

TRENDS IN STOCK MARKET INDICES OVER THE PAST DECADE IN INDIA: AN EMPIRICAL ANALYSIS OF SENSEX AND NIFTY 50 FROM 2016-2025

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ABSTRACT

Abstract

Purpose. This study scrutinizes the trends, growth trajectory, and volatility patterns exhibited by India's two principal benchmark equity indices, the BSE Sensex and the NSE Nifty 50 over the past decade (2016–2025). It seeks to identify the macroeconomic and structural drivers underlying index growth, to describe the major episodes of volatility that punctuated this growth, and to assess the implications of India's expanding retail investor base for market depth and stability.

Design The study adopts a descriptive-analytical research design based on secondary time-series data. Decade-long data on Sensex and Nifty 50 closing levels, calendar-year returns, rolling compound annual growth rate (CAGR), market capitalization, and demat account growth were compiled from NSE Indices, BSE, SEBI and other published secondary sources. Trend analysis, CAGR computation, and comparative benchmarking against major global indices were employed to describe the decade's performance and to relate index-level movements to identifiable macroeconomic and policy events.

Findings Both indices recorded sustained long-term growth despite pronounced short-term volatility. The Sensex advanced from around 26,600 at end-2016 to approximately 84,647 by end-2025, closing higher for ten consecutive calendar years, while the Nifty 50 brought an annualized return of roughly 12.6 per cent over the decade, outperforming most global peers other than the Nasdaq. The period was punctuated by the March 2020 COVID-19 crash, the sharpest single-month decline of the decade, followed by a rapid recovery, and by episodic corrections linked to global monetary shrinking in 2022.

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Structural drivers of the decade's growth include tax and GST reform, sustained government capital expenditure, resilient corporate earnings, and a near four-fold rise in demat accounts, reflecting the rapid validation of retail participation through digital broking platforms.

Practical Implications The findings offer guidance to retail and institutional investors on the value of long-horizon, systematic investment strategies that ride through short-term volatility, and to policymakers and regulators on sustaining reform momentum while consolidation safeguards against retail-driven volatility amplification.

Originality/Value The study contributes a decade-long, integrated synthesis of index-level performance trends with market microstructure developments particularly the retail participation rushes an intersection that is less commonly addressed jointly in the extant, largely volatility-focused, literature on Indian equity markets.

Keywords: *Sensex; Nifty 50; Indian stock market; index trends; market volatility; retail investors*

JEL Codes: G10, G14, E44.

1. Introduction

The Indian equity market has undergone a period of structural transformation over the past decade, evolving from a market historically dominated by institutional and high-net-worth participation into one increasingly shaped by mass retail engagement, digital brokerage, and policy-driven reform. Two benchmark indices anchor this transformation in public discourse and in empirical research alike: the S&P BSE Sensex, a 30-stock, free-float market-capitalization-weighted index dating to 1986, and the NSE Nifty 50, a 50-stock index that has served as the principal barometer of the National Stock Exchange since 1996. Following the trajectory of these two indices offers a tractable lens through which to inspect the broader evolution of the Indian economy, its capital markets architecture, and the behaviour of the investors who participate in it.

Over the ten years spanning 2016 to 2025, India's equity indices brought sustained double-digit compounded growth despite absorbing a series of severe shocks, most notably the COVID-19 pandemic, alongside global monetary tightening, geopolitical tension, and domestic policy shifts such as demonetization and the introduction of the Goods and Services Tax (GST). The Nifty 50 delivered a compound annual growth rate of approximately 12.6 per cent over the past decade, outperforming most Asian and European peers such as the Nikkei and the Dow Jones, with only the Nasdaq recording a higher return over the same period. The Sensex, for its part, extended a decade-long rally, climbing from around the 26,600 level at end-2016 to near the 85,000 marks by the close of 2025, marking its tenth consecutive year of positive returns.

This decade-long ascent was, however, far from linear. It was scattered by episodes of acute stress and equally sharp recovery, most visibly the pandemic-triggered crash of March 2020, when the Sensex and Nifty each fell by roughly 13 per cent in a single trading session amid a broader single-month decline of close to a quarter of index value, before staging a multi-year rally that lifted the Nifty from around 8,000 in April 2020 to roughly 18,600 by October 2021. Given the scale of wealth creation now riding on these index movements, and the parallel, multi-fold expansion of India's retail investor base over the same period, a systematic examination of the decade's trend, its principal drivers, and its implications for investors, regulators and policymakers is both timely and warranted.

