Valuing NIFTY 50 INDEX
Approach & Methodology Paper

February 2025

INDEX

Header	Contents
1	Introduction
2	Context of Valuation
3	Approach & Methodology
4	Valuation
5	Sources & Disclaimer
6	Acknowledgement

1.1 Background

- The Nifty 50 Index is the benchmark stock index for the National Stock Exchange of India (NSE). It tracks the performance of **50 of the largest and most liquid Indian companies** listed on the NSE. Established in 1996, the index is designed to reflect the overall performance of the Indian equity market.
- The Nifty 50 covers multiple sectors of the economy, making it a well-diversified index. However, it has a heavy concentration in financial services, information technology, and energy. It serves as the primary index for investment portfolios, mutual funds, and derivatives trading in India.

1.2 Key Statistics

- As of September 30, 2024, the Nifty 50 Index represents approximately **54% of the total free-float market capitalization** of the NSE-listed stocks.
- It consists of blue-chip companies from various sectors, making it an **ideal indicator of India's economic health**.
- The total traded value of Nifty 50 constituents is significantly high, ensuring strong liquidity and active investor participation.

The Compound Annual Growth Rate (CAGR) returns for different periods indicate the long-term growth potential of the Indian stock market:

- 15 years CAGR Return: ~10.21%
- 10 years CAGR Return: ~10.90%
- 7 years CAGR Return: ~11.63%
- 5 years CAGR Return: ~16.08%

1.3 Composition of Nifty 50

- The Nifty 50 Index includes **50 of the largest and most liquid companies listed on the National Stock Exchange (NSE)** of India. These companies represent a substantial portion of the exchange's total market capitalization. The index serves as a benchmark for the Indian equity market and includes industry leaders across various sectors. Some of the major constituents of the Nifty 50 include Reliance Industries, HDFC Bank, TCS, Infosys, ICICI Bank, and Bharti Airtel.
- The Nifty 50 Index is designed to provide a well-diversified representation of the Indian economy, covering multiple industries such as Information Technology, Financial Services, Energy, Consumer Goods, and Healthcare.

1.4 Sector-wise Contribution to Nifty 50

Sectors	Weight (%)	Sectors	Weight (%)
Financial Services	34.35%	Healthcare	3.91%
Information Technology	13.97%	Metals & Mining	3.27 %
Oil, Gas & Consumable Fuels	10.43%	Power	2.75 %
Fast Moving Consumer Goods	8.01%	Consumer Durables	2.35 %
Automobile and Auto Components	7.61%	Construction Materials	2.12 %
Telecommunication	4.13%	Consumer Services	1.35%
Construction	3.98 %	Capital Goods and Services	1.76%

2.1 Context

- As of February 28, 2025, the Nifty 50 index has extended its decline, marking its longest losing streak since 1996. The index closed at 22,124.70, down 1.86% from the previous session. This downturn signifies a fifth consecutive monthly loss, a phenomenon not observed in nearly three decades. This downturn is driven by **global economic uncertainties**, and **escalating trade tensions**, the Indian stock market is facing heightened volatility. Additionally, **Foreign investors pull out ₹2 lakh crore** in 2025, have intensified selling pressure. Rising U.S. Treasury yields and a strengthening dollar have further contributed to foreign capital outflows, making emerging markets like India less attractive in the short term. The depreciation of the Indian rupee against the dollar has also pressured corporate earnings, particularly for sectors reliant on imported raw materials or foreign debt financing.

- Currently, The index has experienced a significant decline, falling approximately **15%** from its peak in September 2024.

Valuation objective: This valuation paper aims to assess the fair valuation of the **Nifty 50 index** in light of the prevailing economic environment, factoring in inflationary trends, policy changes, and market sentiment. The index has been valued based on **dividends paid**, **buyback yield**, **future earnings growth**, **equity risk premium**, and the **India 10-Year Government Bond Yield** as a proxy for the **risk-free rate**.

The valuation methodology follows the principles of **Prof. Aswath Damodaran (Dean of Valuation, NYU Stern)**, using the **Discounted Cash Flow (DCF) approach** with necessary adjustments for the Indian market context.

The report is based on assumptions, and is subject to market risks. It provides insights into whether the Nifty 50 is currently **undervalued**, **overvalued**, **or fairly valued**, primarily considering cash flows from **dividends and buybacks.**

The index's valuation date is **28 February 2025**, and all data used in this report reflect market conditions as of this date to provide an accurate valuation snapshot.

