Valuing S&P Sensex

Approach & Methodology Paper

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Prepared By: Piyanshu Bansal (PG24223)
Guided By: Prof. Veena Patwardhan

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1. Introduction

1.1 Introduction

The Sensex, formally known as the BSE Sensex or the S&P BSE Sensex, is a benchmark stock market index of the Bombay Stock Exchange (BSE) in India. Introduced on January 1, 1986, it is one of the oldest and most widely tracked equity indices in the country, serving as a barometer of the Indian economy's performance. The Sensex comprises 30 of the largest, most liquid, and financially sound companies listed on the BSE, spanning various sectors such as banking, information technology, energy, and manufacturing. These companies are selected based on their market capitalization, trading volume, and overall contribution to the market.

The Sensex is not just a numerical indicator but a vital tool for understanding the dynamics of the Indian equity market, making it highly relevant for a valuation report. Its composition of 30 blue-chip companies ensures that it captures the performance of industry leaders, often referred to as the "market movers." These constituents are periodically reviewed and updated by the BSE to reflect changes in market conditions, ensuring the index remains representative of the evolving economic landscape. As of April 05, 2025, with continuous updates in market data, the Sensex reflects real-time shifts in investor confidence, macroeconomic factors, and global influences impacting India.

Cross-referencing Sensex trends with RBI reports, GDP data, or global indices (e.g., S&P 500) sharpens the analysis. For instance, if the Sensex outperforms global peers, it may signal India-specific optimism, impacting risk and growth assumptions.

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2. Context of the Valuation

2.1 Context of the Valuation

Over the past six months, the **S&P BSE Sensex** has experienced significant volatility, with a notable decline of approximately **9.79 %** as of mid-December 2024, reflecting broader market trends and investor sentiment. The index reached an **all-time high of 85,978.25 points** before undergoing a sharp correction, dropping to around **77560.79 points**—a clear indication of a **bearish trend** driven by **global economic factors and domestic market conditions**.

•**Key Market Influences:**

One of the major factors impacting the **Sensex** has been concerns surrounding the **US Federal Reserve's** decision to implement only **two rate cuts** in 2025, whereas the market had anticipated **more than two cuts**. This unexpected move has fueled **investor anxiety**, raising fears of an **economic slowdown** in the coming year. These challenges have been further compounded by **geopolitical tensions and inflationary pressures** affecting global markets.

Building on historical trends, this scenario provided an opportunity to **value the S&P BSE Sensex** in the current context.

The **index valuation** was carried out by analyzing **dividends, buybacks, future growth, the Equity Risk Premium (ERP),** and the **10-Year Government Bond Yield** (serving as a proxy for the **risk-free rate**). The valuation approach is based on **Prof. Aswath Damodaran's Discounted Cash Flow (DCF) methodology**, with certain aspects **tailored** to better reflect the **unique characteristics of the Indian capital markets**.

3. Approach & Methodology

3.1 Base of Valuation

The Valuation approach used to Value the S&P BSE Sensex Index is the Discounted Cash Flow Approach. The base of the valuation being :

- Free Cash Flow to Equity (FCFE)
- Earnings Growth
- Risk Free Rate
- Equity Risk Premium

