LinkedIn Post-18 - 2025-2-8 - The stock market CAPE and bond yields

Robert Shiller in the first edition of his book "Irrational Exuberance", published in March of 2000, popularised the concept of "animal spirits" before the bursting of the dot com bubble. At the time, his book went against the bullishness of the "new paradigm" and was met with skepticism and sometimes with emotional responses.

Currently we seem to be in the grip of another equivalent situation, "new paradigm", which at the core lies AI and crypto, within an overall envelope of globalisation.

This post is a brief re-examination of the same indicator that Shiller used to quantify the "irrational exuberance" in 2000, namely the CAPE ratio (Cyclically Adjusted Price to Earnings ratio). We also compare the relative value proposition of bonds when compared to expected future returns on the stock market based upon the CAPE ratio.

This post provides extra evidence towards the scenario we outline in our extensive report on the US economy. Stock market valuations appear stretched when compared to bonds which are currently out of favour by market participants due to the recent experience of moderate inflation since 2022. The inverted yield curve and current CAPE levels point towards the need of a rebalancing of risk from stocks to bonds.

1. Case-Shiller CAEY (Cyclically Adjusted Earnings Yield).

The original CAPE ratio (Cyclically Adjusted Price to Earnings ratio) is computed by dividing the inflation-adjusted price for the S&P 500 by the 10-year average real earnings. The 10-year average earnings are used to remove the cyclical variations in earnings, which distort the simple PE (Price to Earnings) ratio.

The PE ratio and CAPE are well-known simple valuation metrics which we will not expand on here. For more information, please refer to Shiller's book[1] or webpage at Yale[2].

When we invert the CAPE ratio, we get the cyclically adjusted earnings yield (CAEY) which provides a more useful metric to compare with alternative investment opportunities such as bonds. Additionally, as per the analysis on Robert Shiller's webpage, we subtract the real 10-year treasury yield from the CAEY, which results in the Excess Cyclically-Adjusted Earnings Yield (ECY), that provides a metric for the equity premium relative to the safest bonds.

In Figure 1 we plot the time series of the ECY and compare it with the subsequent 10-year annualised real return on the S&P500.

1 Robert Shiller, "Irrational Exuberance", Princeton University Press
2 https://shillerdata.com/

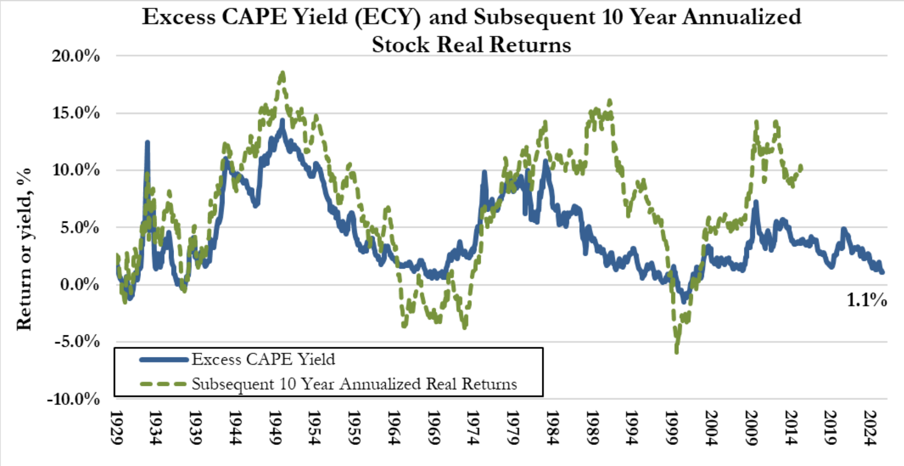


Figure 1 - Time series of the ECY and the subsequent 10-year annualised real return on the S&P500. Source: www.shillerdata.com

We can observe that periods of high excess CAPE yields result in subsequent 10 years of high annualized stock returns, while periods of low excess CAPE yields are associated with period of low or negative 10-year real returns of the stock market.

By the end of 2024, the ECY reached 1.1%, which appears to point to sub-par future returns for the stock market. In Figure 2 we plot ECY versus 10y forward annualized returns for stocks. The red dashed line refers to the latest value of the ECY on 31/12/2024.

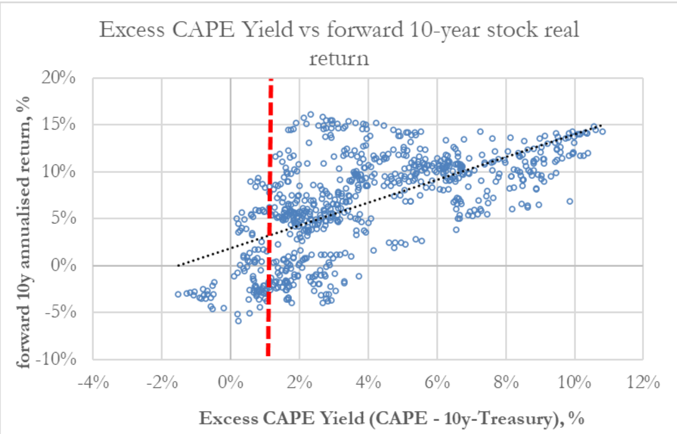


Figure 2 – Scatter plot and regression line for the ECY and 10y forward annualised stock returns.

At the current value of the ECY, forward 10-year real stock returns are expected to amount to about 2.5% per annum.