3.1 Pillars of Valuation

The Valuation approach used value the NIFTY 50 INDEX is the Discounted Cash Flow approach. The key pillars being, **Free Cash Flow to Equity (FCFE**), **Earnings Growth**, **Risk-Free Rate** .

3.2 Free Cash Flow to Equity Holders

In valuing the Nifty 50 Index using the Discounted Cash Flow (DCF) approach, cash flows represent a crucial component, emphasizing the rights of equity holders to future cash flows. Ideally, Free Cash Flow to Equity (FCFE) would be the theoretical basis for valuation. However, calculating FCFE for every company in the Nifty 50 is both complex and resource-intensive. As a practical alternative, **Dividend Payouts and Buybacks are used as proxies for FCFE.**

The rationale behind this approach is that, over time, the cash generated by companies ultimately benefits shareholders, either through dividends or share buybacks. This is particularly relevant as firms mature or in cases of liquidation.

- **Dividend Yield data** is sourced directly from NSE.
- **Buyback Yield data** is consolidated based on industry-sector buybacks and sourced from Prof. Aswath Damodaran's website "Damodaran Online".

Since buybacks represent a relatively small portion of total cash flows in the Indian market, an **average sectoral Buyback Yield** has minimal impact on valuation accuracy. However, using dividend and buyback yields provides a feasible and representative way to assess shareholder returns within the Nifty 50 Index.

3.2 Free Cash Flow to Equity Holders

The below representation provides the insights on % of dividends yield and buyback yield in total yield used as the NIFTY 50 INDEX's composite yield over 20-, 15-, 10-, 7-Years time frame.

Time Frame (Years)	Dividend Yield	Buyback Yield	Total Yield
20	1.30%	0.19%	1.49%
15	1.32%	0.20%	1.51%
10	1.27%	0.19%	1.46%
7	1.29%	0.19%	1.48%

**NIFTY Historical Dividends and Buybacks Yield**
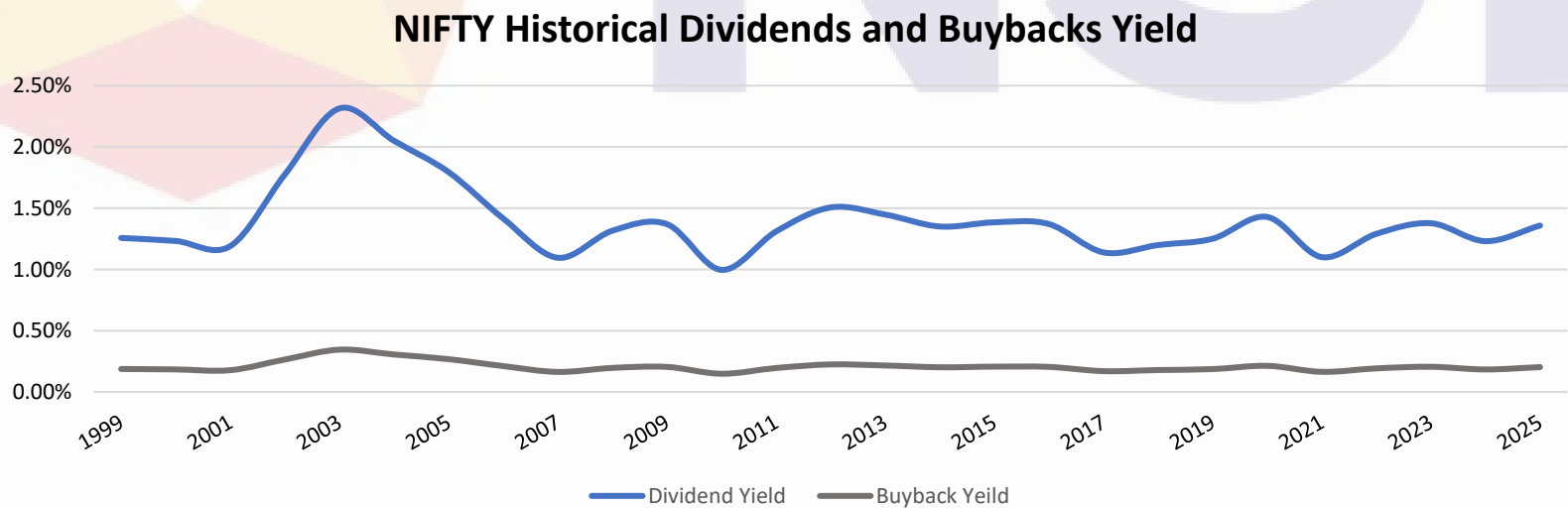
3.3 Earnings Growth

- Earnings of the Nifty 50 Index are derived by dividing the Price-to-Earnings (PE) Ratio of the index by its average price range for a given year. The PE Ratio is obtained from the NSE India. Historical data for the Nifty 50 Index is also taken from NSE India and Investing.com and is used in the calculation of earnings growth with minimal adjustments.