Against this backdrop, the present study pursues three specific objectives: first, to document the decade-long trend in Sensex and Nifty 50 levels and annual returns; second, to identify and explain the principal episodes of volatility and the macroeconomic and policy factors associated with them; and third, to relate these index-level trends to the parallel structural transformation in retail investor participation and market depth. The remainder of the paper is organised as follows. Section 2 reviews the extant literature on Indian stock market trends and volatility. Section 3 describes the data and methodology. Section 4 presents the results and discussion. Section 5 concludes with implications and directions for future research.

2. Literature Review

Research on Indian stock market behaviour has evolved considerably in step with the market's own development. An early and important contribution is Batra (2004), who examined stock return volatility patterns using Sensex data spanning more than two decades and found that structural shifts in volatility were more closely associated with major domestic policy episodes particularly the balance-of-payments crisis and the subsequent liberalisation reforms of 1991 than with global developments, and that volatility moderated in the post-reform period. Building on this line of enquiry using formal GARCH-family models, Krishnan and Mukherjee (2010) confirmed the presence of asymmetric leverage effects in Indian equity returns, showing that negative shocks raise conditional volatility by more than positive shocks of equivalent scale, a finding with direct bearing on how index-level crashes, such as that of March 2020, propagate through the market.

A distinct and more recent strand of literature focuses specifically on the COVID-19 period, given its outsized influence on index trends within the past decade. Agarwalla, Varma and Virmani (2021), using option-implied measures drawn from the Nifty index options market, documented a sharp rise in market-wide uncertainty and tail risk coincident with the World Health Organization's pandemic declaration, alongside a persistently elevated level of volatility even after skewness and kurtosis measures had normalised. Complementing this options-market evidence, Guru and Das (2021) examined uncertainty spillovers within the Indian stock market during the pandemic and found that shocks originating in the energy sector transmitted volatility to other market segments, underscoring the sector-specific channels through which aggregate index volatility can be generated. In a related sectoral investigation, Bhatia and Gupta (2020) compared volatility in Indian banking-sector indices during the 2008 global financial crisis with that observed during COVID-19, finding that the two episodes, while both severe, differed in their transmission dynamics and duration.

A separate body of work addresses the structural and participatory dimensions of the Indian market that have accompanied its decade-long index growth. Industry and regulatory sources document a rapid expansion in retail participation: the number of demat accounts has grown into the hundreds of millions, aided by e-KYC adoption and the proliferation of low-cost digital brokerage platforms (NISM, 2026), while NSE data indicate that active investor accounts crossed the 49-million mark

by the end of FY2025, with digital-first brokerages accounting for the majority of net new additions (Business Standard, 2025b). This growth in retail participation has coincided with, and arguably reinforced, the resilience of index-level returns documented in the return-pattern literature, since a broader and more diversified investor base tends to dampen the concentration risk associated with any single class of participant exiting the market during a downturn.

Taken together, the literature suggests three broad conclusions relevant to the present study: first, Indian stock market volatility has historically been shaped more by domestic policy and structural events than by global contagion alone, though this balance shifted somewhat during the globally synchronised COVID-19 shock; second, volatility in Indian equities exhibits the asymmetric, clustering behaviour characteristic of GARCH-type processes, with sharp downside shocks tending to generate disproportionately elevated conditional volatility; and third, the decade under review has been marked by a structural broadening of market participation that is not fully captured by index-return studies focused narrowly on price dynamics. The present study seeks to address this gap by combining index-level trend analysis with an examination of the structural participation trends that have accompanied it.

3. Methodology

This study adopts a descriptive-analytical research design based entirely on secondary data, appropriate to its objective of describing decade-long trends rather than testing a specific causal hypothesis. Given this descriptive-trend orientation, no human participants, surveys, or primary data collection instruments were employed; the analysis instead draws exclusively on published market data.

