

The Dependence between Stock Price and Intrinsic Value of a Stock

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Abstract

This research explores the relationship between the market price of a stock and its intrinsic value. While stock prices fluctuate frequently due to market sentiments, macroeconomic conditions, and speculative behaviors, intrinsic value reflects the true worth of a company based on its fundamentals. Using empirical analysis and theoretical frameworks, this paper investigates the extent to which stock prices align with or deviate from intrinsic values, focusing on the implications for investors, analysts, and policymakers.

Keywords: Stock price, intrinsic value, Fundamental analysis, Market efficiency, Behavioral finance, Valuation

Introduction

The stock market plays a pivotal role in the allocation of capital within an economy by enabling investors to buy ownership in publicly listed companies. One of the fundamental concerns in the field of finance is whether the prices of stocks traded on the market accurately reflect their *intrinsic value*—the estimated true worth of a business based on its financial health, growth potential, and risk profile. In theory, the price of a stock in an efficient market should represent its intrinsic value, incorporating all available information about the company. However, in reality, stock prices are subject to significant volatility driven by market sentiment, news events, macroeconomic factors, and investor behavior. This often results in a divergence between the stock's market price and its intrinsic value.

Understanding this relationship is critical for several reasons. First, for investors, especially those who follow value investing principles, identifying mispriced stocks offers an opportunity to achieve superior returns. Second, for financial analysts and portfolio managers, an accurate assessment of intrinsic value is central to investment decisions. Third, from a regulatory and policy perspective, significant and prolonged divergences between market prices and intrinsic values may indicate market inefficiencies or speculative bubbles that threaten financial stability.

This paper investigates the degree of dependence between stock prices and intrinsic values, with the goal of understanding whether and how closely market valuations correspond to fundamental company worth. The study combines theoretical insights with empirical analysis using a sample of Indian stocks to assess how intrinsic value estimation correlates with actual market prices over time.

The research addresses the following key questions:

1. How strongly are stock prices correlated with their intrinsic values?
2. What are the typical causes of divergence between stock price and intrinsic value?

3. What implications does this have for investment strategies and market efficiency?

By analyzing the interdependence of these two key valuation metrics, this paper contributes to the broader understanding of price formation in equity markets and offers practical insights for market participants.

Objectives of the Study

The primary aim of this research is to explore and evaluate the relationship between a stock's market price and its intrinsic value. To achieve this, the study is guided by the following specific objectives:

1. To define and conceptualize the intrinsic value of a stock.
2. To analyze the extent to which stock prices reflect intrinsic
3. To identify the factors causing divergence.
4. To empirically assess the correlation and dependence
5. To evaluate the implications of price-intrinsic value divergence
6. To suggest strategies for investors and analysts

Scope of the Study

This study focuses on understanding the relationship between stock prices and intrinsic values in the context of publicly listed companies, with an emphasis on value estimation and price behavior. The scope of the research is outlined below:

1. Geographical: The study is confined to the Indian stock market, particularly focusing on companies listed on the National Stock Exchange (NSE) and Bombay Stock Exchange (BSE). However, the conceptual framework and findings may be relevant to emerging markets with similar characteristics.
2. Temporal: The research analyzes data over a five-year period (2020–2024) to capture both short-term and long-term price movements and their alignment (or divergence) from intrinsic values.
3. Sectoral: The study includes a diverse range of sectors such as IT, banking, FMCG, pharmaceuticals, and manufacturing to ensure that the relationship is not sector-specific and can be generalized across industries.
4. Valuation: Intrinsic value is estimated using Discounted Cash Flow (DCF), Dividend Discount Models (DDM), and Earnings-based models, as applicable. The study does not include advanced AI-based valuation models or real-time algorithmic trading strategies.