3.2 Free Cash Flow to Equity

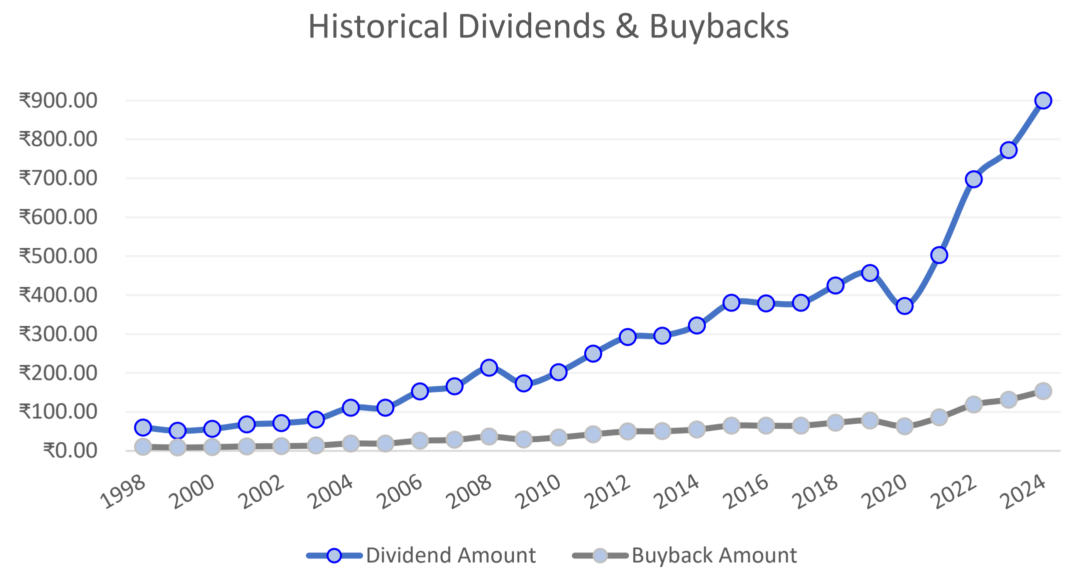
- When valuing an index using the Discounted Cash Flow (DCF) method, the valuation is derived by discounting Free Cash Flow to Equity (FCFE) at an appropriate discount rate. However, calculating the FCFE for each company in the S&P BSE Sensex can be cumbersome. To simplify the process, Dividend Payouts and Buybacks have been used as proxies for FCFE, as they closely represent cash flows available to equity holders.
- The Dividend Yield has been sourced directly from the BSE website. However, since Buybacks in India are infrequent and reliable time-series data is not readily available, an alternative approach was required. To address this limitation, sectoral Buyback data from Emerging Markets has been sourced from Prof. Aswath Damodaran’s website to serve as a benchmark in the model.

3. Approach & Methodology

3.3 Average S&P BSE Sensex Yield and %of Dividend Yield and Buy Back Yield from 5 Years to 20 Years

Compounded Years	Dividend Yield	Buyback Yield	Total Yield
20 Years	1.27%	0.22%	1.49%
15 Years	1.26%	0.21%	1.47%
10 Years	1.19%	0.20%	1.39%
7 Years	1.12%	0.20%	1.31%
5 Years	1.10%	0.19%	1.29%

3.4 Historical Dividend and Buybacks



3. Approach & Methodology

3.5 Earnings Growth in S&P BSE Sensex

The earnings of the S&P BSE Sensex are determined by dividing its price by the P/E ratio (obtained from the BSE website) .

To simplify earnings calculations, data was analyzed on a year-over-year (YOY) basis. EPS CAGR was computed over intervals of 3, 5, 7, and 10 years, with the final EPS growth figure representing the average of these intervals.

This approach aims to capture recent market trends, including periods of economic growth and slowdowns due to ongoing geopolitical tensions, inflation concerns, and other macroeconomic factors.