Data sources. Daily and calendar-year closing values, along with year-wise return series, for the BSE Sensex and NSE Nifty 50 were compiled for the ten-year period from January 2016 to December 2025 (with reference, where relevant, to data through mid-2026 for the most recent developments) from NSE Indices publications, BSE market data, SEBI bulletins, and secondary compilations of officially sourced index data, including industry and financial-media analyses that draw on NSE Indices' underlying data. Supplementary indicators market capitalisation, demat

account growth, and foreign and domestic institutional investment flows were compiled from SEBI, NSE, and India Brand Equity Foundation (IBEF) publications.

Analytical approach. Three complementary analytical techniques were applied. First, calendar-year and rolling compound annual growth rate (CAGR) calculations were used to describe the pace of long-term index growth over multiple sub-horizons (5-, 10- and 20-year windows) within the broader decade. Second, year-on-year percentage change in index closing levels was used to identify and rank episodes of acute volatility, which were then cross-referenced against contemporaneous macroeconomic and policy events (e.g., demonetisation, the IL&FS default, the COVID-19 lockdown, global monetary tightening) to construct an event-linked narrative of the decade's volatility. Third, comparative benchmarking was performed against major global indices (Nasdaq, Dow Jones, Nikkei 225, FTSE 100) over the same decade to contextualise the relative performance of Indian equities.

Data limitations. As the study relies on compiled secondary data drawn from multiple published sources rather than a single unified primary database, minor discrepancies in reported year-wise return figures may arise from differences in index variant (price return versus total return), rounding conventions, and data-vintage effects. Where such discrepancies were identified across sources, the study reports the figure attributed to the most authoritative and most recently published source and flags the approximate nature of the estimate. Readers requiring exact figures for regulatory or investment purposes are directed to the primary data repositories maintained by NSE Indices and BSE.

4. Research Results and Discussion

4.1 Decade-long index growth

Over the ten calendar years from 2016 to 2025, the Sensex delivered annual returns consistently, albeit unevenly, with the strongest year of the decade recorded in 2017, when the index surged 27.9 per cent, driven by a harmonized global recovery, robust domestic flows, and optimism around structural reforms (Business Standard, 2025a). Other notably strong years included 2021, when the Sensex advanced 22 per cent, and 2023, which saw an 18.7 per cent rise, reflecting post-pandemic earnings recovery and strong liquidity support. By the close of 2025, the Sensex had

climbed from around 26,600 at end-2016 to near 85,000, rising by approximately 8.3 per cent during calendar year 2025 alone and closing higher in ten consecutive calendar years a rare streak underlining the structural resilience of Indian equities (Business Standard, 2025a).

Over the same horizon, the Nifty 50 delivered a 12.64 per cent compound annual growth rate, outperforming most Asian and European peers including the Nikkei (around 10 per cent), the Dow Jones (around 10.7 per cent), and the FTSE (around 4.7 per cent), with only the technology-heavy Nasdaq (around 16.6 per cent) recording a higher return over the comparable decade (Angel One, 2025). Rolling-return analysis over multiple horizons corroborates the resilience of this growth: five-year CAGRs calculated from 2015 onward have remained stable within a 10–15 per cent range, and at no point in the index's 35-year history has a seven-year holding period produced a negative compound return, underscoring the value of a long investment horizon for equity investors in the Indian market.

Table 1. Nifty 50 Calendar-Year Returns and Associated Market Events, 2016–2025

Year	Nifty 50 Annual Return (%)	Associated Market / Policy Event
2016	3	Demonetization (November 2016); moderate volatility
2017	28.6	Harmonized global recovery; robust domestic institutional flows
2018	3.2	IL&FS default and NBFC liquidity stress
2019	12	General election; gradual post-election recovery
2020	−8.0	COVID-19 crash (March 2020) followed by a V-shaped recovery
2021	24.1	Post-pandemic earnings recovery; record retail and FII inflows
2022	4.3	Global monetary tightening; US Federal Reserve rate hikes
2023	20	Domestic consumption-led rally; strong DII flows
2024	8.8	Record index highs (September 2024) followed by a correction
2025	8.3	GST rationalisation and income-tax relief; RBI policy easing

Source: Compiled by the author's from NSE Indices historical data as reported in Bajaj Finserv AMC (2026) and Business Standard (2025a).

