Quarterly Review and Outlook Using the CAPE Ratio

Q3 2024 – **Robert J. Shiller and Laurence Black**

Introduction

Being a value investor can require patience and resilience. It feels like we could repeat last quarter's message, which essentially has not changed much. Stock markets are up, the artificial intelligence (AI) narrative has continued and Nvidia, apart from a 3-day losing streak in late June, has continued its seemingly relentless rise. The U.S. has not had the much-anticipated recession and appears to be moving along well, despite some signs of a marginal slowdown (for example, credit card delinquencies are rising).

We frequently mention diversification, and we observe that the major benchmark indices have become less technically diversified with a large overweight driven by AI and technology-related stocks. The Technology and Communications sectors account for almost 40% of the weight of the S&P 500 Index; add in Amazon and Tesla (in Consumer Discretionary), and this accounts for over 44% of the S&P 500 Index. At the end of June 2024, the S&P 500 Index was up 14% and just 5 stocks (Nvidia, Microsoft, Amazon, Meta and Apple) accounted for 60% of this rise. Nvidia accounted for 31% of the S&P 500 year to date rise. Nvidia, Apple and Microsoft accounted for 90% of the stock market's rise in the second quarter of 2024.[1]

AI will benefit economies and productivity, but when and how these benefits will feed into the economy are debatable; Professor Daron Acemoglu at the Massachusetts Institute of Technology thinks the cumulative boost to real U.S. GDP over the next 10 years will be not much more than 1%. This compares with optimistic predictions from analysts at McKinsey & Company and Goldman Sachs who argue that the cumulative increase in real GDP could be as high as 7%.[2]

Investors appear to have taken the view that benefits will be on the higher side given the stock price performance of AI related stocks. Interestingly, Utilities appears to be benefitting from the AI narrative where the thesis is that AI will require more power and the sector has seen over a 15% gain YTD. Financials and Energy also have had double-digit gains year to date.[2] The Energy sector has benefited from rising oil prices, especially the last quarter, and financials are benefiting from interest rates that have remained high for longer.

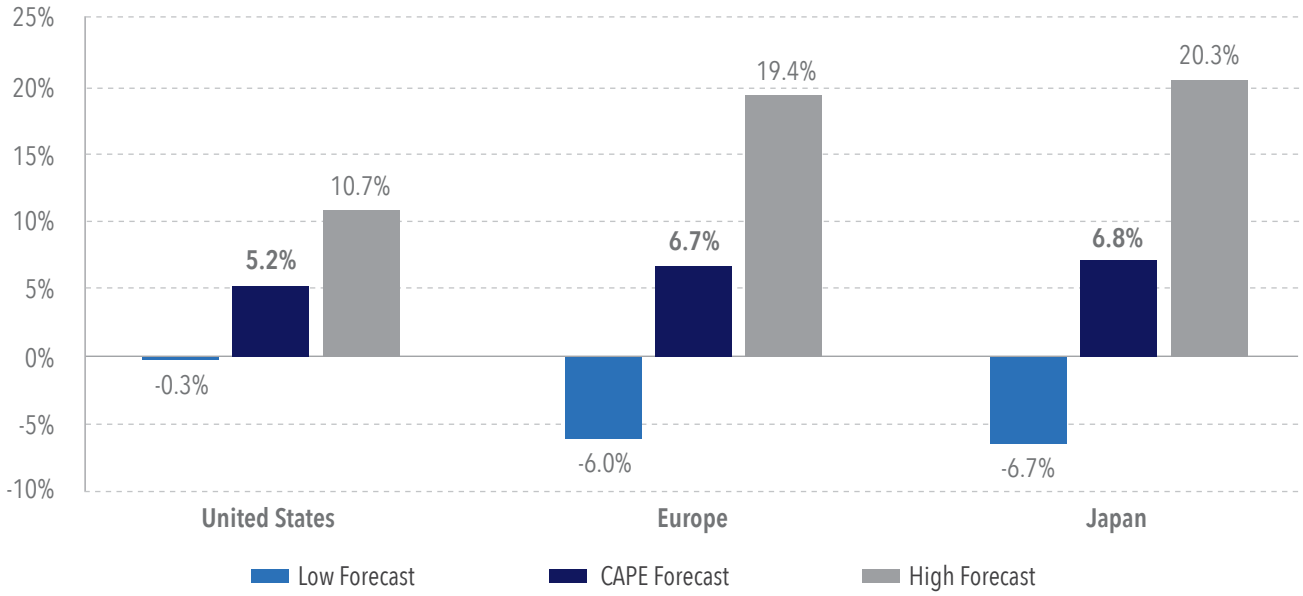
[1] Financial Times. Five stocks power U.S. markets to 14% gain for first half of 2024. June 28, 2024.
[2] MarketWatch. The surprising reason why utilities stocks have suddenly transformed into the hottest sector on Wall Street, May, 10 2024.

