MEKETA
INVESTMENT GROUP

Moving Toward a New Portfolio Framework

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A Meketa/practitioner roundtable: considerations for investing in a low interest rate environment

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Background

The discussions regarding the impact of low interest rates and what to do about them have been the focus of the Meketa Low Interest Rate (LIR) Working Group[1] since March 2020. Contemporaneously, many clients have initiated their own discussions and research on this topic.

The potential impacts on funded status, return goals, discount rates, etc., are well explored. It is now, in our opinion, time to seek potential solutions. One approach is to structure portfolios in a manner that maximizes the risk/return characteristics for any given investor. Different investors have a range of return goals, and no one structure is universally appropriate. No matter the investor's return objective, maximizing the efficiency of their portfolio may require looking at strategic asset allocation through a new lens.

This paper explores the barbell approach to asset allocation (described later) and how it can potentially mitigate some of the impacts of low interest rates on client portfolios. Please note that the barbell approach has pros and cons, and it may not be appropriate for all investors and situations (e.g., stagflation scenario).

August 2020 report

In August, Meketa released a ten-page report entitled: "*Investing in a Low Rate Environment: A Conversation about the Future*".

Potential considerations identified in this report, included:

- The clear distinction between risk and uncertainty
- The barbell approach: mixing low and high-risk assets
- Continuing to accept, and potentially increase, risk exposures
- Turning low rates to your advantage via leverage
- Being opportunistic…and patient

[1] The LIR Working Group is composed of Meketa professionals, clients, asset management firms with expertise in asset/liability management, and academics.

An historical context and practical considerations

In our August 2020 report, we highlighted the distinction between "Risk" and "Uncertainty". In short, while the COVID pandemic's impact on the economy has arguably increased risk in the capital markets, it has undoubtedly also increased uncertainty about future returns. The number of unprecedented conditions in the capital markets (e.g., historically low interest rates, unprecedented fiscal and monetary stimulus, and growing debt loads on governments and corporations) reduces one's confidence in relying on past relationships and behaviors of asset classes to guide forward-looking investment strategy. We acknowledge this increase in uncertainty, and, as a consequence, approach planning for the future with the appropriate amount of humility regarding the range of returns that are possible.

September 2020 conference call with LIR working group

In September, Meketa held a conference call with the LIR Working Group to discuss the core ideas raised in our August release. Some of the key items raised on this call, and the focus of our next steps, included:

- How do historically low interest rates impact the setting and ultimate achievement of our clients' assumed or target rate of return?
- What has been the long-term correlation between equities and bonds? Has this dynamic changed? How does a potential regime shift in this relationship impact investment strategy and asset allocation from here?
- What is/are the best definition(s) of a barbell asset allocation strategy? Are there superior approaches to leverage and liquidity in this future LIR environment?

Bridging expected returns with historically low interest rates

Whether it is an actuarial assumed rate of return for a pension plan, the spending policy of an endowment or foundation, the expectation for what a portfolio will earn is anchored in the rules, regulations and adopted practices that have been institutionalized in those specific channels. In the table below, we outline the average target returns in these channels.

Plan Type	Rate Type	Rate
Public Pension	Median Assumed Rate of Return[2]	7.25%
Taft-Hartley Pension	Median Assumed Rate of Return[3]	7.25%
Corporate Pension	Median Expected Return on Assets[4]	7.0%
Private Foundations	Median Long-term Return Objective[5]	7.3%
University Endowments	Long-term Return Objective[6]	7.0%

[2] Source: NASRA, as of February 2020.

[3] Source: IFEBP The Multiemployer Retirement Plan landscape: A 15 year look (2003-2017).

[4] Source: NISA PSRX Index of 100 largest corporate pension plans. Note: the average discount rate (source: FTSE Liability Index as of October 31, 2020) is 2.78%.

[5] Source: Council on Foundations–Commonfund, 2019 Study of Foundations.

[6] Source: 2019 NACUBO-TIAA Study of Endowments.

However, the conditions that made these returns achievable historically – namely, higher bond yields and lower price multiple on equities – are distant memories. The gradual march downward of interest rates led unprecedented gains for bond investors. And, despite two "once in a century" events, stocks have produced exceptionally strong returns, and equity valuation have elevated to very high levels. As we look to turn the page on 2020, interest rates are at record lows and equities are trading at very high valuations relative to historical averages.