4.2 Episodes of volatility

The decade's single sharpest shock was the COVID-19 crash of March 2020, during which the Sensex fell by around 13.15 per cent and the Nifty by roughly 12.98 per cent in one trading session, part of a broader single-month decline of close to a quarter of index value as the pandemic and the associated nationwide lockdown triggered a sudden withdrawal of risk appetite. Consistent with the asymmetric-volatility findings of Krishnan and Mukherjee (2010), the weakness shock was disproportionately sharp relative to the subsequent recovery phase, which nonetheless proved durable: the Nifty recovered from around 8,000 in April 2020 to roughly 18,600 by October 2021, a rally accompanied by an estimated US\$38 billion of foreign institutional investment (IBEF, 2026). Option-market evidence from the same period corroborates this pattern of a sharp initial spike in uncertainty followed by a slower normalisation of higher-order risk measures even as headline volatility remained elevated (Agarwalla, Varma and Virmani, 2021).

A second, more moderate episode of stress occurred in 2022, when a globally synchronised cycle of monetary tightening led by the US Federal Reserve weighed on emerging-market equities, including India's, producing a comparatively subdued calendar-year return despite India outperforming most global peers over the same period. Earlier in the decade, the November 2016 demonetisation announcement and the 2018 IL&FS default and consequent non-banking financial company (NBFC) liquidity stress each produced episodes of elevated volatility, though of shorter duration and smaller magnitude than the COVID-19 shock. Taken together, these episodes illustrate that, consistent with Batra (2004), the sharpest movements in Indian indices over the decade were associated with identifiable domestic and global policy events rather than diffuse, unexplained volatility.

4.3 Structural drivers and market depth

The decade's index growth was underpinned by a parallel structural transformation in market participation and depth. By early 2025, the number of demat accounts in India was projected to reach approximately 200 million, a rapid expansion driven by the widespread adoption of e-KYC processes, user-friendly mobile applications, and simplified digital account opening (NISM, 2026). Between 2020 and 2025 alone, the number of demat accounts increased by around 250 per cent, while NSE data show that active demat accounts crossed 49.2 million by the end of FY2025,

an increase of 20.5 per cent year-on-year, with digital-first brokerages accounting for the majority of net new additions (Business Standard, 2025b). By December 2024, the NSE had become the fifth-largest stock exchange in the world by monthly trading volume, reflecting the scale this participation has reached.

On the policy side, sustained government capital expenditure, tax reform, and rationalisation of Goods and Services Tax (GST) rates on major product categories are widely cited as having supported consumption, corporate earnings, and, by extension, index performance through the latter part of the decade, alongside a broadly growth-oriented monetary policy stance from the Reserve Bank of India (Angel One, 2025). The combination of reform-driven earnings growth and a structurally deeper, more diversified investor base offers a plausible explanation for why the Indian market, despite absorbing severe shocks such as the COVID-19 crash, was able to sustain a decade of predominantly positive calendar-year returns.

Table 2. Key Structural Indicators of Indian Equity Market Depth, 2016–2025

Indicator	Approximate Value	Reference Period
Sensex closing level	$\approx 26,600 \rightarrow \approx 84,647$ ($\approx 3.2\times$ rise)	End-2016 to end-2025
Nifty 50-decade CAGR	$\approx 12.6\%$ per annum	2016–2025
Active NSE demat accounts	≈ 49.2 million (+20.5% y-o-y)	FY2025 (year-end)
Total demat accounts, India	≈ 200 million (projected)	Early 2025
Demat account growth	$\approx 250\%$ increase	2020–2025
NSE global exchange ranking	5th largest by monthly trading volume	As of December 2024,

Source: Compiled by the author(s) from Business Standard (2025a, 2025b), NISM (2026), Angel One (2025) and IBEF (2026).

5. Conclusions, Proposals, Recommendations

This study set out to document and explain the decade-long (2016–2025) trend in India’s two principal equity benchmarks, the Sensex and the Nifty 50. The evidence indicates that both indices delivered strong, broadly positive compounded returns over the decade with the Nifty 50 outperforming most global peers other than the Nasdaq despite absorbing severe, well-defined

shocks, most notably the COVID-19 crash of March 2020. This growth was accompanied, and arguably reinforced, by a structural deepening of the market, evident in the multi-fold expansion of demat accounts and the rise of digital-first retail brokerage. The original contribution of this paper lies in bringing these two strands index-level return trends and market-participation trends together within a single decade-long narrative, rather than treating them, as much of the extant literature does, as separate objects of study.