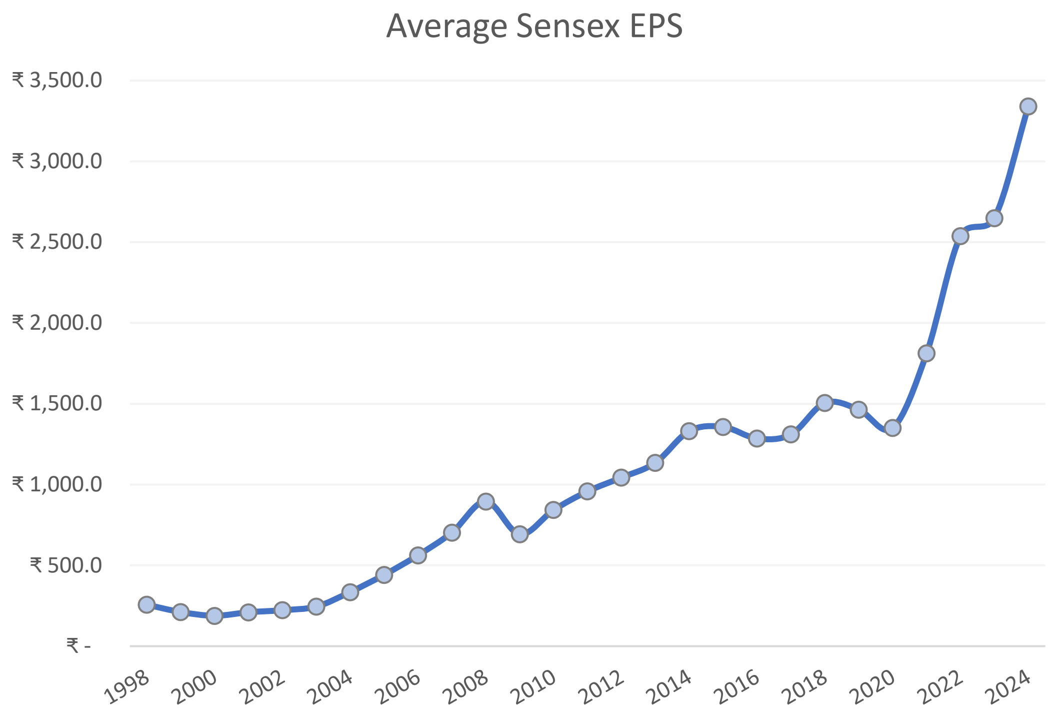
For forward valuation, the most recent three years were emphasized to ensure a balanced perspective—neither too short to miss trends nor too long to dilute the impact of current conditions.

3. Approach & Methodology

3.6 S&P BSE Sensex Average Earnings Growth

Years	Earnings Growth
10 Years	10.92%
7 Years	11.40%
5 Years	11.44%
3 Years	11.75%

3.7 S&P BSE Sensex Average EPS Over Years



3. Approach & Methodology

3.6 Risk Free Rate

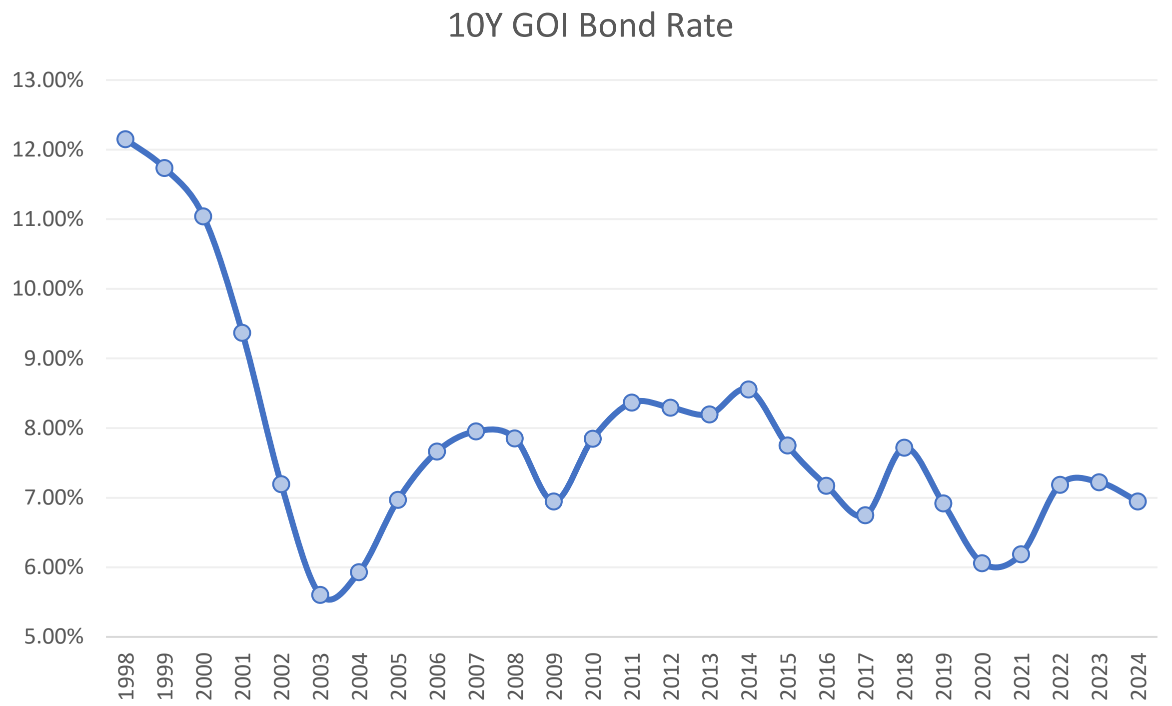
- The risk-free rate represents the guaranteed minimum return an investor can expect when investing in a particular country, typically achieved through local government bonds.
- In the valuation of the S&P BSE Sensex, we have used India's 10-year government bond yield as the risk-free rate. Ideally, the risk-free rate should account for sovereign default probabilities by deducting the country's default spread. However, obtaining reliable default spread data for emerging economies like India can be challenging, leading us to use the 10-year bond yield directly.
- This bond was chosen due to its high liquidity, reducing the risk of price inefficiency. Historical fluctuations in India's 10-year bond yield—ranging from ~12% to ~7%—make selecting an appropriate rate for valuation complex. Therefore, the latest risk-free rate as of April 2nd 2025, has been used. This approach ensures a forward-looking valuation while accurately reflecting the current economic environment.

