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Challenging Conventional Wisdom: How a Stock with a P/E Ratio of 200 Can Outperform One with a P/E Ratio of 20 and How an Entire Stock Market Can Defy Expectations

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Abstract

This article challenges the conventional wisdom that a high P/E ratio necessarily signals poor investment potential and that elevated market valuations always precede correction. By introducing the Potential Payback Period (PPP) and the Stock Internal Rate of Return (SIRR), it offers a forward-looking framework that accounts for earnings growth, interest rates and risk — elements neglected by traditional metrics like the P/E ratio, PEG ratio and Earnings Yield. Using data as of January 24, 2025, the article demonstrates how Broadcom (P/E 188) outperformed Applied Materials (P/E 22) thanks to superior fundamentals and how the S&P 500 was not overvalued, despite appearances. The retrospective value of this analysis is heightened by the political and market volatility that followed, showing how entire markets — as well as individual stocks — can defy expectations when properly understood through dynamic valuation metrics. The findings are further contextualized in a companion piece on the bear market triggered by the Trump administration's early economic agenda.

Keywords: Potential Payback Period (PPP), Stock Internal Rate of Return (SIRR), S&P 500 Valuation, Price-to-Earnings Ratio (P/E), PEG ratio, Earnings Yield

Introduction

This article, originally written in the final days of January 2025, presents an in-depth analysis of market and stock valuations at a pivotal moment — just before the implementation of the first controversial and transformative economic measures by President Donald Trump. In the months that followed, markets were rattled by political uncertainty, heightened volatility and shifting investor sentiment. As such, this analysis — grounded in data as of January 24, 2025 — now serves as a valuable benchmark of how markets were behaving when fundamentals still reigned supreme.

At that time, concerns about overvaluation dominated headlines, especially given the elevated Price-to-Earnings (P/E) ratios of major indices like the S&P 500. Traditional valuation tools such as the P/E ratio, PEG ratio and Earnings Yield were widely cited to argue that the market was overextended. However, this article challenges that conventional wisdom by demonstrating how newer, more dynamic metrics — specifically the Potential Payback Period (PPP) and the Stock Internal Rate of Return (SIRR) — provide a deeper, more accurate picture of stock valuation, especially when earnings growth, interest rates and risk are taken into account.

Using this framework, the article delivers two key insights:

- The S&P 500 was not overvalued as of January 2025, despite appearing so through the lens of traditional metrics. Once earnings growth and discounting were factored in, its valuation proved both reasonable and sustainable.
- A comparative case study between Broadcom (AVGO) and Applied Materials (AMAT) shows how traditional metrics can mislead. Broadcom, with a seemingly excessive P/E ratio of 188, delivered superior performance to AMAT (P/E 22) in the preceding months — thanks to stronger fundamentals that were fully captured by the PPP and SIRR. Interestingly, in the three months following the initial analysis, both stocks declined by nearly the same magnitude (25-28%), in line with their nearly identical SIRRs (4.19% *vs.* 4.20%) — further validating the predictive power of these dynamic indicators over static ones.

By capturing a snapshot of the market just before a major shift in political and economic conditions, this article offers both analytical clarity and historical relevance. The PPP and SIRR emerge not only as theoretically sound valuation tools but also as practical instruments for navigating uncertain markets — especially when traditional ratios fall short in explaining real performance.

When it comes to the evolution of the stock market as a whole (S&P 500) since the end of January 2025, this article should be read in conjunction with the author's companion piece titled "Anatomy of a looming bear market: How to assess the impact of Donald Trump's chaotic economic measures on Wall Street", which details how earnings expectations collapsed, leading to a market re-rating and validating the PPP framework as a dynamic tool for anticipating full market cycles [1-5].

The Limitations of Traditional Metrics

Traditional valuation metrics have long served as quick reference tools for investors, but they suffer from fundamental weaknesses that become especially problematic in complex or transitional market environments.

- **P/E ratio:** Ignores earnings growth, the cost of capital and the time value of money, resulting in misleading comparisons across companies, sectors and economic cycles. It treats current earnings as perpetually stable, which is rarely the case.
- **PEG ratio:** Attempts to adjust for growth but does so through a simplistic linear division of the P/E ratio by the earnings growth rate. This oversimplification fails to capture the compound and discounted nature of earnings over time and it arbitrarily labels any ratio above 1 as overvalued — thus eliminating high-growth stocks prematurely.
- **Earnings Yield:** Reverses the P/E ratio without improving its informational content. It provides an incomplete view by ignoring growth potential and failing to account for how discount rates and risk influence the valuation of future earnings.

These shortcomings are particularly pronounced in periods of stability preceding political or economic disruption, such as the months leading up to early 2025. During such times, earnings growth and interest rates are the dominant forces shaping stock values and static valuation tools can become blind to this dynamic interplay. As this article shows, reliance on traditional metrics alone risks misinterpreting market signals and overlooking high-quality investment opportunities that are more accurately revealed through dynamic, growth-adjusted and risk-sensitive frameworks like the Potential Payback Period (PPP) and the Stock Internal Rate of Return (SIRR).