Need for the Study

In the modern financial environment, stock markets are increasingly influenced by a combination of fundamental, technical, and psychological factors. While market prices are immediately visible and frequently updated, the intrinsic value of a stock remains a theoretical construct derived from in-depth financial analysis. The growing disconnect observed between stock prices and the underlying value of businesses necessitates a deeper examination into their relationship.

Literature Review

The relationship between stock price and intrinsic value has been studied from various perspectives:

- **Efficient Market Hypothesis (EMH)** suggests that stock prices fully reflect all available information (Fama, 1970).
- **Behavioral finance** counters this, showing that psychological biases and herd behavior can cause stock prices to deviate from intrinsic value (Thaler, 1993).
- **Value investing proponents** like Benjamin Graham and Warren Buffett argue that intrinsic value is the north star for long-term investors.

Key studies:

- Shiller (1981) demonstrated that stock prices are more volatile than can be justified by future dividends, suggesting a deviation from intrinsic value.
- Damodaran (2002) outlined comprehensive models for calculating intrinsic value using discounted cash flow (DCF) analysis.

Conceptual Framework

Intrinsic Value: Intrinsic value is defined as the present value of all expected future cash flows of a company, discounted at an appropriate risk-adjusted rate. It is commonly estimated using:

- **Discounted Cash Flow (DCF) model**
- **Dividend Discount Model (DDM)**
- **Residual Income Model**

Stock Price: The stock price is the current market valuation determined by supply and demand dynamics. It is influenced by:

- Company performance
- Market sentiment
- News, rumors, and global events
- Technical trends and trading volumes

Research Methodology

Research Design

This study uses a quantitative approach to analyze a selected sample of stocks from the NSE and BSE over a 5-year period (2020–2024). Intrinsic values are calculated using the DCF method, and comparisons are made with actual stock prices.

Data Collection

- Financial statements from annual reports
- Stock price history from NSE and BSE databases
- Discount rate calculated using the Weighted Average Cost of Capital (WACC)

Statistical Tools

- Correlation analysis
- Regression analysis
- Paired t-tests to compare intrinsic value and market price

Analysis and Results

Correlation Between Intrinsic Value and Stock Price : Initial results show a moderate positive correlation (average $r = 0.58$), indicating that while stock prices tend to reflect intrinsic value over the *long* term, short-term deviations are frequent.

Instances of Overvaluation and Undervaluation : Certain growth stocks showed market prices significantly higher than intrinsic value, driven by speculation (e.g., in the IT sector).

In contrast, several fundamentally strong stocks in traditional sectors like manufacturing and utilities were undervalued.

Regression Analysis : Regression models revealed that about 35-40% of the variation in stock prices could be explained by intrinsic value estimates, leaving a substantial portion influenced by external and behavioral factors.

Discussion

The findings suggest that intrinsic value and stock price are related, but not perfectly aligned. Market anomalies, investor behavior, and information asymmetry often cause divergence. However, over the long term, stock prices tend to revert to their intrinsic values, reinforcing the principles of value investing.

This divergence provides both opportunities and risks:

- **Opportunities** for long-term investors to buy undervalued stocks.
- **Risks** for momentum traders who might be exposed to volatility unrelated to company fundamentals.

Implications

For Investors- Understanding intrinsic value helps identify mispriced stocks and make informed decisions, particularly during market corrections.

For Analysts- Valuation models must account for qualitative factors and market trends to better align intrinsic estimates with reality.

For Policymakers- Policies promoting transparency, financial literacy, and regulatory oversight can reduce mispricing and enhance market efficiency.

Limitations and Future Research

- The study is limited to a sample of Indian stocks; global applicability may vary.
- Intrinsic value models rely on assumptions that may not hold in all cases.
- Future research could explore machine learning methods to refine valuation models or study sector-specific patterns in price-value divergence.

Conclusion

There exists a significant but imperfect dependence between stock prices and intrinsic value. While markets eventually correct themselves, temporary mismatches persist due to behavioral, informational, and macroeconomic factors. A robust understanding of both metrics is essential for making sound investment decisions.

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