- For valuation purposes, an **Earnings Growth rate of three years** is considered, as it provides a forward-looking perspective while maintaining a range close to the **10-year earnings growth rate** for accuracy.

Earnings for Nifty 50 are calculated using the formula: **Earnings = PE Ratio / Price**, with data sourced from NSE and Investing.com. The dataset spans **from 1999 to 2025** to effectively analyze long-term trends.

To improve accuracy, yearly averages of PE ratios and prices are used. Additionally, EPS growth rates (CAGR) are calculated for 3, 5, 7, and 10 years, and their average is taken to obtain a stable and representative growth figure for valuation.

Years	EPS CAGR %
10 Years	12.41%
7 Years	12.23%
5 Years	11.22%
3 Years	10.35%

Historical Nifty EPS
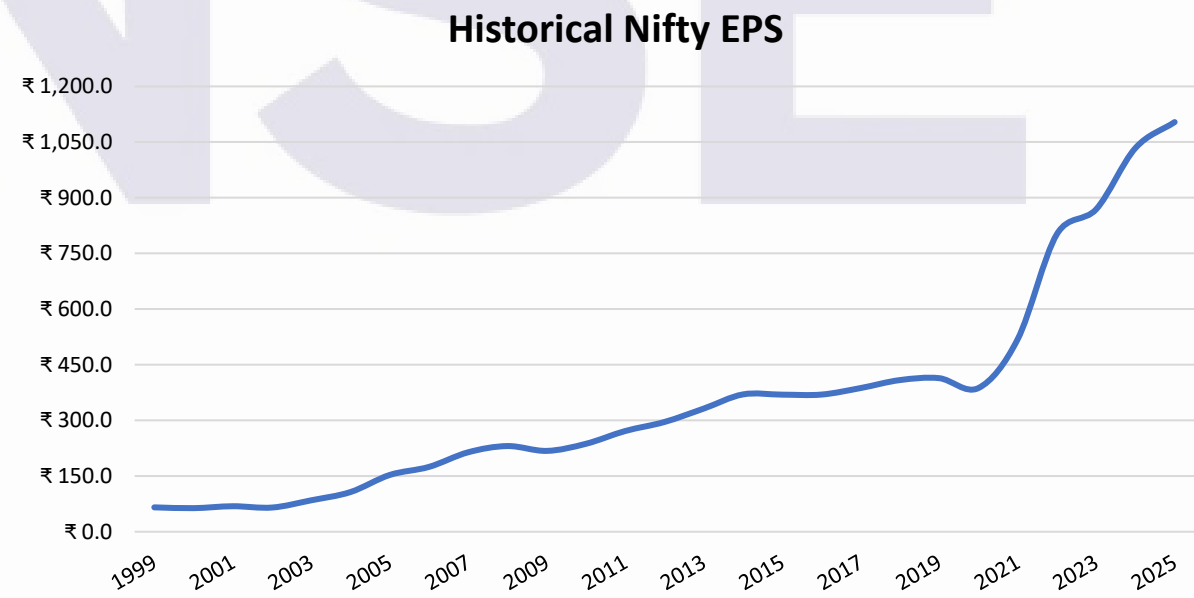
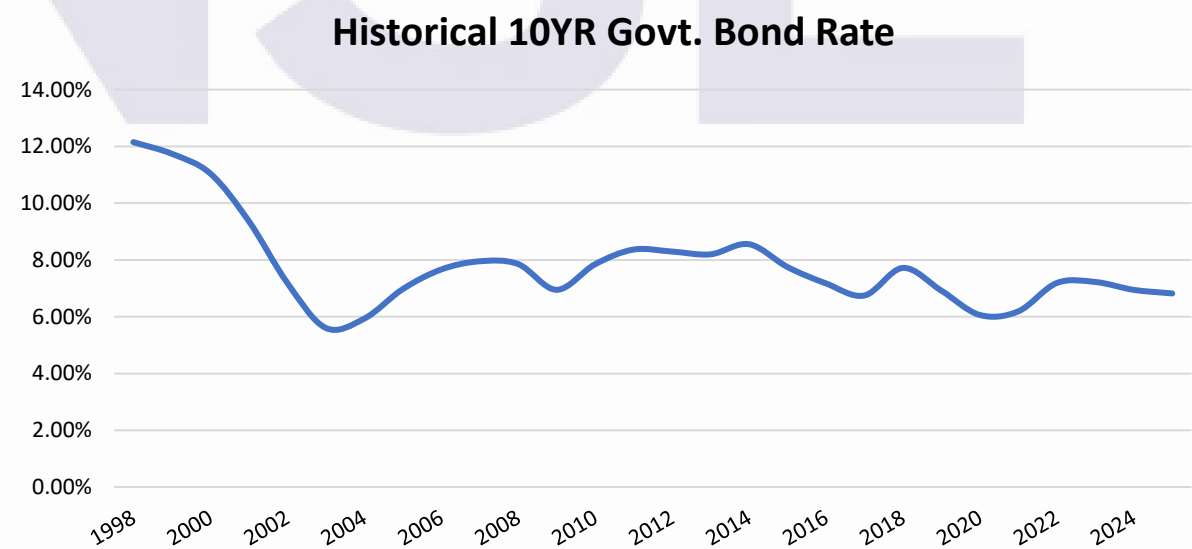## 3.4 Risk-Free Rate

