken from the NSE website. Further, the evolving policy initiatives adopted by the government of the country are tracked using the country-level data from the Oxford COVID-19 Government Response Tracker namely the Government Response Index. The Government Response Index is a composite index that systematically reflects the policy response during the course of the pandemic developed by the Blavatnik School of Government, Oxford University (Hale et al., 2021). The value of the index may lie between 0 and 100 with higher values reflecting high levels of government response on multiple dimensions such as stringency of the response, extent of containment and health care initiatives, and the level of economic support provided by the Government of the country. The study period starts from January 30, 2020 (the first case of COVID-19 was reported in India on January 30, 2020) to the May 31, 2021 adding to a total of 331 data points. The use of data till May 31, 2021 from the beginning of the pandemic in the country allows us to capture the evolving policy response to fight the outbreak from its early days till the ongoing second wave of the viral outbreak and the shifts in market sentiment during this period.

We, thereby, extend our understanding of the impact of COVID-19 on equity markets based on a much longer data sample unlike much of the existing evidence based on the data samples relating to the early days of the pandemic. For the purpose of the study, we label the variables India VIX and Government Response Index as ‘Sentiment’ and ‘Response’ respectively. The summary statistics for the Sentiment and the Response variable are given in Table 1.

Looking at the mean and median values of the sentiment and the response variable, we can infer that the policy response has largely remained elevated during the period of our study. It may be noted that the Indian equity market has seen such elevated levels of the VIX (above 80) only in the backdrop of the Lehman Brothers collapse when it had touched its highest value of 85.13 on November 17, 2008. The VIX has remained below 30 in the 5 years prior to the pandemic (Coutinho, 2020). The relation between the policy response and the market sentiment varies during the course of the pandemic is assumed to be regime-dependent. To analyse this, we employ the Markov-switching model. Before applying the model, we must ensure that the data series is stationary. We check if the return data are stationary using the ADF test of Dickey and Fuller (1979) and the KPSS test of Kwiatkowski et al. (1992). The ADF test checks the null hypothesis that ‘there is a unit root in the data’ while the KPSS test checks the null hypothesis that ‘the data is stationary’. From part A and part B of Table 2, the test statistic for the ADF test and the KPSS test is presented along with the test results with regard to the relevant null hypothesis. We conclude that the data is stationary for the variables Sentiment and Response and therefore, we can proceed with further analysis of the data using the Markov-switching model.

| Variable | Mean | Median | SD | Max | Max. date | Min | Min-date |
|----------|------|--------|----|-----|-----------|-----|----------|
| Sentiment| 26.05| 22.51  | 11.35| 83.6| March 24, 2020 | 13.4| February 13, 2020 |
| Response | 64.81| 68.39  | 16.36| 89.8| April 9, to April 19, 2020 | 11.9| January 30, 2020 |

Source: Author’s own analysis.
TABLE 2  Test results

| Variable  | ADF test | KPSS test |
|-----------|----------|-----------|
|           | Test statistic | Null hypothesis | Test statistic | Null hypothesis |
| Sentiment | -2.914** | Reject | 0.642 | Accept |
| Response  | -3.173** | Reject | 0.313 | Accept |

Note: **5% level of significance. Source: Author’s own analysis.

3.2  Markov-switching model

The dynamics of the market sentiment are examined using a two-state Markov-switching model (Czech & Wielechowski, 2021; Hamilton, 1989; Singh et al., 2021). The non-linear Markov-switching model addresses the limitations of linear models like the autoregressive models (Granger & Terasvirta, 1993; Rossouw et al., 2020). It can be effectively used to examine time-series behaviour in different states (regimes) as it allows for switching between states. An unobservable state prevails for a random period after which it switches to another state. From the model, we can estimate the probabilities of switches from one state to another along with the length of time it takes to switch between states. The model used in this paper is given by:

\[
\text{Sentiment}_t^{(s)} = \alpha_j + \beta_j \text{Sentiment}_{t-1}^{(s)} + \delta_j \text{Response}_{t-1}^{(s)} + \sigma_j \epsilon_t^{(s)}, \text{when } s = 1
\]

\[
\text{Sentiment}_t^{(s)} = \alpha_j + \beta_j \text{Sentiment}_{t-1}^{(s)} + \delta_j \text{Response}_{t-1}^{(s)} + \sigma_j \epsilon_t^{(s)}, \text{when } s = 2
\]

In Equation 1, \(s\) is the unobservable state taking the value 1 when the process is in state 1 and the value 2 when the process is in state 2 respectively. The model follows a first-order Markov process and the parameters are state-dependent. Further, \(\epsilon_t \sim i.i.d \ N(0, \sigma^2)\). The parameters of the model are estimated using an expectation maximisation algorithm. The lagged term for the sentiment variable is introduced based on the Markovian property (the current value of the index depends on its immediate past value). The choice of the covariates to capture policy response is also assumed to capture the dynamics of the evolution of the pandemic in the country. The transition probability that state \(i\) will be followed by state \(j\) is given by the following matrix:

\[
P = \begin{bmatrix} P_{11} & P_{12} \\ P_{21} & P_{22} \end{bmatrix}, P_{i} > 0
\]

where \(i, j = 1, 2\).