Key Findings: Our Forecasts Based on the CAPE Ratio

The graph below highlights our 10-year annualized nominal forecasts using the CAPE Ratio[1] for the three key regions. Japan has the highest expected annualized total returns at 6.8%[2], Europe is at 6.7%, and the United States comes in at 5.2%. Despite the high U.S. CAPE ratio at 35.5, some cheaper sectors can still be found, as not all sectors have risen this year. In terms of thinking about allocations, Europe and Japan are relatively cheaper than the U.S. market; but that said, we would not bet against American exceptionalism and would keep exposure to U.S. markets, albeit in cheaper sectors or stocks.

Note these forecasts are in local currencies. These are nominal returns and the equalization of expected returns between the United States and Europe are partly being driven by different inflation expectations. We show a range for a 95% prediction level indicating our uncertainty around these forecasts. We use conventional tools to forecast expected returns; however, financial markets are very unpredictable, making forecasting an inherently difficult task. In addition, unforeseen events provide another layer of difficulty and can impact our forecasts in both a positive and a negative manner.

United States – Forecasts Based on the S&P 500 Index



Source: Robert Shiller online data, MSCI and OECD.

A Note About Forecasting

These are annualized long-term forecasts with a horizon of 10 years. These forecasts are intended to provide a framework and guide investors around strategic equity allocations. They are not intended for those seeking to time markets or obtain short- to medium-term forecasts, as short-term forecasts are unreliable. The forecasts are presented as nominal total annualized returns in local currencies and are presented as a guide only. The forecasts make no attempt to judge the impact of one-of-a-kind transient factors like COVID-19, political changes or monetary policy changes – not because these are not potentially important, but because we are not able to quantify them without guesswork. We also are showing ranges here (95% prediction levels) to give some indication of the uncertainty around our forecasts. The reader must bear in mind that prediction levels intervals are hampered by fundamental epistemic uncertainty, which is unquantifiable. For example, some would argue that the upper bound for the 10-year annualized return for Japan in the preceding table is too high, based on their knowledge that the investors in Japan have learned their lesson from the 1980s-1990s and will not overprice markets that much again. It is impossible to be sure one way or the other whether this "knowledge" is correct, since it relies on human judgment about people's thinking.

[1] The CAPE Ratio was developed by Robert Shiller and John Campbell in the late 1980s for forecasting 10-year equity market returns. John Y. Campbell and Robert J. Shiller, "Stock Prices, Earnings and Expected Dividends," Journal of Finance, 43:3, 661-76, July 1988.

[2] Note our forecasts include the bubble period in Japan in the 1980s, and this may overstate some of the numbers.

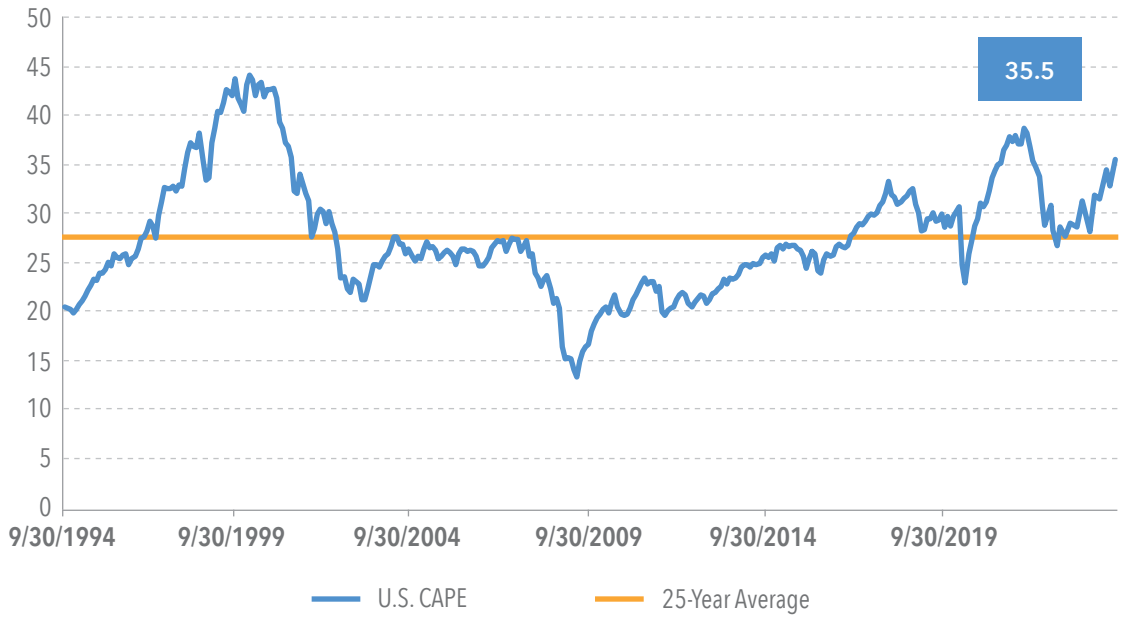
United States – Forecasts Based on the CAPE Ratio