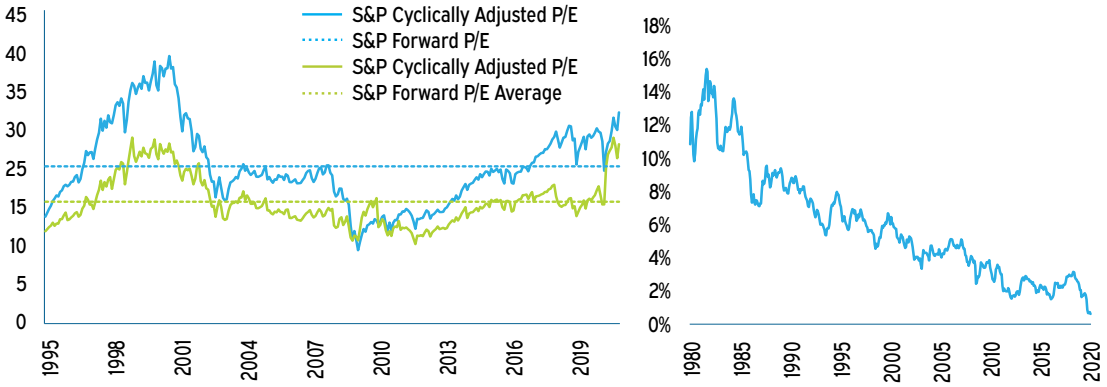

FIGURE 1
US Equity Valuations (left)[7]

US Treasury 10-Year Rates (right)[8]

[7] Source: Bloomberg. Data is as of October 31, 2020 for the S&P 500 index.

[8] Source: FRED, Multpl.com. Data is as of July 2020.

Framing these facts in a manner that assists decision makers in making major investment and policy decisions on a wide range of matters is no easy task. The implications on costs, spending, funding levels, and risk management are daunting.

The reason we care so much about the level of interest rates and equity valuations is because they greatly influence future returns. As the charts below indicate, low interest rates beget low future returns for bonds, and high valuations imply below-average returns for equities.

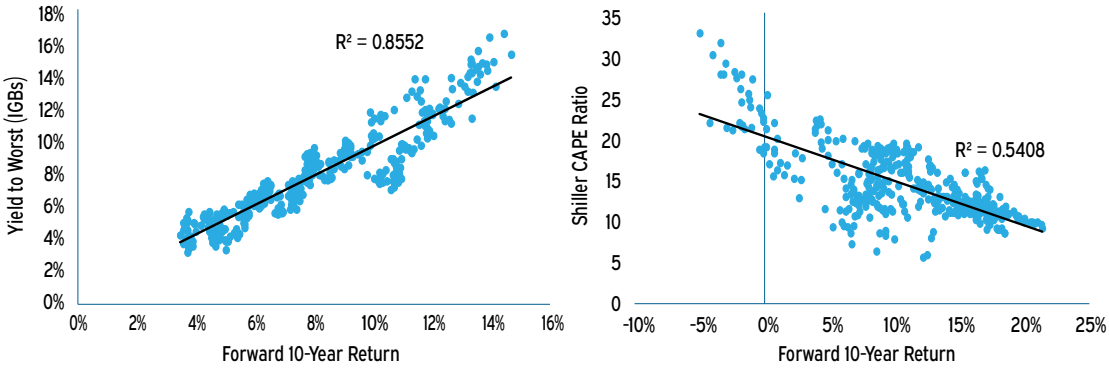

FIGURE 2
Investment Grade Bonds Yield to Worst vs. Forward 10-Year Returns (left)

US Equities Shiller CAPE vs. Forward 10-Year Returns (right)

The combination of historically low interest rates, and risky assets, such as US equities, that are generally valued above historical norms, does not bode well for prospective returns. Lower expected returns are the common challenge that all investors are facing right now. For example, in the chart below, we present our capital

markets assumptions from this year and compare them to our assumptions from ten years ago. What it shows is that for every major asset class, the expected return has declined.