- The risk-free rate is **fundamental to DCF valuation** as it establishes the baseline return that investors require, representing the opportunity cost of capital. This rate reflects the **minimum return investors expect** in exchange for the **time value of money** and the assurance of **pr**incipal repayment.

- Conventionally, the **10-year Indian government bond yield** is used as a **proxy for the risk-free rate**, due to the lack of readily available data for emerging economies. While historical averages of bond rates over 20 years, 10 years, and 5 years are available, there is no corresponding default spread data for these periods.

- As a result, I have determined the **risk-free rate by adjusting only the latest 10-year Indian Government Bond Yield as on 28 February 2025 with the default spread** derived from Prof. Aswath Damodaran's lookup table on rating's-based default spread.

- This ensures the valuation remains forward-looking incorporating the most recent market conditions.

10 Years Govt. Bond Yield	Average %
20 Years Bond Yield	7.41%
10 Years Bond Yield	6.89%
5 Years Bond Yield	6.85%
Latest Bond Yield	6.82%
Latest RFR (GOW–Default Spread)	4.64%

Historical 10YR Govt. Bond Rate
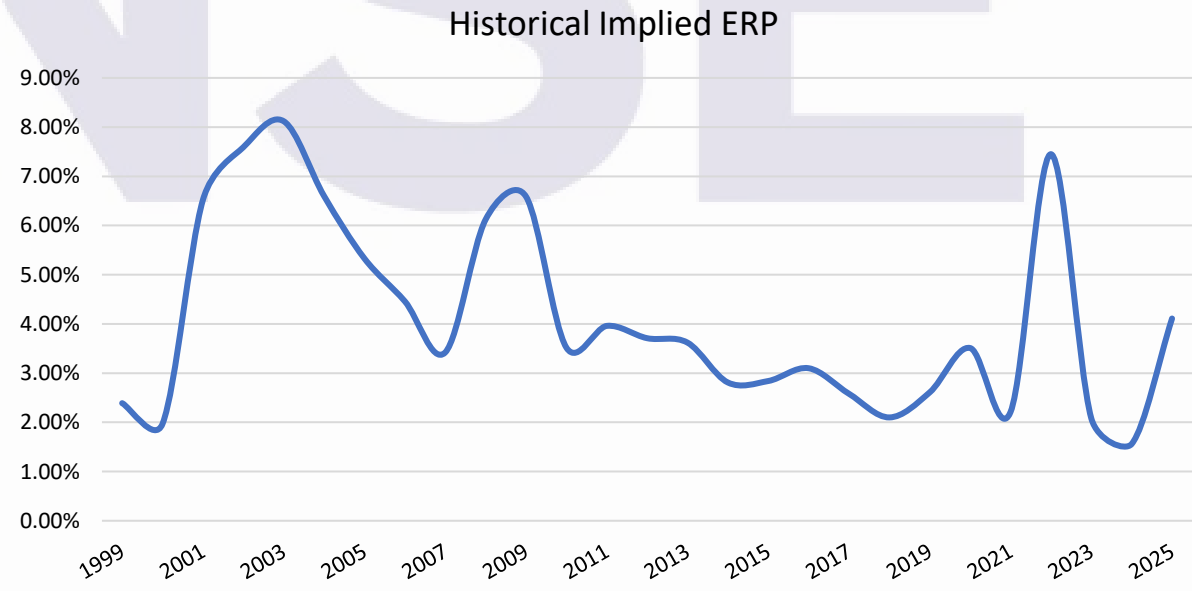
3.5 Market Risk Premium

- The **Market Risk Premium** represents the **additional return** that investors expect over and above the **Risk-Free Rate** for investing in a particular market, which inherently carries risk.