On the basis of these findings, three recommendations follow. First, investors, particularly the growing base of first-time retail participants, would benefit from an explicit understanding of the decade's volatility episodes and their subsequent recoveries, which reinforces the value of long-horizon, disciplined investment approaches such as systematic investment plans over attempts to time short-term market movements. Second, regulators and exchanges should continue to strengthen market-stability safeguards including circuit breakers, margin frameworks, and investor-education initiatives commensurate with the scale of retail participation now embedded in the market, so that a broader investor base translates into greater market resilience rather than a new source of retail-driven volatility. Third, policymakers should sustain the reform momentum spanning taxation, GST rationalisation, and capital expenditure — that this study associates with the decade's stronger growth years, while monitoring the market's increasing sensitivity to global monetary-policy cycles.

Theoretical Implications

The findings extend the literature on Indian stock market volatility by showing that the asymmetric, event-linked volatility patterns documented in earlier work on the pre-2010 market (Batra, 2004; Krishnan and Mukherjee, 2010) remain evident in the most recent decade, most clearly in the sharp, short-lived nature of the COVID-19 shock relative to its more gradual recovery phase. The study also lends support to the view, consistent with Agarwalla, Varma and Virmani (2021), that option-implied and realised volatility measures can diverge in their normalisation speed following a systemic shock, suggesting that theoretical models of Indian market volatility should continue to accommodate higher-moment, forward-looking risk measures alongside conventional return-based volatility estimates.

Practical Implications

For practitioners, the decade-long evidence that no seven-year holding period in Nifty 50 history has produced a negative compound return offers a concrete, communicable benchmark for financial advisors counselling retail clients on investment horizon. For portfolio managers and index-fund providers, the sustained double-digit CAGR delivered by broad-based indices over the decade strengthens the case for passive, index-tracking products as a core allocation within Indian household portfolios, particularly for the newer cohort of investors entering the market through digital platforms.

Social Implications

The near four-fold expansion in demat accounts over the decade, disproportionately driven by digital-first brokerages and increasingly reaching investors in smaller towns and cities, points to a broadening and democratisation of access to equity markets that extends well beyond India's traditional metropolitan investor base. This has the potential to support household wealth creation and financial inclusion at scale, provided it is accompanied by commensurate investor-education efforts to ensure that first-time participants entering during a period of strong historical returns are equipped to withstand future downturns without suffering disproportionate losses.

Industry Implications

For brokerages, asset managers, and exchanges, the decade's trends point toward continued growth in low-cost digital broking, passive and index-linked investment products, and technology-driven investor-acquisition models, as evidenced by the market-share gains of digital-first platforms in net new demat account additions. Exchanges and market infrastructure institutions face a corresponding responsibility to scale surveillance, settlement, and risk-management systems in step with this rapidly growing and increasingly retail-dominated participant base.

Limitations & Scope for Future Research

This study is subject to several limitations. First, it relies exclusively on secondary, index-level data compiled from multiple published sources, which introduces the possibility of minor inconsistencies across sources in reported year-wise returns, as noted in the methodology section; findings should therefore be read as indicative of decade-long trends rather than as precise, audited

statistics. Second, the analysis is conducted at the level of two aggregate benchmark indices and does not examine sector-level or firm-level heterogeneity in returns and volatility, which may mask important differences across industries. Third, the descriptive-analytical design adopted here documents association between index movements and contemporaneous events but does not establish causal relationships, which would require formal econometric modelling (e.g., GARCH-family or event-study methods) beyond the scope of this paper.

Future research could usefully extend this study in at least three directions: by applying formal volatility models (such as GARCH or its asymmetric variants) to decade-specific sub-periods to test statistically whether volatility persistence and asymmetry have changed since the pre-2010 period documented in earlier literature; by disaggregating index-level trends into sectoral indices to identify which segments of the market have been the principal drivers of, or the principal sources of drag on, aggregate index growth; and by directly modelling the relationship between the growth in retail participation (proxied by demat account growth) and measures of market volatility or liquidity, to test empirically whether broader participation has, as this study suggests, contributed to market resilience.

Conflicts of Interest Declaration

The authors declare that there are no conflicts of interest regarding the publication of this research.

Informed Consent Declaration

This study is based entirely on secondary, publicly available market data and published sources; it did not involve the collection of primary data from human participants. Accordingly, informed consent procedures were not applicable to this research.

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