The states can be classified based on the values of the intercept \(\alpha_1, \alpha_2\) and the volatility parameter \(\sigma_1, \sigma_2\). We classify the two states as high-fear state and low-fear state in our study. Further, after estimating the transition probabilities between states, the expected duration in each state may be estimated using the equation:

\[
E(D_i) = \frac{1}{\lambda_i}
\]

where \(s = 1\) and \(i, j = (1, 2)\).

TABLE 3  Estimated coefficients of models

| Model | Estimate | Standard error | p-Value |
|-------|----------|----------------|---------|
| Part A. State 1 | | | |
| \(\alpha_1\) | 7.681 | 1.925 | 0.00* |
| \(\beta_1\) | 0.992 | 0.024 | 0.00* |
| \(\delta_1\) | -0.101 | 0.026 | 0.00* |
| \(\sigma_1\) | 1.244 | 0.096 | 0.00* |
| \(P_{11}\) | 0.798 | | |
| \(P_{12}\) | 0.202 | | |
| \(D_1\) | 5 | | |
| Part B. State 2 | | | |
| \(\alpha_2\) | 0.471 | 0.282 | 0.09 |
| \(\beta_2\) | 0.954 | 0.014 | 0.00* |
| \(\delta_2\) | 0.006 | 0.004 | 0.11 |
| \(\sigma_2\) | -0.249 | 0.058 | 0.00* |
| \(P_{22}\) | 0.945 | | |
| \(P_{21}\) | 0.055 | | |
| \(D_2\) | 18 | | |
| Wald test | | | |
| \(\alpha_1 = \alpha_2\) | 13.996 | | 0.00* |
| \(\sigma_1 = \sigma_2\) | 211.93 | | 0.00* |
| Durbin Watson Statistic | | | |
| \(d\) | 1.94 | | |
| 4-d | 2.06 | | |

Note: **5% level and *1% level of statistical significance. \(D_1\) and \(D_2\) are in days. Standard deviations can be calculated from the \(\sigma\) parameter. The values of the Wald test are reported to test the null of equality of parameters in two states. The Durbin Watson test statistic of \(d\) and 4-d are above the critical value of 1.748 (Farebrother, 1980; Lin & Falk, 2021) indicating the residuals are free from first-order autocorrelations. Source: Author’s own analysis.

4  EMPIRICAL RESULTS

The impact of the policy response on the market sentiment in different states can be analysed based on the estimated parameters of the Markov-switching model presented in part A and part B of Table 3.

The two states can be classified based on the values of the intercept \(\alpha_1, \alpha_2\) and the volatility parameter \(\sigma_1, \sigma_2\). Thus, state 1 is classified as a high-fear state and state 2 is classified as a low-fear state as \(\alpha_1 > \alpha_2\) and \(\sigma_1 > \sigma_2\). The Wald test is employed to confirm that the two states are statistically different. The coefficient of the
response variable in our study in state 1 (high-fear state) is negative and statistically significant. We therefore, obtain evidence on the positive impact of the policy response on the market sentiment in state 1 (high-fear state) as the dependent variable Sentiment and the independent variable Response are negatively related (decrease in VIX is an indication of the decrease in fear in equity markets). Further, the coefficient of the response variable in state 2 (low-fear state) is positive but statistically not significant. The evidence suggests the impact of the policy response on the market sentiment in state 2 (low-fear state) is not significant.

The coefficient of the lagged sentiment in our study in state 1 (high-fear state) is positive and statistically significant. Similarly, we observe that the coefficient of the lagged sentiment variable in state 2 (low-fear state) is positive and statistically significant. This indicates that the market sentiment at time \( t \) is positively related to the market sentiment at time \( t - 1 \). This relates to the impact of the past market sentiment on the current market sentiment.

With regard to the transition probabilities between states, when the market sentiment is in state 1 (high-fear state), the probability of remaining in state 1 (high-fear state) is 79.8% while the probability of transition to state 2 (low-fear state) is 20.5%. Further, when the market sentiment is in state 2 (low-fear state), the probability of remaining in state 2 is 94.5% while the probability of transition to state 1 (high-fear state) is 5.5%. The filtered probabilities of switches between states during the period of our study are presented in Figure 2 (state 1) and Figure 3 (state 2). Figures 2 and 3 capture the dynamics of equity market sentiment in India during the course of the pandemic so far.