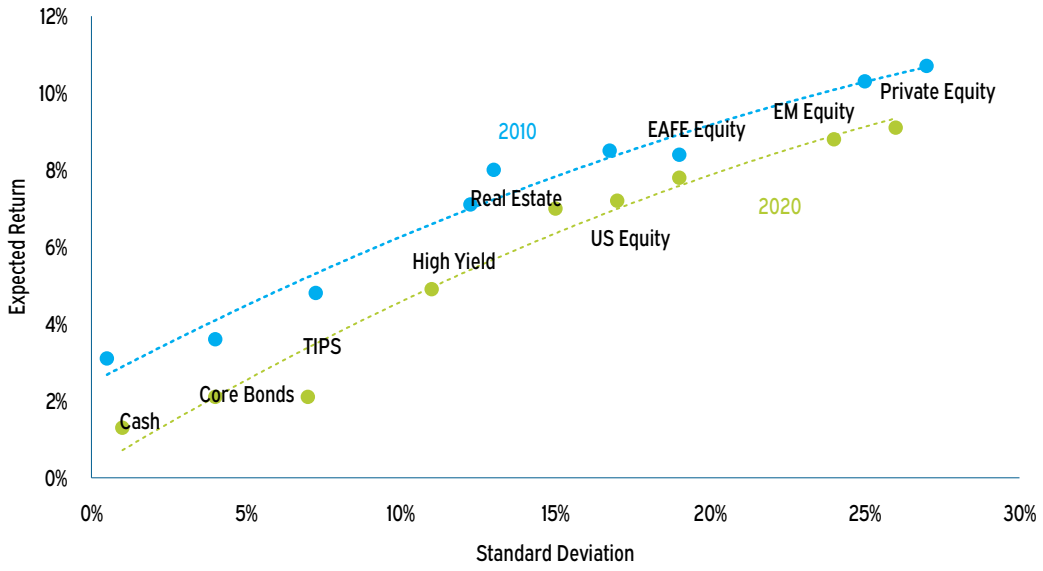

FIGURE 3
Less Return for the Same Risk[9]

[9] Expected return and standard deviation are based upon Meketa Investment Group's January 2010 and July 2020 Capital Markets Expectations.

Examining the relationship between equities and bonds

Over the last 40 years, stocks and bonds rallied, and during periods of economic stress (i.e., recessions), high quality bonds provided both a safe haven and superior rates of return. This "best of both worlds" environment is unlikely to continue as the current level of interest rates make the outsized returns for bonds - from constantly falling interest rates - unrealistic. Moreover, stocks and bonds were, on average, negatively correlated over the last 20 years.[10]

[10] Equities are proxied by the S&P 500 index and bonds by the Ibbotson Associates Long-Term Government Bond series.