The Concepts and Formulas Behind the Potential Payback Period (PPP) and the Stock Internal Rate of Return (SIRR)

To overcome the limitations of traditional valuation metrics, the Potential Payback Period (PPP) and the Stock Internal Rate of Return (SIRR) offer a more complete framework that incorporates earnings growth, interest rates and risk through the use of a discounting mechanism. These tools deliver a richer and more forward-looking understanding of a stock's value — essential in markets where static indicators often fall short.

The Potential Payback Period (PPP)

The PPP estimates the theoretical number of years required for the cumulative discounted future earnings of a stock to equal its current market price. This measure answers a critical question for long-term investors: How many years of growing, discounted earnings are needed to recover today's price?

The formula is as follows:

$$PPP = \frac{log\left[\frac{P}{E}\times\left(\frac{g-r}{1+r}\right)+1\right]}{\log\left(\frac{1+g}{1+r}\right)}$$

Where:

- P/E = Price-to-Earnings Ratio
- g = Earnings Growth Rate
- r = Discount Rate, typically derived from CAPM.

This equation generalizes and corrects the P/E ratio by incorporating:

- Earnings growth, which impacts future cash flows
- The time value of money, captured through discounting
- Risk, *via* the CAPM-based discount rate.

When growth and discounting are both absent (i.e., g = r = 0), the PPP simplifies to the P/E ratio — demonstrating that the P/E is simply a static case of the more comprehensive PPP model. The PPP thus provides a dynamic extension of the P/E ratio, rooted in sound financial theory and time-value logic.

The Stock Internal Rate of Return (SIRR)

The SIRR is derived directly from the PPP and indicates the implied annualized rate of return an investor would earn by holding a stock for a period equal to its PPP, under the assumption that the investor receives the stock's earnings each year.

The formula is:

$$SIRR = 2^{1/PPP} - 1$$

This "doubling formula" translates the payback horizon into an expected compound return — adjusted for earnings growth and discounting. Unlike the simplistic interpretation provided by Earnings Yield or P/E ratio, SIRR captures the earning power of a stock in real, forward-looking terms.

Together, PPP and SIRR offer a complete framework for understanding valuation, blending dynamic fundamentals with rigorous discounting logic. These tools allow investors to more accurately identify undervaluation, especially in periods of relative calm — like early 2025 — before exogenous shocks and speculative forces began to dominate market behavior [6-8].

Contrary to a Largely Shared Opinion at the Time, the S&P 500 Was Not Overvalued as of January 2025

This analysis, conducted as of late January 2025 — before the sharp increase in volatility and uncertainty brought about by the first measures of President Donald Trump's controversial and transformative agenda — offers valuable insight into how markets functioned under conditions where fundamentals remained the dominant force. At that time, stock valuations were still primarily assessed through earnings growth, discount rates and risk, rather than the shifting tides of political or geopolitical developments. In that context, the Potential Payback Period (PPP) and Stock Internal Rate of Return (SIRR) suggested that the S&P 500 was not overvalued.

Traditional metrics suggested overvaluation

P/E ratio: The S&P 500's P/E of 30 was significantly higher than its historical average of 16-18, raising concerns of overvaluation.

PEG ratio: With an EPS growth rate of 18%, the PEG ratio was 1.67, exceeding the conventional threshold of 1.

Earnings Yield: At 3.33%, it was lower than the risk-free rate of 4.62% at that time, further suggesting overvaluation.

These static metrics pointed toward overvaluation, but they failed to account for the impact of future earnings growth and the discounting of those earnings — an omission that the PPP and SIRR models correct.

PPP and SIRR provide a more accurate picture

Using PPP and SIRR calculations:

- At a 4.62% Discount Rate (Risk-Free Rate corresponding to the 10-year Treasury yield):
  - PPP = 13.10 years
  - SIRR = 5.43%
  - Since SIRR > Risk-Free Rate, the S&P 500 was not overvalued.

- At a 7.62% Discount Rate (Risk-Free Rate + Market Risk Premium of 3%):
  - PPP = 14.76 years
  - SIRR = 4.81%
  - Still higher than the risk-free rate of 4.62%, justifying market levels by January 2025.

Thus, in a pre-crisis context where fundamentals guided valuations, the S&P 500 remained an attractive investment under both risk-free and risk-adjusted perspectives. In hindsight, this assessment not only captures the market's equilibrium before the policy-driven turbulence of the following months, but also serves as a reference point for evaluating how exogenous shocks can shift market valuation frameworks away from fundamentals [9-11].