- It is a **market-specific and country-specific risk factor**. A higher Market Risk Premium signals a cautious market sentiment, where investors adopt a defensive stance, demanding higher returns to compensate for increased uncertainty.

- A rising Market Risk Premium also implies that investors are willing to pay lower prices for assets despite stable cash flows, reflecting heightened risk aversion. For this valuation, the Market Risk Premium data has been **sourced from the Market Risk Premia** website.

- To ensure the analysis remains relevant and forward-looking, we have incorporated the **latest Market Risk Premium**, accounting for **recent trends and developments in the Indian equity market.**

Implied Risk Premium	Average %
20 Years	3.62%
10 Years	3.13%
5 Years	3.42%
Latest	4.11%

Historical Implied ERP

3.6 Time Frame for the Valuation Report

- The valuation date for this report is **February 28, 2025**.
- Averages for key financial metrics such as the **Risk-Free Rate, Market Risk Premium, Nifty 50 historical returns, EPS growth, Buyback Yield and Dividend Yield** have been calculated from **1999 to 2025**.
- The valuation assessment compares the derived Nifty 50 value based on our calculations with the **closing price of Nifty 50 as of February 28, 2025**.

3.7 Beta

- Since we are valuing an index that broadly represents the market, the **beta is assumed to be 1**.

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4. VALUATION

Valuing The NIFTY 50 INDEX

Index	Previous Close	Ticker Symbol	Intrinsic Value
NIFTY 50 INDEX	**₹ 22,124.70**	**NIFTY**	**₹ 16,389.18**

Key Inputs		Assumptions		OVERVALUED
Date	28-Feb-25		28-Feb-25	*The Market Implied Fair Value of Nifty is 16390. Nifty is Currently Trading at 22125. A 25.92% Correction Expected from this Level.*
Current NIFTY Level	₹ 22,124.70		₹ 22,124.70	
Total Yield	Latest		1.56%	
Expected Growth	3YRS		12.41%	
Risk-Free Rate	Latest RFR		4.65%	
Equity Risk Premium	Latest		4.11%	
Cost of Equity			8.76%	

Year	Expected Dividends &Buybacks	Cumulative PV Factor (Risk-Free Rate + Equity Risk Preimum	Present Value of Expected Dividends & Buybacks
2025	₹ 388.20	0.9195	₹ 356.94
2026	₹ 436.36	0.8454	₹ 368.91
2027	₹ 490.50	0.7773	₹ 381.28
2028	₹ 551.36	0.7147	₹ 394.07
2029	₹ 619.77	0.6572	₹ 407.28
2030	₹ 696.66	0.6042	₹ 420.94
2031	₹ 783.09	0.5556	₹ 435.06
2032	₹ 880.25	0.5108	₹ 449.65
2033	₹ 989.46	0.4697	₹ 464.73
2033 - ∞	₹ 27,061.48	0.4697	₹ 12,710.31

5.1 Sources

- Investing.com- https://in.investing.com/
- NSE India official website- https://www.nseindia.com/
- Market Premia website- http://market-risk-premia.com/
- Prof. Aswath Damodaran website- https://pages.stern.nyu.edu/~adamodar/

5.2 Disclaimer

This information is for educational purposes only and is not intended as investment advice or a professional recommendation. It serves as a platform for discussions on trading concepts. All examples and analyses presented are for illustration only and reflect the personal opinions of the author.

Trading involves substantial risk, and users must carefully assess all relevant risk factors, including their financial situation, before making investment decisions. There is a high degree of risk associated with trading securities, and past performance does not guarantee future results.

The author assumes no responsibility for any financial outcomes resulting from the use of this material. Additionally, there is no assurance that the methods, techniques, or indicators discussed will be profitable or free from potential losses. Users are advised to conduct their own due diligence and seek professional financial advice before making trading or investment decisions.

5. SOURCES AND DISCLAIMER

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I would like to extend my sincere gratitude to my mentor Parth Sir for their guidance and support in completing this valuation paper.

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