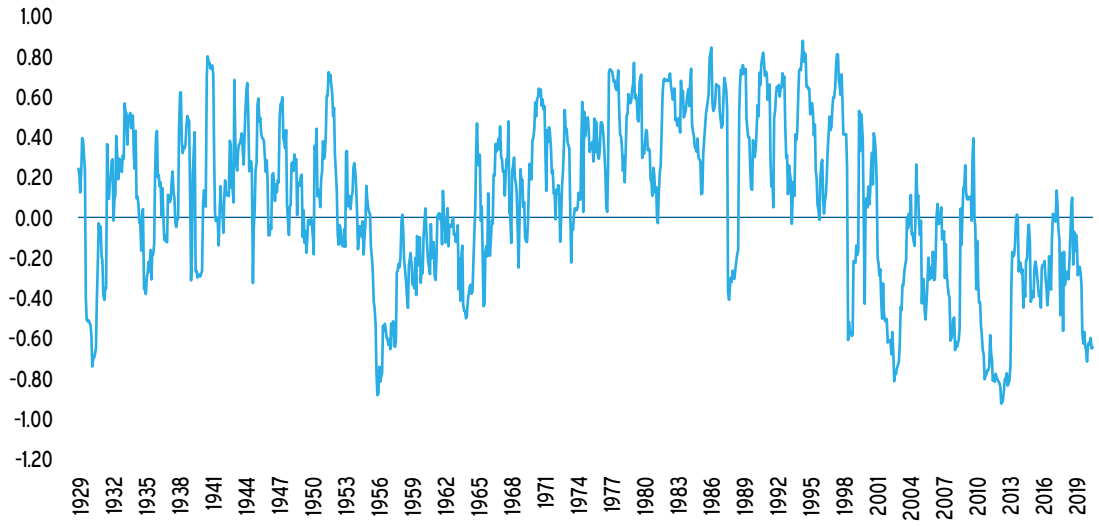

FIGURE 4
12-month Rolling Stock-Bond Correlation: 3/1928–9/2020

Arguably, rising interest rates are one of the biggest risk factors for equities today. Thus, the assumption of a negative correlation between stocks and bonds during periods of stress should be questioned. We may be entering a regime where Equity/Bond correlations do not resemble the last 20 years. The implications of both a possible change in the pattern of returns, combined with lower expected rates of return, presents challenges that investors have not faced in modern times.

Defining the barbell approach

As we look at the expected returns available to investors and the output from a litany of our asset allocation exercises, a common recommended outcome has been that of a "barbell" portfolio.

There are two fundamental drivers behind the barbell construct: 1) the increased emphasis on potentially very bad portfolio outcomes (i.e., higher concerns about "tail risk") and 2) the continued need to pursue a long-term return goal which, at times, can be seen as challenging to achieve.

These two diametric drivers lead to portfolio construction that includes a combination of higher-risk, total-return-oriented classes barbelled by high-impact diversifiers which, depending on the investment type, exhibit "insurance-like" characteristics.[11]

[11] See, for example, "Tail Risk Constraints and Maximum Entropy;" Geman, Geman, and Taleb; December, 2014.

The motivation for this type of structure has been driven largely by the challenging funded status and/or financial conditions many institutions currently face and have faced since the Global Financial Crisis. In many respects, the "optimal" portfolio solution turns out to mirror the challenge an institution faces: achieving a long-term return objective coupled with avoiding some form of a financial catastrophe. What we have found through a significant amount of empirical work is that the traditional (i.e., more-than-a-dozen-asset-classes) portfolio approach may not handle extreme downside outcomes as well as a barbelled portfolio framework.

Under the barbell approach, assets that typically have a high correlation to public equity, but with less expected volatility and lower expected returns, tend to be excluded or only allocated to at a minimum level. These typically include certain public credit strategies, such as high yield bonds and bank loans, tactical asset allocation strategies, and equity-biased hedge funds.

Further, the barbelled portfolios tend to place more emphasis on assets such as private equity, real estate, private credit, and public equity, combined with classes, segments and/or strategies that tend to perform well when the above equity-oriented classes are experiencing significant drawdowns. We call these types of investments Risk Mitigating Strategies[12], or "RMS." As a group, they are designed to act as a significant counterweight in the portfolio.

[12] We attach our research on Risk Mitigating Strategies for background.

To be clear, when building a barbell portfolio, average correlation is not of principal concern. Rather, it is performance during times of market stress that matters. What investors seek with this strategy are assets that are expected to be negatively correlated with equities during such a period, and ideally with a level of volatility that would be beneficial in such a scenario.

Long-term Treasuries have been the most reliable hedge against severe equity declines. Treasuries are also highly liquid in stressed markets, allowing them to be tapped to fund spending. And unlike more explicit forms of insurance, bonds pay investors income for holding them.

TABLE 1
Cumulative Returns in Stressed Markets

Historical Scenario	Cash (%)	IGB (Agg) (%)	LT Treasury (%)	US Equity (%)
Global Financial Crisis (Oct 2007—Mar 2009)	3.1	9.3	24.2	-43.8
Popping of the TMT Bubble (Apr 2000—Sep 2002)	9.9	28.6	35.5	-43.8
LTCM (Jul—Aug 1998)	0.8	1.8	4.1	-15.4
Asian Financial Crisis (Aug 1997—Jan 1998	2.4	4.9	8.6	3.6
Crash of 1987 (Sep—Nov 1987)	1.4	2.2	2.6	-29.5

A primary component of a barbell portfolio is high quality bonds, and in particular, Treasury bonds. Traditionally, investors have kept high quality bonds in their portfolio to act as an "anchor to windward."