The CAPE Ratio for the United States is 35.5, and the expected 10-year annualized nominal total return is 5.2%. Returns for the S&P 500 Price Return Index are expected to be around 3.1%; here we subtract the average historical dividends of 2.1%. We also show ranges for U.S. returns. Professor Shiller created a series of value-based indices with Barclays, namely the Shiller Barclays CAPE Family of Indices, which seek to identify undervalued sectors or stocks using the CAPE Ratio. These indices aim to earn a long-term value premium. While past performance is not guaranteed, if an investor purchased a value-based index and held this for the long term, they may generate higher returns than forecast if the value factor performs well.

UNITED STATES FORECAST RETURNS	EXPECTED ANNUALIZED RETURNS
Expected Nominal Total Returns* (S&P 500 Total Return Index)	5.2%
Approximate Expected Nominal Price Returns (S&P 500 Price Return Index)	3.1%
Upper Range of Expected Nominal Total Returns* (95% Confidence Level)	10.7%
Lower Range of Expected Nominal Total Returns* (95% Confidence Level)	-0.3%

*using the CAPE Ratio

United States – Historical CAPE Ratio



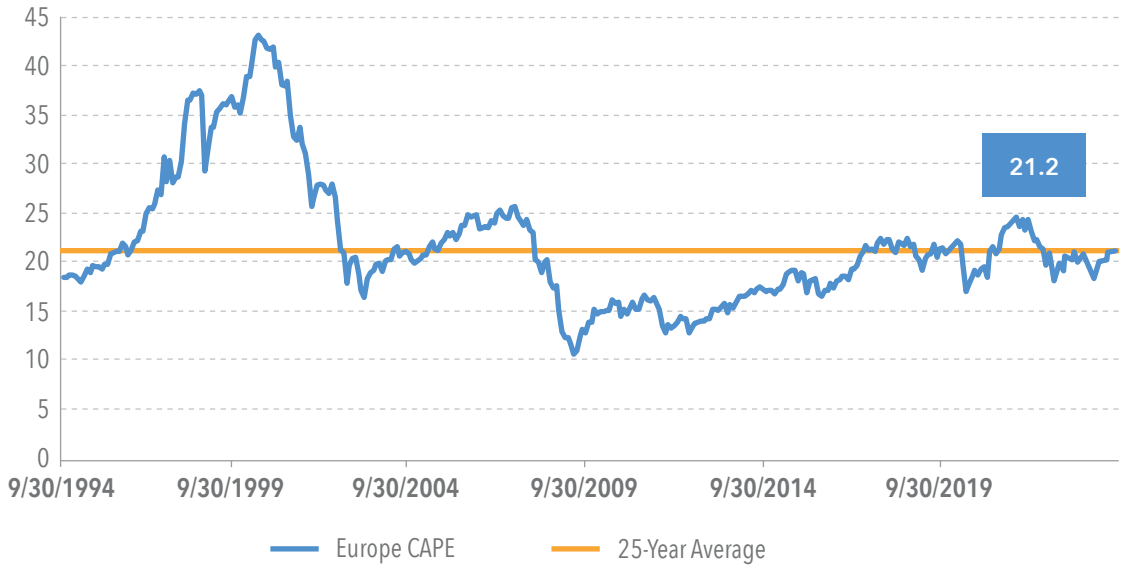
Europe – Forecasts Based on the MSCI Europe Index

The CAPE Ratio for Europe is 21.2, and the expected 10-year annualized nominal total return is 6.7% as of the end this quarter. Price returns for the MSCI Europe Price Return Index are forecast to be around 3.5%, when we subtract the historical dividend yield and assume this holds true for the next 10 years. We also show ranges for European returns.