The expected duration of state 1 (high-fear state) is 5 days while the expected duration of state 2 (low-fear state) is 18 days. This is estimated using Equation (3). Thus, both states of the market sentiment are short-lived during the period and the duration of the low-fear state is relatively longer than the duration of the high-fear state in Indian equity markets. The evidence indicates frequent shifts in the equity market sentiment during the ongoing COVID-19 pandemic. This potentially explains the heightened volatility in the Indian equity market during the pandemic observed in the study by Bora and Basistha (2021). Besides, the frequent shifts in the equity market sentiment may also point towards possible speculation resulting in bubbles in equity prices (Haritha & Rishad, 2020; Pan, 2020). It may be added that the equity market rally to record highs for the equity indices has been fuelled by domestic and foreign fund inflow even when the economic fundamentals remain uncertain (Singh, 2021). This may be interpreted in the context of the observation made by Baker and Wurgler (2006) that investors may undertake optimistic and pessimistic valuation of assets driven by sentiment rather than fundamentals. This underscores the relevance of the theoretical underpinnings for this study. Further, the empirical findings must be seen in the backdrop of the steep plunge in economic activity in the second quarter of 2020 due to the viral outbreak followed by a faster than anticipated economic recovery which in

![Figure 2](image1.png)  
Source: Author’s own analysis

![Figure 3](image2.png)  
Source: Author’s own analysis

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**Figure 2** Filtered probabilities of staying in state 1 based on the model

**Figure 3** Filtered probabilities of staying in state 2 based on the model
turn led to return of risk appetite and as a result, equity became a preferred asset class for investors (RBI, 2021). The RBI report further observed that the quick economic rebound was aided by the policy initiatives of the government and the country's central bank. The economic rebound reflected in robust corporate profitability in the second and the third quarter of the financial year 2020–2021. This led to surge in equity valuations. On the policy front, in the beginning of 2021, the Indian economy was opened up further as restrictions were relaxed in view of the fall in the fresh infections and the worst was thought to be over for India. This was further supported in view of the vaccine rollout through the country. But, the situation took a dramatic turn for the worse since March, 2021 as the country was faced with a sudden and brutal second wave. This led to the return of the ‘region-centric’ restrictions as policymakers were again faced with the challenge of addressing the second wave of the pandemic and dealing with the economic fallout amidst the uncertainty.

5 | CONCLUSION

In this paper, we look into the dynamics of the impact of policy response during the COVID-19 pandemic on the equity market sentiment in India. We operationalise our study by examining the India VIX, the fear gauge of the Indian equity market as the proxy for market sentiment, and the country level Government Response Index of the Blavatnik School of Government, Oxford University as the indicator for the policy response. We employ the non-linear Markov-switching model to examine the dynamics of the relationship between the aforesaid variables. The results of the study bring into light the positive impact of the policy response to tackle the COVID-19 pandemic on the equity market sentiment in India, when the market is in a high-fear state. The impact is not significant when the market is in a low-fear state. In the absence of any study which provides direct evidence on the dynamics of the impact of policy response on the equity market sentiment in our knowledge, we may compare the evidence in our study with some indirectly related studies like Topcu and Gulal (2020), Khan et al. (2020), Morales and Andreossio-O’callaghan (2020), Singh et al. (2021) and Narayan et al. (2021) which document the positive impact of policy action on equity market returns. The results of the study provide insights to policymakers in understanding how policy initiatives adopted to address the COVID-19 pandemic have impacted the equity market sentiment in India which has an important bearing on the stability and performance of equity markets in India. However, our work does not look into other exogenous factors, which may impact the dynamics of the equity market sentiment as this was beyond the purview of the study. Further, the nuances of the policy response to tackle the COVID-19 pandemic are not looked into in our study as we work with the aggregate measure of the policy response of the government at a point in time. But, this aggregated approach has an associated advantage as diverse dimensions of the response are reflected through the composite index used in the study (Hale et al., 2021). In addition, the results of the study provide key insights to the market participants with regard to the transition probabilities associated with the low-fear and high-fear states of the market sentiment observed in our study and also, the expected time duration of each state. This understanding of the dynamics of the market sentiment during the crisis may aid investment decisions during such difficult times and inform policymakers on the need to watch for possible speculation to avoid a price bubble in the equity market. Nevertheless, the evidence in our study suggests that the policy response by the Indian Government has helped to foster a positive investment environment. This is consistent with the observations in the RBI (2021). The report observes that the policy initiatives of the government along with the central bank’s interventions amounting to 15.3% of the country’s GDP during the pandemic have worked so far despite the unprecedented challenges brought by the pandemic. Further, the policy initiatives have been able to ensure the stability of the financial system and the smooth functioning of the financial markets during the pandemic. Without timely and decisive policy action, the impact of the pandemic could have been more severe. However, owing to the brutal second wave, the economic outlook remains uncertain with significant downside risks. It may be pointed out that the pandemic is yet to run its full course. The future policy response is bound to adapt to the evolving pandemic and would do good to remain sensitive to market sentiments. Vaccinating the large population of the country remains a key challenge and a priority for policymakers in order to ensure that India can continue to maintain strong economic growth in order to achieve its developmental goals. The study may be replicated in the context of other countries as the nature of the response is largely dependent on the economic and social context and the evolution of the pandemic in a given country.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

Data is available on request from the corresponding author.

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