However, not everyone thinks this is still a good idea. With the 10-year Treasury currently yielding less than 1%, any investment in government bonds would appear to act as a drag on a portfolio that is trying to achieve its return objectives. And for the past decade, many investors have worried aloud about the potentially harmful effects of holding bonds in their portfolio if interest rates were to rise, which a number of market participants presumed was inevitable.

Perhaps the most informative example we can look to for the kind of low rate environment we are facing is Japan. The Japanese central bank instituted a "Zero Interest Rate Policy", otherwise known as ZIRP, in 1999. For the past twenty years, short-term Japanese government bond yields have been effectively zero.

The result has been steady, if modest returns for Japanese government bonds. Over that period, the worst 12-month return for government bonds was -4%. And their average return was, unsurprisingly, consistent with their yield (+1.9%).

But many investors have understandably begun to wonder if bonds can still provide a hedge against equity risk, given the record low level of interest rates. There has to be some lower bound for yields, even if it isn't necessarily zero.

Here again, we look to the case study of ZIRP in Japan. The following chart shows the worst drawdowns in Japanese equities over the past twenty years (the blue bars). It also shows how government bonds performed during each of those drawdowns. (The green bars show the performance of the broad government bond index, and the orange bars indicate the performance of long-term government bonds).

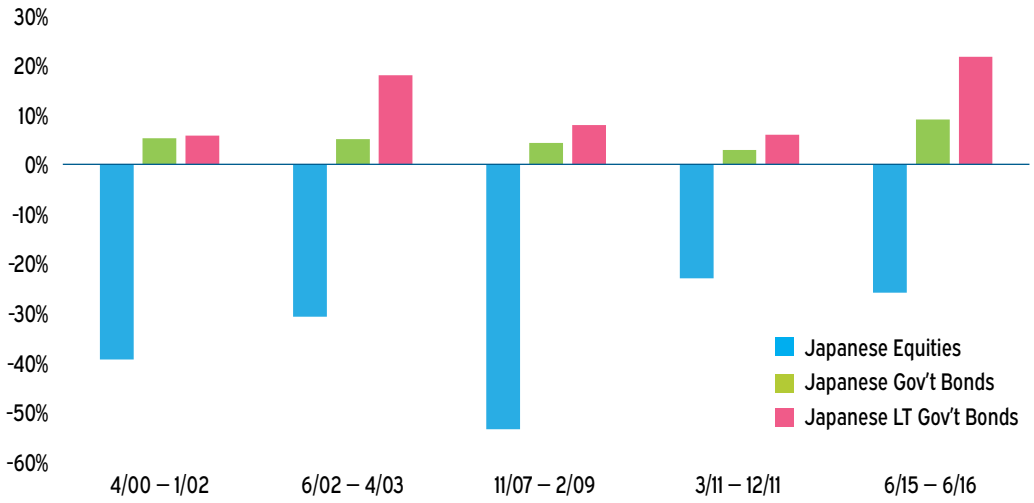

FIGURE 5
Worst Drawdowns During ZIRP (Cumulative Return)[13]

[13] Data Source for JGB returns is the ICE BofA Japan Government Index and its components; for equities, the source is MSCI Japan (local currency).

What it illustrates is that during each of these bear markets, government bonds consistently served as a hedge, and long-term government bonds served as an even better hedge. The 2015-16 drawdown is particularly informative, as the 10-year rate at the start of the period was just 0.46%, and it declined to -0.23%, as long government bonds produced a return in excess of 20%.

So yes, we still have faith in long-term government bonds as a hedge. They performed exactly as we would have hoped earlier this year, blunting the trauma of the fastest bear market in US history. We see them as a key part of a diversified portfolio going forward.

Summary

As practitioners, institutional investors, asset management firms, individuals and consultants continue to explore strategies to address the challenges presented by persistent low interest rates, the need to collaborate is critical.

Sharing ideas and experiences from a wide range of points of view (as our previous Low Interest Rate survey and follow up Zoom call indicated) will advance our collective and individual ability to consider what, if any, new approaches may be considered by policy makers.

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