3. Approach & Methodology

3.9 Average Rate for 10Y Bond Yield

Years	Earnings Growth
10 Years	10.92%
7 Years	11.40%
5 Years	11.44%
3 Years	11.75%

3.1.1 Average Range of 10Y Bond Yield



3. Approach & Methodology

3.1.2 Market Risk Premium

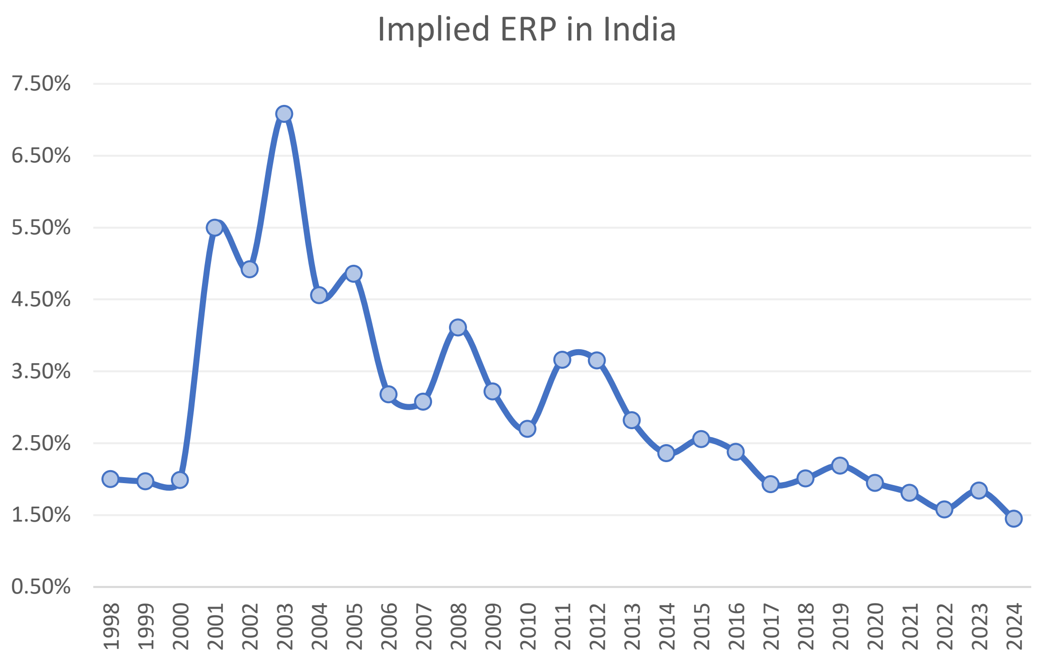
- The Market Risk Premium (MRP) represents the additional return an investor expects over and above the risk-free rate for investing in a particular market, reflecting the inherent risks of that market. It is a country-specific or market-specific risk indicator.
- A higher MRP signifies riskier market conditions where investors demand higher returns for equity investments, often linked to a cautious or defensive market stance. This scenario can also indicate that investors are willing to pay lower prices despite steady cash flows, highlighting risk aversion.
- For valuing the S&P BSE Sensex, the MRP data has been sourced from MarketPremia.com. Ideally, the MRP calculation should incorporate the country's default spread to reflect sovereign risk accurately. However, due to data limitations, the most recent MRP data available has been used.
- This approach ensures that our valuation remains forward-looking and accurately reflects the latest developments in the Indian equity market, capturing current market sentiments and risk perceptions.