EUROPE FORECAST RETURNS	EXPECTED ANNUALIZED RETURNS
Expected Nominal Total Returns* (MSCI Europe Total Return Index)	6.7%
Approximate Expected Nominal Price Returns (MSCI Europe Price Return Index)	3.5%
Upper Range of Expected Nominal Total Returns* (95% Confidence Level)	19.4%
Lower Range of Expected Nominal Total Returns* (95% Confidence Level)	-6%

*using the CAPE Ratio

Europe – Historical CAPE Ratio



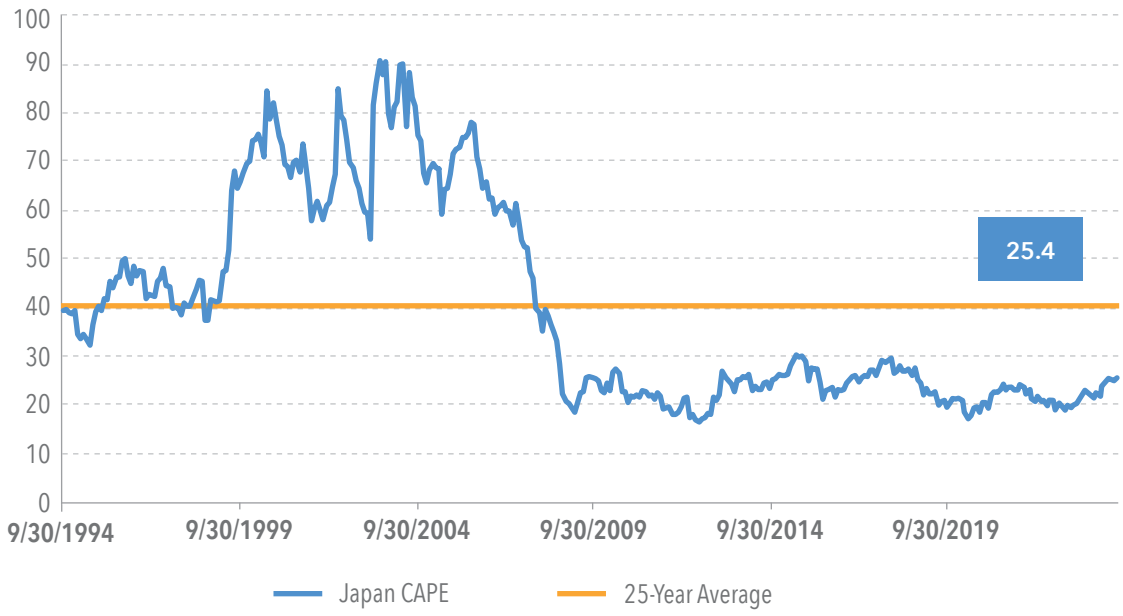
Japan – Forecasts Based on the MSCI Japan Index

The CAPE Ratio for Japan is 25.4, and the expected 10-year annualized nominal total return with the CAPE Ratio is 6.8%. Price returns for the MSCI Japan Price Return Index are forecast to be 4.8%; again, we subtract the historical dividend yield from Bloomberg and assume this holds for the next 10 years. We also show ranges for Japanese returns. Note our forecasts include the bubble period in Japan in the 1980s, and this may overstate some of the numbers.

JAPAN FORECAST RETURNS	EXPECTED ANNUALIZED RETURNS
Expected Nominal Total Returns* (MSCI Japan Total Return Index)	6.8%
Approximate Expected Nominal Price Returns (MSCI Japan Price Return Index)	4.8%
Upper Range of Expected Nominal Total Returns* (95% Confidence Level)	20.3%
Lower Range of Expected Nominal Total Returns * (95% Confidence Level)	-6.7%

*using the CAPE Ratio

Japan – Historical CAPE Ratio



Approach to Forecasting

We outline our approach to forecasting in this section. Firstly, we predict the expected real returns based on the CAPE Ratio, as developed by Robert Shiller and John Campbell in their paper "Stock Prices, Earnings and Expected Dividends." To generate the forecast, we regress 10-year real returns on the prevailing CAPE level and a real-long-term interest rate and then we project returns based on the plane of best fit. These are then converted to nominal returns using average inflation rates from the OECD from 2017 to Q4 2023, which includes historical and forecast inflation rates from the OECD. We also show ranges for each country's forecasted returns to indicate the uncertainty around our forecasts.

In the third edition of "Irrational Exuberance," Professor Shiller noted that returns are influenced both by the CAPE and an estimated real long-term interest rate. Given that interest rates are unusually low by historical standards, we also produce a third forecast of excess equity returns over bonds where we regress excess equity returns, the CAPE Ratio as well as the prevailing level of interest rates. Some commentary has noted that higher CAPE Ratios may be justified by low rates.

In the future, the science of narrative economics, the expansion of digitized text and artificial intelligence usage can pinpoint public trends of ideas to refine our prediction intervals. They may be able to develop time series of evidence on how the public will be thinking about multiple relevant economic narratives, such as about the intense COVID-19 pandemic narrative with its politicized connection to other narratives, prospects for world war, or about climate change, to improve our forecasts of economic variables. However, at this juncture, we use the CAPE ratio suggesting overpricing or underpricing to help us predict the markets.

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