2. Bond yields.

How does the expected stock return compare with real bond yields? Figure 3 shows the times series of real US treasury yields, for both the 3m and 10y treasury.

We can observe that the real 10y treasury yield was about 1.5% on 31/12/2024 which is only about 1% lower than the expected annual real stock return, for the next 10 years.

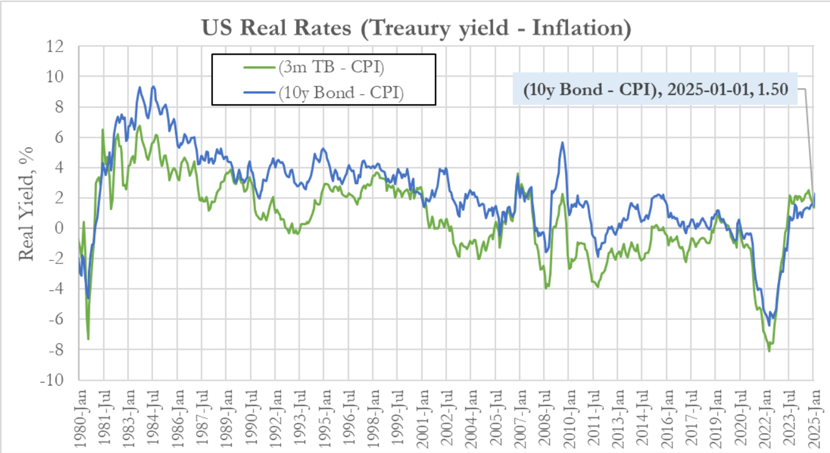


Figure 3 - Time series of real US treasury yields for the 3-month bill and 10y note. Source: St Louis Fed FRED.

The 10-year treasury yields are a "risk free" asset, therefore perhaps a fairer comparison between the preference of investing in bonds versus stock, or capital structure preference, is achieved by using investment grade bond yields. Table 1 shows the nominal and real bond yields for both US Treasuries and the Aaa and Baa Moody's corporate bond indexes.

Bond Yields	**%**
10y Treasury	4.39
3m Treasury	4.27
Aaa	5.20
Baa	5.80
Real Yields	
3m Treasury – CPI	1.38
10y Treasury – CPI	1.50
Aaa – CPI	2.08
Baa – CPI	2.55

Table 1 - Bond yields and Real Yields on 31/12/2024.

We observe that real yields for the highest quality corporate bonds were 2.08% while for lower quality but still investment grade Baa bonds, yields were 2.55 on 31/12/2024. The real yields for Baa bonds are similar to expected real returns for stocks for the next 10 years.

However, this comparison is still not a fair comparison as it does not account for the relative risk of the different investments.

3. Risk adjusted returns.

How does the expected stock return compare with real bond yields, when adjusted for risk? Table 2 shows the expected 10-year real returns for treasury yields, Aaa and Baa corporate bonds and stocks. We make the assumption that stock market volatility is 15% per year, 10-year treasuries have a 5% volatility, Aaa bonds 6% and Baa bonds 8%. Note that these are very simplistic assumptions that may not reflect the actual risk of the investments and consequently provide an accurate baseline for a fair comparison.

	Expected Return	Volality	Risk Adjusted Return
10y Treasury	1.50%	5%	0.300
Aaa	2.08%	6.5%	0.320
Baa	2.55%	8%	0.319
Stock Market	2.50%	15%	0.167

Table 2 - Expected 10y returns for stock and bonds

After adjusting for the risk of the investment, all bonds have a similar risk adjusted return of around 0.3 per unit of risk. Stocks, however, due to their higher volatility have a risk adjusted return of only 0.167 which is about half of that of a bond investment.

Using the simple metric above we conclude that bonds appear to offer better value than stocks. The inflation episode from late 2021 to the middle of 2024 has led to risk aversion towards bond investments by asset allocators.

4. Summary

The current enthusiasm with the stock market in detriment of the bond market may be misplaced. In this post we used the CAEY, a simple valuation metric for stocks, that shows that expected stock returns for the next 10 years will be a measly 2.5% per year, in real terms. Investment grade Baa bonds offer similar returns. However, after adjusting for risk bonds appear more attractive investments than stocks.

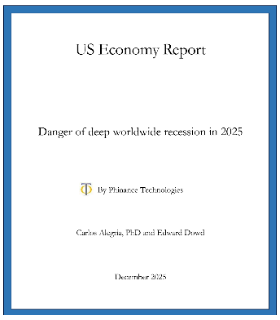
We believe that the rebalancing from stocks to bonds will turn into a flood throughout 2025 as inflation decelerates due to weak economic output, driven by the forces we explain in our US Economy outlook for 2025 report.

Our US Economy outlook for 2025 report:

The full report is an extensive analysis that provides insights into the most consequential forces that will be acting on the US economy in 2025.

The report is aimed for decision makers for investments and risk management, providing a roadmap to understand and successfully navigate the economic conundrum that the US and global economies will be facing in 2025.

The report package includes:
- Full report on the US Economy outlook for 2025
- Executive presentation aimed at executive level decision makers.
- 1h Video with Ed Dowd and Carlos Alegria go through the executive presentation.


US Economy Report

Danger of deep worldwide recession in 2025

By Phinance Technologies

Carlos Alegria, PhD and Edward Dowd

December 2025