3. Approach & Methodology

3.1.3 Average Implied MRP

No. of Years	Market Risk Premium
20 Years	2.66%
15 Years	2.31%
7 Years	1.80%
5 Years	1.68%
Latest	1.43%

3.1.4 Implied MRP Over Years



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4. Valuation

4.1 Original Case Valuation Results

Valuation of S&P BSE Sensex			31429.05
Key Inputs		Assumptions	Overvalued
Date	05-04-2025	05-04-2025	The Market Implied Fair Value of Sensex is 31430. The Sensex is Currently Trading at 75365. A 58.30% Correction is Expected from this Level.
Current Sensex Level	75364.64	75364.64	
Total Yield	20 Years	1.49%	
Expected Growth	10 Years	10.92%	
Risk-free Rate	Latest	6.95%	
Equity Risk Premium	Latest	1.45%	
Cost of Equity		8.40%	
Year	Expected Dividends and Buybacks	Cumulative PV Factor (Risk free Rate + Equity Risk Premium)	Present Value of Expected Dividends And Buybacks
2024	₹ 1,244.52	0.92	₹ 1,148.12
2025	₹ 1,380.46	0.85	₹ 1,174.89
2026	₹ 1,531.25	0.79	₹ 1,202.29
2027	₹ 1,698.51	0.72	₹ 1,230.32
2028	₹ 1,884.05	0.67	₹ 1,259.01
2029	₹ 2,089.85	0.62	₹ 1,288.36
2030	₹ 2,318.13	0.57	₹ 1,318.40
2031	₹ 2,571.35	0.52	₹ 1,349.14
2032	₹ 2,852.22	0.48	₹ 1,380.60
2033	₹ 3,163.78	0.45	₹ 1,412.79
2033-∞	₹ 41,798.49	0.45	₹ 18,665.14

5. Sources & Disclaimer

5.1 Sources

- Investing.com
- BSE India official website
- Market Premia website
- Prof. Aswath Damodaran website

5.2 Disclaimer

- The Valuations carried out are based out of good amount of assumptions which are built based on the understanding of the current scenario in Indian Capital markets.
- The report has been prepared solely for educational purpose and not emanating from the professional in practice.
- The author assumes no liability or responsibility for the losses caused by using this report as an investment advice.
- Although, every endeavor has been made to bring this report as accurate as possible, users should not rely on this report for investment purposes.

End Note

I sincerely thank you for taking the time to read this report. Your feedback is highly valued and always welcome. For any questions or suggestions, feel free to reach out at bansalp740@gmail.com.

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6. Acknowledgement

Report Prepared by- Piyanshu Bansal

I would like to express my heartfelt gratitude to my mentor, Parth Sir, for his invaluable guidance and unwavering support throughout the preparation of this valuation report on the S&P BSE Sensex. This report has been developed solely for educational purposes, utilizing publicly available data, financial models, and industry research to assess the index's valuation. I am also thankful for the financial literature and various resources that deepened my understanding of valuation methodologies. This study is intended to support the learning journey and act as a useful reference for students and researchers with an interest in equity valuation.