High P/E Stocks Can Outperform Low P/E Stocks

P/E ratios can mislead

Investors often assume that a lower P/E ratio indicates a better investment opportunity. However, this assumption overlooks critical elements such as earnings growth and discounting. A stock with a high P/E ratio can still deliver superior returns if its valuation is backed by strong future earnings power.

A real-world comparison between Applied Materials (AMAT) and Broadcom (AVGO), based on data as of January 24, 2025, illustrates this point well.

- Applied Materials (AMAT) had a P/E ratio of 22, seemingly more attractive than Broadcom's P/E ratio of 188 at the time. But this surface-level comparison ignores Broadcom's exceptional prior performance and underlying fundamentals.
- Over the previous six months leading up to January 24, 2025:
  - Broadcom's stock price had surged by 50%, despite its then-high P/E ratio of 188.
  - Applied Materials' stock price had declined by 15%, despite its much lower P/E ratio of 22.

What this performance indicates is that six months prior to January 24, 2025, Broadcom was trading at a much lower P/E ratio and — most importantly — boasted a much higher SIRR, reflecting its powerful earnings potential at the time. Its valuation, based on forward-looking fundamentals, was highly attractive then, which explains its dramatic outperformance relative to AMAT. In contrast, AMAT's valuation profile, even at a modest P/E, was less compelling due to its more modest earnings growth.

PPP and SIRR tell the full story

When adjusting for growth and discounting, the valuation profiles of these companies reveal much more than the raw P/E ratios:

- Applied Materials (AMAT)
  - **Earnings growth rate:** 8%
  - **Discount rate:** 4.62%
  - **PPP:** 16.89 years
  - **SIRR:** 4.19%

- Broadcom (AVGO)
  - **Earnings growth rate:** 32%
  - **Discount rate:** 4.62%
  - **PPP:** 16.85 years
  - **SIRR:** 4.20%

Despite Broadcom's high P/E ratio at the time of analysis, its prior valuation — before the 50% price increase — reflected much stronger fundamentals. Its superior earnings growth led to a PPP and SIRR nearly identical to those of AMAT, even after the surge in stock price.

This example powerfully illustrates the limitations of static valuation metrics like the P/E ratio. The PPP and SIRR provide a more dynamic, forward-looking perspective that better captures the true investment potential of a stock. In Broadcom's case, they offered early signals of undervaluation — signals that traditional metrics would have missed.

Interestingly, in the three months that followed — from January 24 to April 23, 2025 — Applied Materials (AMAT) and Broadcom (AVGO) stocks performed practically identically, with declines of approximately 25% and 28%, respectively. This parallel outcome is not surprising when considered in light of their nearly identical SIRRs as of January 24 — 4.19% for AMAT and 4.20% for Broadcom — despite their sharply divergent P/E ratios at that time (22 *vs.* 188). This reinforces the insight that PPP and SIRR offer far more reliable indicators of long-term stock performance than conventional metrics, which often mislead when used in isolation [12-15].

Conclusion

This article, written in January 2025 and published in April 2025, offers a timely and instructive reflection on stock valuation during a period when market behavior was still driven primarily by fundamentals — namely earnings growth, interest rates and risk. At that point, uncertainty had not yet been amplified by the transformative and controversial agenda initiated by President Donald Trump.

Contrary to widespread concerns, our analysis shows that the S&P 500 was not overvalued at its January 2025 level, despite a historically high P/E ratio. When viewed through the lens of the Potential Payback Period (PPP) and the Stock Internal Rate of Return (SIRR), the index appeared fairly valued or even attractive under both risk-free and risk-adjusted discount rates. This highlights the limitations of traditional metrics such as the P/E ratio, PEG ratio and Earnings Yield when used in isolation.

The same conclusion applies to individual stocks. Our comparison between Broadcom (AVGO) and Applied Materials (AMAT) revealed that Broadcom's much higher P/E ratio masked an earlier undervaluation, which was evident through its superior earnings growth and higher SIRR before its 50% surge in share price. By contrast, Applied Materials, despite a more modest P/E, had weaker fundamentals and underperformed accordingly. From January 24 to April 23, 2025, however, the two stocks exhibited nearly identical declines (25% for AMAT, 28% for Broadcom), reflecting the convergence implied by their nearly identical SIRRs (4.19% *vs.* 4.20%) at the time of the original analysis — again illustrating how PPP and SIRR more accurately reflect long-term valuation than surface-level metrics.

As market conditions evolve and exogenous factors — such as political shifts — begin to overshadow fundamental analysis, PPP and SIRR remain essential tools for maintaining a rational and structured approach to valuation. They provide investors with a clearer, more reliable framework that transcends volatility and media-driven sentiment.

By adjusting for growth, interest rates and risk, the PPP framework not only enhances understanding of past performance but also improves forward-looking investment decisions — especially in turbulent times like the present.

Conflict of interest

Authors declare there is no conflict of interest.

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